G8·G20

THE 2010 CANADIAN SUMMITS — **JUNE 2010**

MUNK SCHOOL OF GLOBAL AFFAIRS
G8 Research Group
G20 Research Group
UNIVERSITY OF TORONTO

Recovery and new beginnings

Contributors include

- *Stephen Harper* • *Lee Myung-bak* • *Barack Obama*
- *Naoto Kan* • *Ban Ki-moon* • *Sir John Holmes* • *Angel Gurría*
- *Robert Zoellick* • *Pascal Lamy* • *Wangari Maathai* • *Lee Dong-hwi*

THE INTERNATIONAL BANK OF AZERBAIJAN

Baku | Moscow | Tbilisi | London | Frankfurt | Luxembourg | New York | Dubai
67 Nizami Street, Baku Azerbaijan, AZ1005 | +994 12 493 0091 | **www.ibar.az**

THE BANK OF NATIONAL DEVELOPMENT

FUELING CASPIAN GROWTH

Global Finance awards 2009
Best Emerging Market Banks

Euromoney 2009 Awards for Excellence
Best Bank in Azerbaijan

Best Local Bank

emeafinance Achievement Awards 2009

FitchRatings

Moody's Investors Service
Baa3

The International Bank of Azerbaijan is the leading financial institution of Azerbaijan and an important factor in Azerbaijan's integration into the world economy and the stability of the country's banking sector.

Our Group

The International Bank of Azerbaijan through its headquarters in Baku, major subsidiary banks in the Russian Federation and the Republic of Georgia, international offices in Frankfurt, London, Luxembourg, Dubai and New York offers a wide range of global banking services based on state-of-the-art technologies.

The International Bank of Azerbaijan – Moscow

IBA-Moscow is a resident bank of the Russian Federation founded with 100% foreign capital on 24 January 2002 with regional offices in Saint Petersburg and Ekaterinburg. Authorized share capital of the Bank was EUR 10 million. IBA- Moscow provides a diversified range of banking services to corporate and individual clients.

The International Bank of Azerbaijan – Georgia

IBA-Georgia is a resident bank of the Republic of Georgia founded with 100% foreign capital on 7 February 2007. Authorized share capital of the Bank was 12 million Lari (over USD 7 million). The Bank provides a diversified range of banking services to corporate and individual clients.

The International Insurance Company (IIC)

The International Insurance Company, founded and owned entirely by IBA since April 2002, provides all types of insurance and has transformed the national insurance market. IIC also offers reinsurance to other insurance companies in Azerbaijan which prior to IIC was considered the prerogative of foreign reinsurance companies because of the lack of strong insurers in the local market.

Processing Company “Azericard”

AzeriCard is the leading credit card provider and leading credit and debit card processing international partner in the region. IBA is certified with the international payment systems Visa International, MasterCard International and American Express and serves 26 banks in Azerbaijan and abroad. Azericard exercises the functions of the predominant clearing and approval centre for credit and debit plastic cards.

THE INTERNATIONAL BANK
OF AZERBAIJAN

67, Nizami street, Baku, AZ1005; +994 12 493 0091; www.ibar.az

Our Mission

The International Bank of Azerbaijan is a National Development Bank, contributing significantly to the strength, stability and transparency of Azerbaijan's banking system.

This status ensures people's trust in the Bank both domestically and globally, and assists in the country's socio-economic development.

The International Bank of Azerbaijan is a Universal bank and full-service financial services company which creates opportunities for individuals and organizations, both in Azerbaijan and other countries, to benefit from a wide range of high-quality banking services and technological innovations as the premier banking platform in the region.

Our achievements

As of 31 December 2009

• Assets grew to 44% of Azerbaijan's total banking assets

• Our loan portfolio reached 46.5% of the total volume nationally

• Our total share of the credit card market reached 39.9%

• IBA holds 31.5% of the total volume of capital in the national banking system

• The Bank's net profits produced 44.5% of profits in the national banking system

• IBA holds 42.9% of individual deposits

• IBA's national service network comprises 37 branches, over 40 service divisions and national distribution of more than 600 ATMs (39.2% market share) as well as 2500 POS-machines (market share of 33.1%), present in each region nationwide


A WARM WELCOME TO
THE WORLD FROM MUSKOKA
HOST REGION OF THE 2010 G8 SUMMIT
MUSKOKA SOUHAITE
LA BIENVENUE AU MONDE
RÉGION HÔTE DU SOMMET DU G8 DE 2010
Canada
ONTARIO
CANADA
www.g8.gc.ca

G8•G20

THE CANADIAN SUMMITS — JUNE 2010

Editors	John Kirton
	Madeline Koch
Research coordinator	Jenilee Guebert
Group editorial director	Claire Manuel
Managing editor	Lauren Rose-Smith
Sub-editors	Nick Gordon, Samantha Guerrini
Creative director	Anthony Collins
Art editors	Nicky Macro, James White, Zac Casey
Group sales director	Andrew Howard
Sales manager	Robi Harper
Sales executives	Tom Kennedy, Sandra Clout, Saboor Munawar, Oku Egho, Melanie Lambert
Group client relations director	Natalie Cleur
Vice president business development, North America	Maysoon Kaibni
Deputy chief executive	Hugh Robinson
Publisher and chief executive	Alan Spence
Pictures	Corbis, Getty, Lonely Planet, PA Photos, Panos Pictures, Reuters, Science Photo Library
ISBN	978-1-906940-23-2

Printed by Fry Communications, Inc.

Published by Newsdesk Communications Ltd
5th Floor, 130 City Road, London, EC1V 2NW, UK
Tel: +44 (0) 20 7650 1600 Fax: +44 (0) 20 7650 1609

Newsdesk Media Inc
700 12th Street, NW Suite 700, Washington DC 20005, USA
Tel: +1 202 904 2423 Fax: +1 202 904 2424

www.newsdeskmedia.com

Newsdesk Media Group publishes a wide range of business and customer publications. For further information please contact Natalie Cleur, client relations director, or Maysoon Kaibni, vice president business development.

In cooperation with the G8 Research Group and G20 Research Group, Munk School of Global Affairs, University of Toronto, 1 Devonshire Place, Room 209N, Toronto ON M5S 3K7, Canada
Tel: +1 416 946 8953
www.g20.utoronto.ca

Contents

Reforming financial systems and institutions

Global development

Open trade and investment

Protecting the environment

African Development Bank Group
Support to Environment and Climate Change

Climate change is undoubtedly the greatest threat to reducing poverty and achieving sustainable development in Africa. As Africa's premier development bank, the African Development Bank is committed to supporting its Regional Member Countries to reduce their vulnerability to climate change.

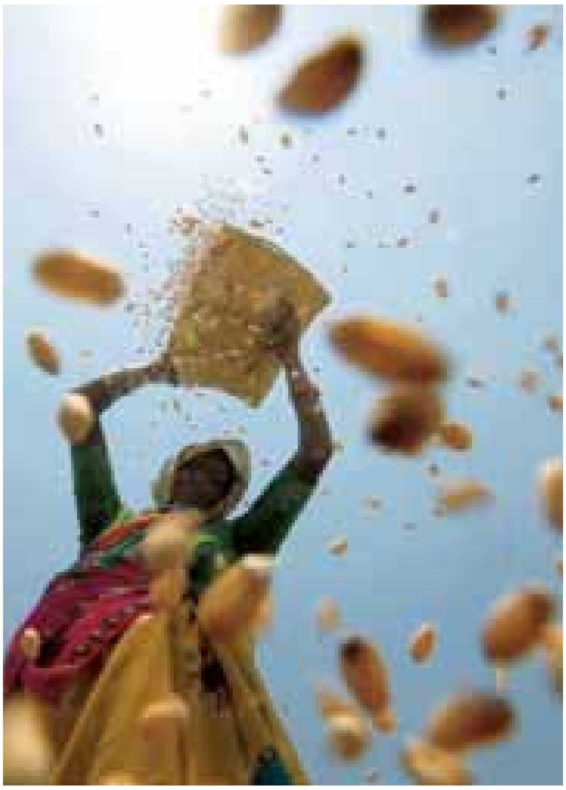
Investments:

- The Bank Group is investing in climate compatible development in Africa, enhancing the adaptive capacities of its Regional Member Countries to withstand the adverse impacts of climate change, as well as supporting mitigation projects that aim at reducing greenhouse gas emissions and placing Africa on a low carbon intensive development pathway.
- The African Development Bank recognizes the important role that development plays in building resilience to climate change. It has invested about US$ 9 billion to provide sustainable infrastructure in the continent in the past decade. The Bank's renewable energy portfolio is in excess of US$2 billion. Through the Congo Basin Forest Fund, the Bank is supporting global mitigation efforts by reducing the rate of deforestation in the Congo Basin Forests.
- The African Development Bank's Climate Change Action Plan (2010-2014) will implement a large pipeline of climate-friendly projects to ensure a climate compatible development in the continent.

Recognition:

- In recognition of the African Development Bank's strategic and active role in dealing with the ongoing climate issues in Africa, the AfDB President Donald Kaberuka has been appointed in his personal capacity, by the United Nations Secretary General to the High-Level Advisory Group on climate change.

African Development Bank Group



Energy security

Food, agriculture and water


WELCOME TO TORONTO
WE'VE BEEN EXPECTING YOU
HOST CITY OF THE 2010 G20 SUMMIT
BIENVENUE À TORONTO
NOUS VOUS ATTENDONS
VILLE HÔTE DU SOMMET DU G20 DE 2010
ONTARIO
CANADA
ontario.ca/g8g20

Recovery and new beginnings

The Canadian summits will focus on ensuring results on the commitments that have already been made. Accountability is critical to the success of the G-8 and G-20

By The Right Honourable Stephen Harper, Prime Minister, Canada

The theme for Canada's 2010 summits is "recovery and new beginnings". At both the G-20 and G-8, Canada will act to facilitate global leadership on the challenges of an interdependent world.

Our approach will centre on the concept of enlightened sovereignty. Although the worst of the crisis may be behind us, leaders must continue to accept shared responsibility, especially for the state of the globalised economy. We must come together in a spirit less about narrow self-interest in sovereignty's name than an expanded view of mutual interest in which there is room for all to grow and prosper. Enlightened sovereignty, then, is the natural extension of enlightened self-interest.

The discussions in Toronto and Muskoka will focus less on seeking lofty new agreements than on ensuring results on commitments already made. We know that determination and follow-through are essential to achieving results. If the summits are to be truly successful, then this sense of accountability is critical on the part of all G-8 and G-20 members.

> Inadequate national systems need to be restructured and should be subject to international peer review

We have no choice but for the G-20 to be successful. While the market's awesome power to generate and widely distribute wealth is self-evident, we also know markets need governance. For the new global economy, the G-20 is what we have.

Now, as we work through the final stages of recession and embrace recovery, there are four critical areas where G-20 actions have been and will remain vital: financial sector reform, stimulus programmes, reform of international institutions, and global trade and growth strategies.

Let me begin with reform of financial sector regulation.

As many of you know, Canada was not a part of the problem. No major Canadian financial institutions failed and none required bailouts from the government. As a consequence, Canada now has one of the largest banking sectors in the world, and it is entirely in the private sector.

The World Economic Forum and, more recently, Moody's Investors Service both ranked Canada's banks as the world's soundest. The performance of the sector during this crisis showcased the effectiveness of Canada's approach. Thus, we want to urge the adoption of similar regulatory practices globally.

Inadequate national systems need to be restructured and should be subject to international peer review in order to enhance transparency and reduce risks to the global economy. Anything less would expose every economy to needless risk and potential contagion.

Through the G-20, we will be encouraging this strengthened financial sector regulation and improved coordination between regulators. But Canada will not go down the path of excessive, arbitrary or punitive regulation of its financial sector.

The second ongoing G-20 policy priority has been to drive globally coordinated stimulus measures, both monetary and fiscal. We believe it is important to stay the course for now, but with an important caveat.

Fiscal expansion, enhanced government spending and increased deficits were necessary during the recession. In fact, with rapidly falling output and employment and interest rates near zero, economic theory was clear – this was the only option. However, recent events are highlighting the real risks to highly indebted countries that lack exit strategies from large budgetary deficits.

This view informs our own economic planning. Canada will complete its two-year Economic Action Plan, its fiscal stimulus measures, in support of its economy. We shall faithfully meet all promises made at earlier G-20 meetings. We also have laid out a gradual but clear plan to return to fiscal balance in the mid term. Our situation is obviously enhanced by relatively modest debt and deficit levels, even during the sharp contraction of 2009.

More broadly speaking, it behoves the G-20 to make progress on the Framework for Strong, Sustainable and Balanced Growth agreed to in principle in Pittsburgh. We must look behind the current crisis and address the underlying imbalances that have contributed to it.

Likewise, G-20 members need to ensure that international financial institutions, such as the International Monetary Fund, the World Bank and multilateral development banks, are key underpinnings of global growth and stability. We need to fulfil our commitment to enhance the voice and representation of dynamic emerging markets and developing economies at these institutions, in order to increase their legitimacy, credibility and effectiveness.

Finally, let us talk about global trade and growth strategies. Growth in global trade has been largely responsible for wealth creation worldwide in the past generation. Enhancing trade and resisting protectionism are both essential to the world economy, and to the just cause of raising millions from poverty. The G-20 has said this at every meeting.

Of course, there have also been national actions that detract from this goal. Even so, we have thus far avoided anything like the protectionism that turned the stock-market crash of 1929 into a decade-long depression.

In Canada, we have tried to be leaders in promoting free trade and open markets. Our stimulus package did not raise tariffs. In fact, it lowered them unilaterally, making Canada a tariff-free zone for manufacturing. Since 2006, we have concluded free trade agreements with eight additional countries and we are engaged in six other negotiations, including with the European Union. We will continue to resist protectionism and work to reduce or eliminate tariff barriers.

Our ambition – the necessary condition for success as the G-20 moves forward – must be a shared belief that the rising tide of recovery must lift all boats, not just some. This is the exercise of sovereignty at its most enlightened. It is not, fundamentally, about the structure of global institutions. It is more a matter of attitude. It doesn't matter what global structures we devise for our mutual betterment, if we don't have global attitudes, they will not work.

With the G-20 necessarily focussed on the economy, there remains an important role for the Group of Eight nations. Developed, allied countries with close values can still accomplish much in promoting democracy, development, peace and security.

In this troubled world, we clearly recognise how much there is in these areas that requires international cooperation. Terrorism threatens all of us. Piracy has returned to strategic seaways. Climate change disproportionately threatens the peoples least capable of adapting to it. And although tensions between the older nuclear states have largely dissipated, the spread of nuclear weapons to new actors, especially non-state ones, is a serious concern.

These complex, daunting threats cannot be met by any one country working alone. The G-8 together must show leadership. Maternal and child health is one area where we can do just that.

Did you know that every year more than half a million women die in pregnancy and nearly nine million children die before their fifth birthday?

Far too many lives and futures have been lost. And to the world's shame, so many have been lost for want of relatively simple health solutions, all well within reach of the international community. Often the keys of life are no more sophisticated than clean water or the most basic treatment against infection.

As president of the G-8, Canada will champion an initiative to increase the number of healthy pregnancies, healthy mothers and healthy children. This involves a wide range of interventions across the continuum of care, including training and support for frontline health workers; better nutrition and provision of micronutrients; treatment and prevention of diseases such as pneumonia, diarrhoea, malaria and sepsis; screening and treatment for sexually transmitted diseases, including HIV/AIDS; proper medication; family planning; immunization; clean water and sanitation.

In conclusion, the G-20 and G-8 meetings have before them a huge agenda, all to be addressed in an atmosphere of ongoing global economic and financial uncertainty. We must bring to the table the belief that the solutions are the collective responsibility of all participants. We must be pragmatic, focussed and, above all, encourage accountability for our actions.

As host of the G-8 and G-20 meetings this June, Canada will use its leadership role to focus on these key challenges. I look forward to collaborating closely with our international partners as we continue to support the economic recovery and chart new beginnings for humanity worldwide. ◆

Prime Minister Stephen Harper greets two Haitian girls during a visit to a Canadian Army field hospital, Haiti

Reprise et renaissance

Les discussions qui auront lieu au Canada porteront sur les résultats des engagements déjà pris. Pour que les sommets portent véritablement fruit, tous les membres du G8 et du G20 doivent éprouver ce sens des responsabilités

Par Le très honorable Stephen Harper, premier ministre du Canada

Le thème des sommets organisés par le Canada en 2010 est «reprise et renaissance». Tant au sein du G8 que du G20, le Canada agira en vue de favoriser le leadership mondial sur les enjeux d'un monde interdépendant.

Notre approche sera axée sur le concept de la «souveraineté éclairée». Bien que le pire de la crise soit peut-être derrière nous, les chefs d'État et de gouvernement doivent continuer d'accepter leur responsabilité commune, surtout en ce qui concerne la situation de l'économie mondialisée. Nous devons nous unir dans un esprit moins empreint d'intérêt personnel au nom de la souveraineté, que d'intérêt mutuel qui permet à tous de croître et de prospérer. La «souveraineté éclairée» est donc le prolongement naturel de l'intérêt personnel éclairé.

Les discussions qui auront lieu à Toronto et à Muskoka porteront moins sur la conclusion de nouvelles ententes nobles que sur les résultats des engagements déjà pris. Nous savons que la volonté et le suivi sont essentiels pour atteindre des résultats. Pour que les sommets portent véritablement fruit, tous les membres du G8 et du G20 doivent éprouver ce sens des responsabilités.

La réussite du G20 est notre seule option. Bien que la puissance phénoménale des marchés de générer et de distribuer des richesses parle d'elle-même, nous savons aussi que les marchés ont besoin d'être gouvernés. Le G20 assume ce rôle pour la nouvelle économie mondiale.

Alors que nous en sommes aux derniers relents de la récession et que nous accueillons la reprise, les actions du G20 resteront vitales dans quatre domaines : la réforme du secteur financier, les programmes de relance, la réforme des institutions internationales ainsi que le commerce mondial et les stratégies de croissance.

Permettez-moi de commencer par la réforme de la réglementation financière.

Comme nombre d'entre vous le savent, le Canada ne faisait pas partie du problème. Aucune grande institution financière canadienne n'a fait faillite et aucune n'a eu besoin de l'aide financière du gouvernement. En conséquence, le secteur bancaire canadien est désormais l'un des plus importants du monde et il relève entièrement du secteur privé.

Le Forum économique mondial et, plus récemment, le Moody's Investors Service ont tous deux classé les banques canadiennes comme étant les meilleures du monde. Le rendement du secteur pendant la crise a prouvé l'efficacité de l'approche du Canada. C'est pourquoi nous demandons instamment l'adoption de pratiques réglementaires similaires à l'échelle mondiale.

Des systèmes nationaux inadéquats doivent être restructurés et faire l'objet d'un examen par les pairs afin d'en améliorer la transparence et de réduire les risques qu'ils font peser sur l'économie mondiale. En faire moins exposerait chaque économie à un risque inutile et une possible contagion.

Dans le cadre du G20, nous encouragerons le resserrement de la réglementation du secteur financier et une meilleure coordination entre les organismes de réglementation. Mais le Canada ne se lancera pas dans la voie d'une réglementation excessive, arbitraire ou punitive de son secteur financier.

La deuxième priorité politique continue du G20 est la prise de mesures de relance mondialement coordonnées, à la fois monétaires et financières. Nous croyons qu'il est important de maintenir le cap pour l'instant, en précisant toutefois une chose importante.

L'accroissement des budgets, des dépenses gouvernementales et des déficits était nécessaire pendant la récession. En fait, lorsque la production et l'emploi étaient en chute libre et que les taux d'intérêt avoisinaient le zéro, la théorie économique était claire – c'était la seule option. Or, des événements récents ont mis en évidence les risques réels que courent les pays fortement endettés qui n'ont pas de stratégies de sortie pour éponger leurs énormes déficits budgétaires.

Voilà qui nous éclaire sur notre propre planification économique. Le Canada mènera à bien son Plan d'action économique biennal, ses mesures de relance visant à soutenir l'économie. Nous devons être fidèles aux promesses faites lors des précédentes rencontres du G20. Nous avons élaboré un plan progressif, mais clair, visant à rééquilibrer le budget à moyen terme. Notre situation se trouve bien entendu renforcée par les niveaux relativement modestes de notre endettement et de notre déficit, même pendant la forte contraction de 2009.

De façon plus générale, il incombe au G20 de réaliser des progrès à l'égard du Cadre pour une croissance forte, durable et équilibrée convenu en principe à Pittsburgh. Nous devons examiner ce qui se cache derrière la crise actuelle et régler le déséquilibre sous jacent qui y a contribué.

De même, les membres du G20 doivent s'assurer que les institutions financières internationales, comme le Fonds monétaire international, la Banque mondiale, les banques multilatérales de développement, sont les fondements clés de la croissance et de la stabilité mondiales. Nous devons respecter notre engagement d'accroître l'influence et la représentation des marchés émergents dynamiques et des économies en développement au sein de ces institutions afin d'en accroître la légitimité, la crédibilité et l'efficacité.

Enfin, permettez-moi d'aborder la question du commerce mondial et des stratégies de croissance. La création de richesses dans le monde est en grande partie attribuable à la croissance du commerce au cours de la dernière génération. Aussi, l'intensification du commerce et le refus du protectionnisme sont essentiels à l'économie mondiale et à la cause juste de sortir des millions de personnes de la pauvreté. Le G20 le répète à chacune de ses rencontres.

> Dans ce monde troublé, nous reconnaissons clairement tous les facteurs qui, dans ces domaines, exigent une coopération internationale

Il va sans dire que certaines initiatives nationales nous ont fait dévier de cet objectif. Pourtant, jusqu'à présent, nous avons pu éviter des réactions comme le protectionnisme qui a transformé le crash boursier de 1929 en une dépression qui a duré une décennie.

Au Canada, nous tentons de jouer un rôle de chef de file en défendant le libre échange et l'ouverture des marchés. Nos mesures de relance n'ont pas entraîné de hausse des droits de douane. En fait, elles les ont fait diminuer de manière unilatérale, faisant du Canada une zone en franchise de droit pour le secteur manufacturier. Depuis 2006, nous avons conclu des accords de libre-échange avec huit nouveaux pays et avons entamé des négociations avec six autres, y compris l'Union européenne. Nous continuerons de résister au protectionnisme et de réduire ou d'éliminer les barrières tarifaires.

Notre ambition – la condition nécessaire de progrès au sein du G20 – doit être une conviction partagée que la marée montante de la reprise doit soulever tous les bateaux, et pas seulement certains. C'est la souveraineté dans son exercice le plus éclairé. Il ne s'agit pas, fondamentalement, de la structure des institutions mondiales. C'est plus une question d'attitude. Quelles que soient les structures mondiales élaborées pour le bien commun, elles ne fonctionneront pas si nous n'avons pas tous la même attitude.

Si le G20 met davantage l'accent sur l'économie, il reste un rôle important pour le Groupe des huit nations. De par les valeurs qu'ils ont en commun, les pays alliés et avancés peuvent encore faire beaucoup pour promouvoir la démocratie, le développement, la paix et la sécurité.

Dans ce monde troublé, nous reconnaissons clairement tous les facteurs qui, dans ces domaines, exigent une coopération internationale. Le terrorisme nous menace tous. La piraterie est revenue dans des zones maritimes stratégiques. Les changements climatiques menacent de manière disproportionnée les populations les moins capables de s'y adapter. Et même si les tensions entre les anciens États nucléaires se sont largement dissipées, la prolifération des armes nucléaires à de nouveaux acteurs, en particulier non-étatiques, est un problème grave.

Ces menaces immenses et complexes ne peuvent être écartées par un pays seul. Le G8 doit faire preuve d'un leadership collectif et il peut le faire dans le domaine de la santé maternelle et infantile.

Saviez-vous que plus d'un demi million de femmes meurent chaque année pendant la grossesse et près de neuf millions d'enfants meurent avant leur cinquième anniversaire?

Beaucoup trop de vies et d'avenirs ont été perdus. Et à la honte du monde, beaucoup ont été perdus par manque de solutions de santé relativement simples et à la portée de la communauté internationale. Souvent, les clefs de la vie résident tout simplement dans l'eau potable ou les traitements les plus élémentaires contre les infections.

En tant que président du G8, le Canada se fera le champion de l'initiative visant à accroître le nombre de grossesses, de mères et d'enfants en bonne santé. Elle suppose une vaste gamme d'interventions dans toute la chaîne des soins, y compris la formation et le soutien en faveur des travailleurs de la santé de première ligne, une meilleure nutrition et la fourniture de micronutriments, le traitement et la prévention de maladies comme la pneumonie, la diarrhée, le paludisme et la septicémie, le dépistage et le traitement des maladies sexuellement transmissibles, y compris le VIH/sida, la fourniture de médicaments approprié, la planification familiale, la vaccination, l'eau potable et l'hygiène.

En conclusion, les réunions du G20 et du G8 traiteront d'un immense ordre du jour sur fond d'incertitude économique et financière mondiale. Nous devons faire valoir notre conviction que les solutions sont la responsabilité collective de tous les participants. Nous devons être pragmatiques et ciblés, et surtout, encourager la responsabilité de nos propres actions.

À titre d'hôte des réunions du G8 et du G20 en juin, le Canada usera de son leadership pour se concentrer sur ces grands défis. Je me réjouis à la perspective de collaborer étroitement avec nos partenaires internationaux pour continuer de soutenir la reprise économique et tracer la voie de la renaissance pour l'humanité. ◆

Canada – a key contributor to world energy security

By Christian Paradis, Minister of Natural Resources, Canada

Canada has enormous energy resources

Canada is a global leader in energy. The variety and abundance of Canada's energy resources set it apart from almost any other nation.

Fifth in the world in total energy production, Canada is the third-largest global producer of gas and seventh in oil production. Although shale gas production is still an emerging sector in Canada, there are enough shale gas resources to provide about 35 years of total Canadian production. Canada also has the world's second largest hydro capacity and holds the world's largest reserves of high-grade, low-cost uranium.

Canada is a leader in the generation of clean energy, including the production of hydroelectricity. Currently, about 75 percent of the country's electricity comes from non-emitting sources, giving it one of the cleanest electricity portfolios in the world. A significant amount of Canada's renewable energy potential is untapped. Onshore wind and large hydro will likely make the largest contribution in the future, but Canada still holds immense potential for run-of-river hydro, solar, geothermal and ocean energy. Through its forests and agricultural land, the country is home to a significant portion of the world's bio-energy potential.

Effective policies have contributed to both Canada's energy security and its economic prosperity

Canada's energy policies are guided by a set of core principles; supporting open and competitive markets; taking concrete actions that are in the public interest; and striking a clear balance between economic competitiveness and environmental leadership. The aims of these principles are to ensure energy security for Canadians and to promote the continued contribution of the energy sector to the growth of our economy.

Canada's energy policies have supported a vibrant energy sector, provided reliable and affordable energy to citizens, contributed to economic prosperity and created jobs. Market forces alone cannot deliver on broader policy objectives and this is where governments have a key role to play.

Government must ensure the orderly and responsible exploration, development, delivery and use of energy supplies. The Canadian government conducts environmental assessments, establishes regulations and makes major investments in clean energy. It also participates in the negotiation of international agreements such as the North American Free Trade Agreement and the Copenhagen Accord – agreements which have had or will have a large influence in shaping domestic energy policy-making.

The oil sands provide Canada with the second largest oil reserves in the world

Canada's oil sands are a strategic energy resource of global importance, given that oil is expected to remain a dominant fuel in meeting global energy demand for decades to come. The oil sands contain more than two thirds of world oil reserves that are neither state-owned nor controlled by national oil companies.

There are unique challenges associated with oil sands development and Canadian governments have responded to

these with concrete actions. We have improved regulatory frameworks and are investing in the research and development of technologies that will enhance the environmental integrity of the oil sands sector.

Current oil sands development is already subject to some of the strictest environmental standards in the world. The Government of Canada believes that through proper management, the oil sands can continue to be a secure, stable, and environmentally responsible source of energy for many years.

Canada's objective is to focus on how it produces and uses energy, in addition to what it produces

The pre-eminent challenge is to make the transition to a clean energy future and strengthen Canada's position as a clean energy superpower. Technology will play a major role in shifting Canada towards a clean energy economy while strengthening the country's competitiveness and increasing its productivity.

This poses a significant investment challenge and requires a delicate balance between making the improvements necessary today while investing enough to prepare for the future. Huge infrastructure investments will be required in the next 20 years in the oil and gas sector (pipelines, refinery capacity) and in electricity generation and transmission.

Canada has made, and continues to make, strategic investments in clean and renewable energy. We are also taking steps to strengthen our energy efficiency standards and investing in energy efficient buildings and transportation. Since 2006, the Government of Canada has invested close to $10 billion to reduce greenhouse gas emissions and build a more sustainable environment through investments in green infrastructure, energy efficiency, clean energy technologies and the production of cleaner energy and cleaner fuels.

Canada is a world leader in carbon capture and storage (CCS), a key technology for balancing energy security and environmental goals. Over $3 billion has been allocated by both federal and provincial Governments to support up to six CCS demonstration projects in Canada which will accelerate the development of technology, drive down costs and ensure that CCS is commercially viable by 2020.

These strategic investments will also help us achieve the G8's objective to launch 20 such projects globally by 2010. Canada is already leading the way with the International Energy Agency's Greenhouse Gas Weyburn – Midale $C0_2$ Monitoring and Storage Project in the southern part of the province of Saskatchewan.

The country's stable regulatory and political regimes also have a role in providing an environment that increases the market penetration rates of new technologies, reduces investment risks, promotes energy efficient decisions and processes and removes information barriers.

Canada has made realistic yet ambitious GHG commitments

The Copenhagen Accord represents a significant step forward in international climate change discussions and provides a solid basis from which Canada can continue to work with international partners to address the global challenge of climate change. In line with our commitment under the Accord, Canada has submitted an economy-wide emissions reduction target for 2020 of 17% below 2005 levels. This target is aligned with the target and base year of the U.S. under the Copenhagen Accord.

The North American market is one of the most integrated in the world. Canada will continue to harmonize its climate policies with relevant polices in the U.S. in light of the integration of the two economies and their geographic proximity.

Canada is also working collaboratively with the U.S. and Mexico, its hemispheric partners, to achieve progress on climate change and clean energy. With a deeply integrated automotive industry, Canada has established common North American standards for regulating greenhouse gas emissions from vehicles. The proposed regulations, which would affect new vehicles manufactured or imported for the 2011 model year and onwards, promise to generate substantial benefits for the environment, consumers and industry alike.

Canada is collaborating on clean energy with the U.S. through the Clean Energy Dialogue and with Mexico through the Canada-Mexico Partnership. At our most recent Summit in 2009, North American leaders also agreed to a comprehensive energy program including initiatives to reduce gas flaring and to cooperate internationally to reduce emissions from aviation and marine transport.

Canada is uniquely positioned to contribute to energy security

Canada will continue to develop its significant energy resources and continue to invest in clean energy and energy efficiency. It will also keep working to reduce emissions from its electricity, fossil fuels and transportation sectors.

The development of new technologies, effective government regulation and an accessible open investment market will continue to ensure that Canada can meet its environmental objectives and contribute to the world's energy security for years to come.

Natural Resources Canada, 580 Booth Street, Ottawa, Ontario, Canada K1A 0E4

www.nrcan-rncan.gc.ca

The G20: a timely forum

Korea believes that in order to achieve sustainable growth, it is important that all countries – rich and poor – are represented. The gap between developing and advanced countries must be closed

By Lee Myung-bak, president, Republic of Korea

This time last year there was still much pessimistic commentary on the possibility of an economic slump that would push the world into another Great Depression. Fortunately, the actual outcome has been better than these worst-case predictions. Much of the credit for that better-than-expected outcome should be given to the unprecedented level of policy cooperation among the advanced and emerging countries of the G20. I believe that the newfound status of the G20 as the premier forum for international economic cooperation owes much to its proven successes to date.

This year the G20 will continue its efforts in coordinating policies toward recovery. But there is a more important task. This year will see the G20 take a decisive step toward longer-term policy coordination. The G20 must build the platform for longer-term economic cooperation that will ensure the sustainable and balanced growth of the world economy in the months and years ahead.

Ironically, the better-than-expected recovery of the world economy presents greater challenges for coordinating policy among the countries of the world. While the crisis was raging, the necessity of effective policy coordination was easily impressed on everyone. As the immediate crisis abates, the world needs to be on guard against the complacency that may accompany more tranquil conditions. In addition, there may be legitimate differences of views on the appropriate pace and sequencing of exit strategies and sustainable levels of public debt. Such differences can make reaching agreement more challenging. The goal should be a coordinated transition to a more normal policy stance to the greatest extent possible. The effectiveness of each country's economic policy will be enhanced when pursued in concert with others. Thus, all the countries have a collective interest in harmonising their policies.

One task for the G20 is to follow through on the initiatives and agreements made at previous summits on reforming financial regulations, reforming the international financial institutions and implementing the Framework for Strong, Sustainable and Balanced Growth. The G20 leaders have allocated tasks to the Financial Stability Board and the International Monetary Fund in coming up with concrete recommendations on the reform of bank capital regulation, the problem of institutions that are too big to fail and burden-sharing within the financial sector. As the chair of the G20 in 2010, Korea is coordinating efforts in these directions so that the overhaul of the global financial regulatory system rests on firm conceptual foundations and can be implemented effectively.

It would be fair to say that the impetus for the reform of financial regulation has in the past come from the experience of the advanced countries. They were the geographical origin of the recent financial crisis. However, assigning blame is of little comfort when the spillover effects are global. In this respect, it is better to recognise the mutual dependence of interests in an integrated world economy and work to solve the problems together.

The same forward-looking attitude is essential when considering the framework for resolving macroeconomic imbalances. We should move beyond finger pointing and apply ourselves to the question of how best to achieve the strong, sustainable and balanced growth the G20 members agreed to at Pittsburgh.

In order to achieve that balanced and sustainable growth, more is necessary than just achieving balance in a narrowly macroeconomic sense. A broader notion of rebalancing is appropriate, including closing the gap between advanced and developing countries. Such rebalancing should be an essential component of truly balanced growth in the world economy. Such a task should be dealt with as part of the mission of the G20.

In this respect, we should not lose sight of the fact that there are many important and pressing policy and reform issues that are of paramount importance to developing countries. At the Seoul Summit on 11-12 November 2010, Korea will place development issues firmly on the agenda.

The experience of aid policy over the last few decades has shown that aid is not sufficient for development. We need to think much harder about what else is needed to achieve the trajectory for economic growth that can pull a country out of poverty.

Korea knows how effective a period of sustained economic growth can be in curing poverty. Korea is now a member of the developed countries in the Organisation for Economic Co-operation and Development, but it is also a country with first-hand experience of economic development within living memory. Korea also has experience of the devastating impact of a financial crisis and the efforts necessary to secure a robust recovery. For these reasons, Korea is well placed to share its experience and expertise with emerging and developing countries. There is a great deal of significance in the fact that Korea is the first country from outside the ranks of the G8 club of advanced countries to chair the G20.

In placing development as a core agenda item, Korea is keenly aware that many developing countries are not represented in the G20. Therefore, it will not limit its consultations to the G20 members, but will reach out to partners outside. Korea will conduct extensive outreach efforts through consultations with the United Nations and other regional bodies. I cannot emphasise enough the importance of ensuring that the fruits of strong and sustainable growth are shared evenly among all countries, including the poorest.

Let me mention briefly other important initiatives that Korea will bring to the G20 summit in November. To address the problem of reversals of international capital

> “Korea also has experience of the devastating impact of a financial crisis and the efforts necessary to secure a robust recovery”

flows, Korea will place on the agenda the establishment of a global financial safety net that can mitigate the destructive effects of liquidity crises. Having been through the recent financial crisis, the world does not need to be reminded of the importance of having a systematic response to stem panic when the financial markets become disconnected from economic fundamentals.

The world economy has stabilised through the concerted action of governments, but private sector investment and job creation are still far from robust. For an enduring recovery, the revitalised growth of private investment must follow. Priority should be given to job creation and investment by the private sector. As part of the emphasis on the private sector, Korea will hold a business summit to coincide with the G20 summit in November.

> "Korea will place on the agenda the establishment of a global financial safety net that can mitigate the destructive effects of liquidity crises"

President Lee Myung-bak delivers a speech during a nationally televised meeting with top military generals at the Defense Ministry in Seoul, South Korea, Tuesday, May 4, 2010

The recent financial crisis has reminded us all how closely our national economies are integrated in the global economy. It is not only the events in our near neighbours that have an impact on our lives. The degree of integration is now such that events on the other side of the world can affect our daily life.

In this respect, the G20 is a very timely forum. By bringing together not only the leading advanced economies but also the major emerging economies, the G20 has the size and scope to tackle global issues. The November G20 summit in Seoul will be the first major test of this new global forum as it attempts to establish itself as a regular forum for international economic cooperation. I can promise you that the leaders of the G20 will put in our best efforts for the successful conclusion of the G20 summit.

Although the financial crisis brought the world together and forged an effective coordinated crisis response, it is now incumbent on us all to translate the momentum we have generated toward establishing a forum that can play a genuine global leadership role for longer term issues. Let's not disappoint the global community. ◆

From crisis to recovery

The challenges of the 21st century require a coordinated response and for all nations to take responsibility

By Barack Obama, president, United States of America

The Pittsburgh G20 Summit marked a critical transition from crisis to recovery. When the G20 met previously in London, the world was facing the greatest challenge to the world economy in generations. The G20 has responded forcefully by committing to a coordinated set of policy actions that were unprecedented in scale and effect. Those actions have pulled the world economy back from the brink of a depression, and emerging signs of global recovery are in sight and financial markets have come back to life. The International Labour Organization recently reported that G20 actions have saved or created an estimated 21 million jobs in 2009 and 2010. But much remains to be done and the G20 will continue to remain vigilant and implement aggressive policies to restore economic growth and create jobs until recovery is firmly secured.

In Pittsburgh, we also took steps to ensure that once recovery and strong global growth return, we prevent a return to the risky practices that led to the crisis by implementing a series of reforms to our economic and financial systems. We forged an agreement to enact a new Framework for Strong, Sustainable and Balanced Growth and to reform financial regulation and supervision – policies that will be supported and implemented by a redesigned global economic architecture. The G20 leaders – including representatives from major energy producers and other nations with large subsidies – committed to phase out fossil fuel subsidies while providing targeted support to help the poorest. This groundbreaking effort will encourage the conservation of energy, improve our energy security and provide a down-payment on our commitment to reduce greenhouse gas emissions.

Significantly, Pittsburgh was the first time such a large number of countries – the G20 accounts for 85 per cent of world output – agreed to work together to assess the implications and consistency of each others' economic plans, reach consensus on best practices for needed reforms and adopt policies to support the necessary rebalancing of global demand to ensure strong growth for all.

We recognise that we can no longer meet the challenges of the 21st-century economy with 20th-century approaches. We have learned, time and again, that in the 21st century, the nations of the world share mutual interests. That's why I've called for a new era of engagement that yields real results for our people – an era when nations live up to their responsibilities, and act on behalf of our shared security and prosperity. And that's exactly the kind of strong cooperation that we forged in Pittsburgh.

And that's why the G20 has taken the lead in building a new approach to cooperation. To make our institutions reflect the reality of our times, we will shift more responsibility to emerging economies within the International Monetary Fund and give them a greater voice. To build new markets, and help the world's most vulnerable citizens climb out of poverty, we established new World Bank trust funds to support investments in food security and financing for clean and affordable energy. And to ensure that we keep our commitments, we will continue to take stock of our efforts going forward and make this a primary focus of the upcoming G20 summit in Toronto.

We have taken the historic step of reforming our international economic architecture, so that the G20 is now the premier forum for international economic cooperation. This shift to the G20, along with the greater voice that is being given to developing nations in international financial institutions, clearly demonstrates the broader, more inclusive engagement that America seeks in the 21st century.

As we continue our efforts to transition from rescuing the global economy to promoting strong, sustainable and balanced growth, Canada and Korea will play a critical role as hosts for the G20 this year. Inspired by the legacy of Pittsburgh, known as the city of bridges, we can again come together to advance our common interest in a global recovery, while turning the page to a truly 21st-century economy. ◆

“I've called for a new era of engagement that yields real results for our people – an era when nations live up to their responsibilities”

Japan's responsibilities: the G20, the G8 and APEC

As well as being committed to helping global economic recovery, Japan plans to promote regional integration and inclusive growth in the Asia-Pacific region as chair of the 2010 Asia-Pacific Economic Cooperation forum

By Naoto Kan, prime minister, Japan

We are living through a time of new challenges. Never was coordinated international action more important than now. As the world dramatically changes, the G8 and G20 summits in Canada and the leaders' meeting of the Asia-Pacific Economic Cooperation (APEC) forum in November in Japan offer significant opportunities. Canada's and Japan's responsibilities are not small.

The global economy is past its worst stage, but we should not become complacent about current economic conditions. Unemployment remains high in many countries. We need to achieve inclusive growth that enables people to feel their daily lives are improving. When I visit Canada, a land rich in nature and diverse culture, I look forward to frank discussions on the future of the world economy with Prime Minister Stephen Harper and the other leaders.

The world economy and the role of Asia

To ensure that the world economy will make the transition to strong, sustainable and balanced growth, we all need to continue our efforts until recovery has clearly taken hold. We also need to understand better how policies pursued by individual countries could collectively make an impact on the world economy.

Japan's 2010 budget has laid down new policies aimed directly at supporting households, such as child allowances and effectively free high-school tuition. I will map out a path for mid- and long-term fiscal consolidation and will review budget allocations more boldly to change Japan's socioeconomic structure and seek new opportunities for economic growth. By realising a strong economy, strong public finances and strong social security altogether, I will rebuild the Japanese economy, thereby contributing to the recovery of the

Prime minister Naoto Kan will promote greater regional integration as chair of APEC

world economy. I will convey this message to the other member countries of the G8 and G20. In so doing, I intend to invite emerging economies to fulfil their responsibilities: only with close cooperation can we put the world economy firmly back on the path to robust growth.

At the Pittsburgh Summit in September 2009, we designated the G20 as the premier forum for international economic cooperation. Japan views the G20 as an important opportunity for developed countries and emerging economies to discuss the management of the world economy. At the Toronto Summit, further work is necessary to achieve recovery and sustainable growth, strengthen the financial regulatory system and reform international financial institutions. In particular, as the G20 agreed at Pittsburgh, the steady implementation of the Framework for Strong, Sustainable and Balanced Growth for the mutual assessment of economic policies is important. We must also continue our global effort to establish a stronger and sounder financial supervisory and regulatory system, reflecting the fact that the crisis was caused in part by failing to control the financial system we ourselves created.

Asia is recovering from the crisis rapidly and resiliently. It is driving the world economy with its robust growth. Increasingly, the Asia-Pacific region is having its presence felt as a centre of world economic growth, and Japan is privileged to assume the chair of APEC in 2010. This year marks a milestone for APEC industrialised economies that will achieve the Bogor Goals of free and open trade and investment. Therefore, as APEC chair in this important year, I intend to reshape APEC for the 21st century under the theme of 'Change and Action'.

Under Japan's chair, APEC will promote greater regional integration and develop mid- and long-term growth strategies for the whole region. These growth strategies must bring inclusive growth, benefiting not only a few but all, and must bring sustainable growth, paying attention to the environment and energy. I intend to promote, through those measures together with other regional efforts, the initiative for an East Asian community.

In November, the APEC leaders' meeting will be held back to back with the G20 Seoul Summit. I firmly support Korea, our important neighbour, in hosting the G20 summit, and I promise my utmost cooperation for its success. It is my intention for Japan to enhance the synergy among the G20, the G8 and APEC by delivering the voices and experiences of the Asia-Pacific region to the world through the G20 and the G8 and, at the same time, conveying the messages from the G20 and the G8 to APEC to pursue balanced development in the region.

Addressing global issues

In pursuing inclusive growth, we should not neglect poverty and other global challenges. Children all around the world deserve a society that realises human security – a society where they are free from hunger, infectious diseases, landmines or conflicts, a society where they have access to safe water and primary education and their human rights are protected.

Climate change is another challenge that deserves attention. The threat of global warming is real, and this year the international community will be tested on whether it can take coordinated action to adopt a comprehensive new legal document. Japan has set a very ambitious mid-term target of reducing greenhouse gas emissions by 25 per cent by 2020 from the 1990 level and will play a leading role in international negotiations. We will also actively promote green innovation by taking advantage of Japan's environmental technologies.

Each of us owes this diverse, indispensable earth to the next generation. As chair of the tenth Conference of the Parties to the Convention on Biological Diversity, Japan will lead a global effort toward the comprehensive protection of biodiversity and sustainable use of biological resources.

The G8 has played a significant role in meeting each of these global challenges. The importance of the G8, underpinned by a shared sense of fundamental values such as freedom and democracy, remains unchanged.

I fully support the leadership of Prime Minister Harper, as chair of the G8 Muskoka Summit, in taking up development, particularly maternal and child health, as a major item on the agenda. With only five years left and a United Nations summit scheduled in September, this year is very important for the achievement of the Millennium Development Goals by 2015. The international community is required to show its unified will to meet those goals and, as a group of major donors, the G8 has a responsibility to lead such a global effort. Needless to say, the G8 must also address the issue of peacebuilding to ensure peace and security as a prerequisite to development.

The international community faces urgent political and security issues such as those presented by Iran and North Korea. Tied together by common fundamental values, G8 members have a shared responsibility for international peace and security. I think that the leaders of G8 countries should candidly discuss these issues and send a strong message to the international community about their resolve to address them.

In conclusion

As the world goes through unprecedented changes, no country alone can resolve complicated global issues. Nor can any single framework. By further cooperating with countries willing to and capable of fulfilling their responsibilities, I am committed to confronting the world economy and other global issues through the frameworks of the G20, the G8 and APEC. ◆

Prospects for the 2010 Muskoka-Toronto summits

The G8 and G20 summits in Canada this June will take place in tandem, allowing them to consolidate and strengthen their evolving, mutually reinforcing roles

By John Kirton, director, G8 Research Group, co-director, G20 Research Group

The 2010 G8 and G20 summits, taking place respectively on 25-26 June in Muskoka and 26-27 June in Toronto, Canada, are unusually significant events. For the first time these two steering groups for global governance will occur in tandem – in time, in place and in the hosting, chairing and careful coordination that lies behind. For the first time the G20 will embark on its new mission, proclaimed at its last summit in Pittsburgh in September 2009, to serve as the world's premier, permanent forum for international economic cooperation. The twin summits will provide the expanded capacity for global governance needed to address the world's many pressing problems across the financial and economic, social and development, and political and security domains. Each summit will prospectively succeed in its own right by meeting its priorities and pushing forward across a broad but focused front. Together they will thus set a firm path for shaping and strengthening their still evolving, mutually reinforcing roles and relationship in the years ahead.

When G8 leaders assemble in Huntsville in Muskoka on Friday, 25 June, they will focus on the G8's core development and political-security agenda. In development lies the summit's top priority of maternal, newborn and children's health. Here the G8 will adopt those two of the eight Millennium Development Goals (MDGs), set by the United Nations in 2000, that are now furthest behind, and will provide the critical push necessary to achieve them by their due date of 2015. Each G8 member is likely to add, in the way it prefers, new funding through existing mechanisms to scale up simple, proven instruments such as trained healthcare workers, vaccination, nutrition and clean water and to strengthen the healthcare systems that these proven interventions need to succeed. Together these moves will enable MDGs 4 and 5 to be reached, if contributions and accountable, effective implementation come from all G8 members and their many partners now and in the five years ahead.

> Leaders will also address the new, non-state security challenges coming from vulnerable states

The second priority is food security. Here the core challenge is to deliver and use wisely the $20 billion promised as the central achievement of the G8 L'Aquila Summit last year. With host Canada having delivered its promised money fast and in full, similarly ambitious action by others now needs to – and should substantially – come.

Accountability and effectiveness arise again in the third priority of the long-term reconstruction of Haiti, a country close to key G8 countries such as Canada, the United States and France. In that troubled country, for which much new money has recently been promised, many chronic conditions and crises have come together in particularly destructive and deadly ways. The earthquakes that recently struck not just Haiti but also subsequently Chile, the volcano erupting in Iceland to ground transatlantic flights and the great oil spill in the Gulf of Mexico in April have added environmental and energy shocks to spur G8 action in these two fields.

The fourth priority is improving accountability and effectiveness in general, across all G8 and G20 commitments, and on official development assistance in particular within the G8. Advances here could well serve, as intended, as the defining feature of both summits. Canada and those partners that have fulfilled the G8's 2005 commitment to double aid to Africa and overall will push the laggards to follow, with some success. A critical component is making the new money mobilised by the summits more accountable and effective, in part through recipient country and community partnership, ownership and mutual accountability. A comprehensive accountability report on development according to a common, credible and comparable framework is due to be released for the first time. More broadly, a premium will be placed on research and innovation for development, including in health. Here host Canada is leading with its new Grand Challenges Canada initiative to bring researchers in developed and developing countries together in high-payoff priority projects for the common cause. Prospects for progress are enhanced by the session that the G8 leaders will hold at the summit with key colleagues from Africa itself.

Beyond development stand several severe interconnected challenges in the security domain. The first concerns nuclear weapons, where G8 leaders will seek to build on the 2002 Kananaskis Summit's Global Partnership against Weapons and Material of Mass Destruction and the more recent Nuclear Security Summit hosted by US president Barack Obama in Washington in April. They will seek to destroy obsolete weapons held by the established nuclear powers, to contain the threats from Iran and a dangerous North Korea that recently sunk a Republic of Korea naval ship, to strengthen the United Nations non-proliferation regime and, above all, to keep nuclear and other weapons of mass destruction out of terrorists' hands.

Leaders will also address the new, non-state security challenges coming from vulnerable states, such as terrorism, piracy off the shores of Africa, and the drug trafficking and transnational crime that are proliferating in Mexico and infecting the Caribbean, North America, Africa and even distant Europe itself. There remains the ongoing war against terrorists and insurgents in Afghanistan, where victory depends not only on broadly shared military investments but also those in diplomacy, development and trade, especially along Afghanistan's long, troubled border with Pakistan. The narrowly thwarted terrorist attacks over the past six months in Detroit and New York City, along

with the deadly one on the Moscow subway, have reminded the former superpowers of their continuing vulnerability to non-state enemies that they cannot completely control.

When the G8 leaders come down to Toronto to join their G20 colleagues on the evening of 26 June and the next day, they will turn to economics and finance. Their still vivid memories of the recent American-turned-global financial and economic meltdown, and its continuing costs for some members' jobs and housing markets, will be reinforced by the new sovereign debt crisis erupting in Greece and spreading across Europe and around a tightly wired world.

The G20 leaders' first task is to stay the course on stimulus until private sector–led recovery is assured, while simultaneously designing and implementing smart exit strategies to convince nervous markets that they have credible medium- and long-term plans for fiscal sustainability, so that they will not go the way of Greece and can help others that do. A closely related challenge is implementing and improving the Framework for Strong, Sustainable and Balanced Growth that they invented in Pittsburgh. Here the task is to ensure that all members

Officers from the UN Command inspect part of a North Korean torpedo at the defence ministry building in Seoul, Korea.
The G8 and G20 face several interconnected challenges in the security domain, including threats from North Korea

produce their promised national plans with precise numbers, so that a proper analysis can be made of how those plans fit together to achieve shared global objectives and of what options are available for the adjustments that must be made. Only then can the leaders credibly signal their determination to make the balanced and broadly shared changes in exchange rate, fiscal, microeconomic and social policy required to put a durable broadly balanced recovery in place.

The second task is to modernise G20 members' domestic financial regulations and ongoing supervision in a more comprehensive, forward-looking and internationally coordinated way. Here the priorities, which leaders will likely advance, are to tighten consensus on the needed higher quality and quantity of bank capital and liquidity and lower leverage ratios. To do so they must avoid getting bogged down by divisive, politically driven debates over new taxes or levies on banks, and advance stronger, shared standards on accounting, derivatives and other important issues that concern all.

The third task is to liberalise trade and investment, in order to fuel private sector–led growth and development, especially in the emerging and developing economies upon which future global prosperity increasingly depends. The G20 leaders will again dutifully promise to avoid and redress protectionism and get the overdue Doha development round of multilateral trade negotiations done. But they could, following the lead of their Canadian co-chair, more usefully unilaterally cut tariffs, negotiate ambitious bilateral and plurilateral trade, investment and regulatory agreements, and forge regimes to contain financial protectionism, eliminate nuisance tariffs, foster freer trade in environmentally enhancing services and goods, and reduce subsidies for fossil fuels and agriculture that damage the environment and much else.

The fourth task is reform of international financial institutions. This starts with shifting 5 per cent of the voting share at the International Monetary Fund (IMF) from relatively shrinking established economies to rapidly rising emerging ones, and doing so in ways that help legislatures in all member countries readily ratify the change. Also important is expanding resources and improving governance at the IMF and the World Bank, as well as considering their role in any future large financial safety nets and support packages that countries beyond embattled Europe might need.

Closely related to an array of social issues that the G20 will again wish to advance. These include climate finance, starting by delivering the new 'fast-start' money promised to developing countries at the UN's Copenhagen conference in December, the reduction of inefficient fossil fuel subsidies, green growth through economic moves that mainstream the environment, good jobs and training to follow up on the first G20 labour ministers' meeting in Washington, food security, health, development, tax havens and terrorist finance. As the latter suggests, and as the Iranian and North Korean challenges require, G20 leaders will want to act on all seemingly financial and economic issues in ways that support their larger political-security goals.

Beyond the challenges of managing these individual, tightly interconnected issues stand the institutional ones of defining the shape of the G8 and G20 summits and their relationship with each other and outside bodies in the years ahead. Meeting these require strengthening the distinctive role and added value of each summit system and the active cooperation between the two, to ensure comprehensive, coherent global governance as a whole. These tasks begin by making both summits events where leaders are free to be leaders, and thus able to provide integrated, innovative initiatives, in the accountable and effective way that a more open global economy, society and political community wants and needs. ◆

A US Army soldier carries a child injured during the earthquake in Port-au-Prince, Haiti. Preparing for such unpreventable natural disasters is key to reducing casualties

By Sir John Holmes, United Nations under-secretary general for humanitarian affairs and emergency relief coordinator

Building effective humanitarian responses for the 21st century

Coping with and preparing for the hazards caused by climate change are responsibilities that must be shared by all

The rapid and effective response to the Haiti earthquake in January 2010 was possible only because everyone in the humanitarian community worked together in ways unimaginable a decade ago, or even five years ago when the Asian tsunami hit. We must now deepen and widen those partnerships in the months and years ahead in the face of increasing challenges. The G8 and G20 countries are well placed to help drive this process forward.

Profound global changes are increasing needs and vulnerability and shaping the humanitarian landscape in new ways. Climate change is already increasing the frequency and intensity of extreme natural hazard events, particularly floods, storms and droughts. The global food crisis is not over in many poor developing countries and will worsen over time. There is also continuing rapid population growth in many poor countries with demographic shifts and growing urbanisation causing many more people to live in high-risk areas. Land, water and energy scarcities are increasing, as are disturbances to key ecosystems, the risks of pandemics and, in the shorter term, the impact of the current global economic crisis on the poorest and most vulnerable.

Individually, these so-called mega trends are likely to drive up humanitarian needs by creating more poverty and vulnerability, greater levels of inequality, higher unemployment, increased frequency and intensity of disasters, new kinds of conflicts and major weather-driven migrations. Combined, they threaten to create chronic vulnerability on a scale not readily imaginable now.

The good news is that this situation is increasingly recognised. Countries, regional organisations, United Nations agencies, non-governmental organisations (NGOs), the International Red Cross and Red Crescent Movement and many others are using improved systems to make this diversity work for the world. These organisations have started to put in place a humanitarian architecture that can help the world cope: stronger humanitarian coordinators, humanitarian country teams, clusters for coordination and quicker and more equitable collective funding tools. The generosity of donors, be they governments, individuals, companies or foundations, has improved. The most urgent humanitarian needs are usually funded, although a huge amount are not.

But the world needs to reflect further on how to respond to chronic vulnerability and determine how humanitarians can work best in a world where humanitarian response can no longer be easily defined by the triggers of major natural disasters or human-made conflict. A rethink of the traditional model for saving lives with humanitarian assistance is urgently needed because in the face of new threats, the humanitarian toolbox is often insufficient to change the situation. The role of the international organisations is to support governments by filling in gaps of capacity and resources where they are asked to do so and where they can remain relevant – and are needed now more than ever. But, given the scale of the challenges ahead, the world also needs new ways of working in order to stem the immense human suffering, mass migration, pandemics and resource-based conflicts that could otherwise be overwhelming.

A new model should emphasise prevention and risk reduction at least as much as response. This model would shift the focus toward increasing national and regional preparedness and response capacity, to improve rapid and culturally sensitive action at all stages of the crisis cycle. For example, new partnerships are needed among public authorities, civil society and business actors focused on building preparedness and resilience at every level, from the village or town to the district and the country, as well as at the regional level.

What might such partnerships do? In the first place, partners would work together at building resilience against natural hazards such as floods, earthquakes and drought through early warning systems, water management schemes, reforestation, relocation of communities away from disaster-prone places, and so on. But there is also a need for a broader look at what makes communities able to cope with the extra sudden shocks likely to become the pattern of the future. The idea is not to dictate a particular model, but to put the key actors together and generate new ways of working.


UN Photo/Evan Schneider

An aerial view of a camp of the Internally Displaced Persons, survivors of the China earthquake, 2008

Making this change will require significant political will and determination on the part of all involved. That is where G8 and G20 countries can come in. Donor countries need to fund disaster risk reduction and preparedness measures. Adaptation to climate change has to include investing in systems for disaster reduction, preparedness and management.

But, ultimately, this needs to happen not through some top-down process, but through systematic engagement at all levels, particularly from the bottom up. It needs to become the natural way of working together, given today's new challenges. And while it is perhaps most needed in vulnerable developing countries, and for the most vulnerable populations, the model is equally applicable to developed countries – and indeed already exists in some.

There is already a head start on reducing disaster. The Hyogo Framework for Action gives a global blueprint for 2005-15 to help governments and organisations assess and reduce risks through planning, training and public education. Examples include making investments that pre-empt potential future costs of disasters and making sure that schools, hospitals and other key public infrastructure meet certain safety standards. Some 168 governments signed Hyogo in 2005, but many have failed to follow through on the practical measures it proposes.

When it comes to responding to the needs arising from chronic vulnerability rather than those caused by a one-off event – a major natural disaster or human-made conflict – the world also needs to reshape radically its understanding of humanitarian versus development action. Who takes responsibility when there are new and additional humanitarian caseloads in supposedly developmental contexts? What capacities are needed? Where will the money come from? These questions cannot be dodged.

> “A rethink of the traditional model for saving lives with humanitarian assistance is urgently needed”

Strategies, both developmental and humanitarian, need to favour resilience to the multiple threats that loom, with national and local authorities and partners on the ground in the lead wherever possible.

Today's problems respect no boundaries and do not fit the model of the crises that have faced the world in the past. We must shape our future practices accordingly. It is no longer enough to see the UN humanitarian agencies, and the humanitarian community at large, just as a sort of international fire brigade, turning up wherever the flames get too high. While the fire brigade will certainly still be needed, and perhaps more than ever in future years – because of extra disasters caused by climate change and because major disasters like the Haiti earthquake can never be stopped – the focus needs to shift fundamentally toward building local, national and regional capacity to deal with these problems and toward prevention, preparedness and disaster risk reduction before disaster and crises strike. ◆

IMPROVED CARE FOR SOME OF THE WORLD'S MORE VULNERABLE PEOPLE

The Lilly MDR-TB Partnership, a public-private undertaking, mobilizes over 20 partners on five continents in the battle to stop the spread of MDR-TB. Lilly and its partners are working hard to support the goal of saving 14 million lives from TB and MDR-TB by 2015.

The public-private partnership provides access to medicines, transfers manufacturing technology to resource-constrained countries, conducts research, trains health care workers, raises awareness and promotes prevention, while providing support for communities and advocating on behalf of people living with TB and MDR-TB.

The partners work together closely, sharing knowledge, expertise and research in the quest to contain and conquer one of the world's oldest diseases.
The Lilly MDR-TB Partnership is about more than the transfer of technology and know-how – it's the Transfer of Hope.

Children at a school lunch programme in Maharashtra, India. Given the large numbers of children living in poverty and deprivation in India, the State's role as a custodian of child rights needs to be built up

For India's children

Meet Asma Sheikh. Asma studies in a State-run, elementary school in Turbhe, a slum on the outskirts of Mumbai, the world's most densely populated city. She lives in a household of 8 people.

Her father drives an auto-rickshaw and her mother is a domestic worker. Asma would like to be a doctor when she grows up, in preparation of which she keeps a daily diary. Here are a few of her diary entries:

Monday: "Teacher didn't come to school again today so we had no classes. I'm really scared I am not going to pass the exams."

Tuesday: "Today we had no electricity again. I couldn't finish my homework and got to school late."

Wednesday: "Our teacher taught us Chapter 7 in Marathi. I didn't understand any of it."

Thursday: "Today, because we had guests, Mum cooked vegetables. I wish we had guests everyday!"

Friday: "Mum's been ill for 4 days. So we had no money to buy the notebook my brother needed today."

In the last decade, India has seen an unprecedented growth in its economy. The GDP crossed $1 trillion ($4 trillion at PPP) in 2007 and touched a 9.20 percent growth rate. In the same year, India's 11th Five Year Plan noted, "Child poverty is widespread in India". 44 percent of children (aged below 15 years) were living in households below the poverty line in 1993-94. In 1999-2000, this percentage had been 33. In a 2009 report, the Government noted again: "Hunger, particularly undernourishment among children, persists as a major food insecurity issue."

Evidently, the situation of India's children is getting worse. In the case of girls, even the right to survival is under threat. In 2001, only 927 girls were born for every 1000 boys. More girls than boys die without celebrating their first birthday, even in a State such as Kerala, long India's development showcase. Half of India's children are malnourished (in contrast, only one-third of Africa's children are malnourished).

This is an avoidable reality. If we as adults could ensure that the current Constitutional provisions are implemented, the State could fulfill its role of providing a suitable economic and social environment, so that families can ensure the well-being of children.

But this role seems to be de-prioritised. Instead, there is an increased emphasis on market-oriented solutions. So families are spending an increasingly large proportion of their disposable income on (often substandard) education and medical care.

Child Rights and You - CRY's analysis clearly shows that a range of policies are impacting children negatively. For instance, land consolidation for mega infrastructure projects; dilution of worker benefits; misuse of anti-terrorism laws, all of which have an impact on children's lives today and their opportunities for a better tomorrow.

While evidence suggests that only comprehensive interventions addressing the root causes have a sustainable impact, solutions from the State, voluntary and private sectors continue to adopt narrow, relief-based approaches.

India is projected to be among the top 4 economies globally in the coming decades. But the need for increased public investments, especially in education and other social sectors, is not emphasised enough. So there is intense lobbying for a more liberalised economy to emulate models from the developed West. However, we find little zeal to emulate best practices in public education, healthcare or welfare that underpin most Western economies.

Room for optimism

In the same period as the sharp rise in child poverty, we have seen an emerging focus on social justice in State policy, driven by the electoral arithmetic, as shown by steps such as the employment guarantee schemes and a National Commission for Protection of Rights of Children. Scheme-based, palliative measures are not working, as many people realise. Judicial and media activism is growing. This creates some room for optimism.

Needless to say, these scant positives are undercut by a lack of awareness of existing policies among those who urgently need it most and a lack of enforcement of existing laws. Accountability in governance systems and structures is a huge issue.

Which is where the opportunities arise, in the form of rising levels of concern among the middle-class and the nascent CSR consciousness in the form of philanthropic activities.

Towards a solution

Many Indians are today much better off than their parents ever dreamed possible. Inclusive growth and distributive justice is being talked about. And affirmative action is making some difference.

We at CRY have developed our strategic approach on these somewhat slim reasons for hope. This approach works on causes, not symptoms: What keeps children hungry, at risk of exploitation and out of school? What keeps families at unfairly low incomes and entire communities poor and excluded? The large-scale policy failures are one part of the problem. The other part is located within the family and the community, factors such as deeply ingrained caste discrimination and gender biases. Every deprivation that a family experiences is felt twice as hard by the child, because his present, as well as his future, is being compromised.

At CRY, we root out the reasons that keep children uneducated and vulnerable. We help empower women and children. We fight for equal inclusion of everyone, including the poorest, in a village's decision-making. We build resilient communities who can demand entitlements for their children and themselves and work together to secure them. At the same time, we campaign so that the administration delivers on all its promises – especially of schools and health centres.

Using this approach, we now work with over 700,000 children and their families in 7,745 villages and urban slums, spread across 20 states in India. Our achievements are due to the support of over 250 volunteers and 200,000 individual donors worldwide.

Does it work?

In the last 30 years of CRY's existence, USD 34.6 million has been channelled to over 300 grassroots NGOs, community-based organisations, advocacy groups and alliances. In effect, we have become the incubator of some of India's most successful, sustainable rights organisations. Over 1.5 million children's lives have been directly transformed; 6,500 rural, tribal and slum communities in 20 states have been mobilised for child rights. Together with our partners, we spearheaded the constitutional amendment that made education a fundamental right. Our policy advocacy work is instrumental in raising budgetary allocations to education and health. In summary, CRY is an example of an indigenous philanthropy that is credible, independent, secular, non-violent, and represents the voice of India's children.

In other words, we recreate lives and dreams for children such as Asma, whose potential should not be curbed, no matter how adverse their circumstances are or have been.

What more needs to be done?

However, this is not enough. We need to see children as citizens with equal rights, not as adults in the making or objects of sympathy. We, as parents, consumers, professionals and journalists need to commit to build a future that benefits *all* children, especially those who are the most deprived.

Children are India's largest and least audible interest group. We need to invest in creating a country and a world where children's voices are heard, such that each child can lead a healthy, happy life.

For more information, visit www.cry.org. CRY works with its partners CRY America (www.america.cry.org) in the US and CRY UK (www.uk.cry.org) in UK.
Email: puja.marwaha@crymail.org

Haiti's reconstruction, natural disasters and the climate change challenge

With climate change on the increase, natural disasters will continue to threaten the world. Those living in poorer countries are at most risk, but significant steps can be taken to reduce casualties

By Gordon A. McBean, Science Committee, Integrated Research on Disaster Risk, Institute for Catastrophic Loss Reduction, University of Western Ontario

On 12 January 2010, a devastating earthquake hit Haiti, causing more than 220,000 deaths, 300,000 injured and 1.3 million displaced. Close to 100,000 homes were destroyed and twice as many damaged. In all disasters, women and children are proportionally more affected, and maternal health is at risk. International commitments at the International Donors' Conference Towards a New Future for Haiti totalled more than $9 billion with more than $5 billion pledged for 2010 and 2011. How best to reconstruct Haiti?

Unfortunately the future holds more hazards for Haiti – another earthquake and before then likely more hurricanes. In 2008, hurricanes Fay, Gustav, Hanna and Ike left a million people affected and tens of thousands of homes and 70 per cent of Haiti's crops destroyed. The destruction by flooding was assisted by previous deforestation of Haitian hill slopes. A long list of major hurricanes over the past decades has left major death tolls and economic and ecosystem devastation.

For the rest of this century at least, climate science predicts increasing risks of heavy precipitation, intense tropical cyclones (including hurricanes) and rising sea levels, leading to extreme high seas. When 133,000 people died after tropical cyclone Nargis hit Myanmar, most drowned in oceanic storm surges. As Margareta Wahlström, the United Nations assistant secretary general for disaster risk reduction, stated in 2009, "over the last two decades (1988-2007), 76 per cent of all disaster events were hydrological, meteorological or climatological in nature; these accounted for 45 per cent of the deaths and 79 per cent of the economic losses caused by natural hazards." All these risks are increasing as the climate warms. She then laid a challenge to the global community: "The real tragedy is that many of these deaths can be avoided." These deaths should be foremost in the dangers that the United Nations Framework Convention on Climate Change aims to prevent. Food production and economic development also cannot proceed in a sustainable manner unless actions are taken.

Both the declaration issued by the Major Economies Forum on Energy and Climate at L'Aquila, Italy, in 2009 and the 2009 Copenhagen Accord declared "climate change is one of the greatest challenges of our time". Both stated that emission reductions as well as adaptations to the adverse effects of climate change and disaster risk reductions are essential.

Hazards will continue to occur but they do not need to result in disasters. Hazards are usually natural but it is the human vulnerability that turns them into disasters. Longer-term recovery from the Haitian earthquake and other disasters requires rebuilding efforts focused not only on providing shelter and services, but also on reducing the vulnerability and strengthening the resilience of the people to inevitable hazards in the future.

In the aftermath of the 2004 Indian Ocean tsunami, which also killed more than 200,000 people, countries gathered in Kobe, Japan, in January 2005 for the World Conference on Disaster Reduction. The resulting Hyogo Declaration and Hyogo Framework for Action concluded that "we can and must further build the resilience of nations and communities to disasters through people-centered early warning systems, risks assessments, education and other proactive, integrated, multi-hazard, and multi-sectoral approaches and activities in the context of the disaster reduction cycle … appropriate response to these can and should lead to actions to reduce risks and vulnerabilities in the future".

Actions to reduce disaster risk and adapt to climate change have demonstrated their effectiveness. On 27 February 2010, a magnitude 8.8 earthquake struck Chile. Although 500 times more powerful than the Haitian quake, its impacts on humans were much less – about 800 deaths – but about twice as many buildings were destroyed. Whereas Haiti is the poorest country in the western hemisphere, Chile is the wealthiest Latin American country and also has a history of earthquakes. In 1960, Chile suffered the worst earthquake in recorded history, a 9.5 magnitude quake that killed thousands. Actions taken since then have led to better building standards and a sense of earthquake consciousness.

Bangladesh and Myanmar are both densely populated countries with low-lying deltas vulnerable to cyclones and typhoons. In 1970, Bola struck Bangladesh causing 300,000 deaths; in 1991, Gorki killed 139,000 people. Bangladesh has now instituted a 48-hour early warning system and educational and construction programmes

> "Hazards will continue to occur but they do not need to result in disasters"

leading to effective community-based disaster preparedness, evacuation and mitigation. When cyclone Sidr struck in 2007, the death count was 3,000 people, tragic but many fewer than in earlier events. Myanmar had not had devastating cyclones and did not have disaster risk reduction systems in place when Nargis struck.

In advance of the donors' conference, a workshop on Rebuilding for Resilience: How Science and Engineering Can Inform Haiti's Reconstruction was convened by the US National Science and Technology Council, with co-sponsors including the United Nations International Strategy for Disaster Reduction. The key findings were the necessity to rebuild stronger, rebuild appropriately and emphasise long-term capacity. The United Nations International Strategy for Disaster Reduction has joined with the International Council for Science and the International Social Sciences Council to create a new international research programme, Integrated Research on Disaster Risk, to address the challenge of natural and human-induced environmental hazards. They recognised an imperative need for a research programme on disaster risk reduction that is integrated across the hazards, disciplines, including natural, socioeconomic, engineering and health sciences, and geographical regions. The research focuses on the characterisation of hazards, including how they will change with climate, vulnerability and risk; effective decision making in complex and changing risk contexts; and methods to reduce risk and curb losses through knowledge-based actions.

Workers clear debris from earthquake-damaged homes in Haiti. With another earthquake expected, Haiti needs to reconstruct appropriately

> "Longer-term recovery from disasters requires strengthening the resilience of the people to inevitable hazards in the future"

Disasters, whether from geophysical or climatic events, leave a tragic legacy of lives lost, economic hardship and development reversed. Studies by McGill University's Douglas Mental Health University Institute have demonstrated that children whose mothers experienced high stress (in this case during the Quebec 1998 ice storm) scored lower on intelligence and language performance tests than those whose mothers had less stress – and these effects are not reversible. The impacts of disasters are now known to add another dimension to maternal health. The collective actions of governments must be to leave the legacy of an enhanced capacity and actions around the world to address hazards, reduce disaster risk and stress and minimise the number of disasters, in the face of climate change and other threats. ◆

Canada's prime minister Stephen Harper (right) and industry minister Tony Clement attend a roundtable meeting in Ontario

Canada: the international gateway to the world

With its low tax rates, excellent trade links and plentiful natural resources, Canada is a global business destination

By The Honourable Tony Clement, minister of industry, Canada

As a gateway to the United States, Latin America, the Asia-Pacific region and the world, Canada boasts unrivalled opportunities for global business – ranging from its highly educated workforce to key economic advantages, favourable tax policies and advanced infrastructure. Canada's competitive advantage is sustained through its prudent fiscal policy, low inflation and competitive corporate tax policy. These features are coupled with a high quality of life and strategic investments in technology, education, research and development (R&D) and healthcare.

Canada entered the global recession with a strong record of balanced budgets, the lowest ratio of debt to gross domestic product (GDP) in the G7 and the soundest banking system in the world. According to the International Monetary Fund (IMF), Canada was better placed than many industrialised countries to weather the global financial turbulence and synchronised worldwide recession, given its track record for sound macroeconomic policy management, its proactive response to the crisis and its focus on financial stability. While Canada faces a fiscal deficit, public finances are healthier than in most other leading economies, especially given that public debt remains at manageable levels. In 2010, Canada's net federal debt-to-GDP ratio is about 31 per cent, leaving Canada in a much better position than other industrialised countries such as the United States at 67 per cent, the United Kingdom at 75 per cent and Japan at 115 per cent.

It may be too early to declare an end to the global economic crisis, but Canadian financial institutions remain resilient. The contraction of Canada's economic growth over the course of the global recession was less severe than in virtually all other major industrialised economies. No major Canadian financial institution failed. None required government bailouts. Particularly supportive of Canada's recovery was the effective combination of targeted stimulus measures through Canada's Economic Action Plan, and the remarkable strength and stability of its carefully regulated financial institutions.

The Economist Intelligence Unit predicts that Canada will be the number one place to do business in the G7 for the next five years, primarily owing to the relatively mild slowdown experienced as a result of the global credit crisis. Canada provides numerous incentives and low tax rates to ensure that new businesses will be successful, notably offering the most competitive and most attractive tax structure for small, medium and large business in the G7. Canada's well-regulated financial institutions, banks, trust companies, cooperatives, insurance companies and stock exchanges have demonstrated stability and competitiveness that have made their services popular around the world.

At the crossroads between the North American marketplace and the booming economies of Asia, Canada offers a strategic location to investors. Moreover, Canada's relationship with its partners in the North American Free Trade Agreement (NAFTA) provides investors with access to more than 443 million consumers and a combined GDP of more than $15.4 trillion.

Despite challenges posed by its vast, sparsely populated territory, Canada has a sophisticated infrastructure and a highly developed transportation network that facilitate intercontinental business operations. Many Canadian production hubs are, in fact, closer to targeted US markets than are American production sites. Of Canada's 20 largest cities, 17 are within an hour and a half of the United States by car, and many are much closer.

In addition to trade links between Canada and the US, NAFTA provides access to the entire continent and a gateway to Latin America. In 1994, following the success of the 1988 Canada-US Free Trade Agreement, the original trading partnership expanded to include Mexico – creating the largest free-trade area in the world. NAFTA revealed the true potential for Canada-Mexico-US trade and ushered in a new era of economic integration.

Toronto: Canada offers a competitive investment location

> “A global outlook has helped Canada build a strong, stable economy that boasts many leading-edge companies”

A maritime nation, Canada also has exceptional access to Asia-Pacific markets. Western Canadian ports offer the shortest sailing distance from North America to the region. Canada's strategic geographical location is coupled with both strong immigration links and membership in the Asia-Pacific Economic Cooperation (APEC) forum, further reducing trade barriers. Such advantages ensure that Canada is well positioned to capitalise on the long-term growth potential of Asian economies. To maximise its strategic access and enhance its competitive position, Canada has invested more than $1 billion in the Asia-Pacific Gateway and Corridor Initiative to support stronger infrastructure links among Canada, NAFTA and Asia-Pacific markets.

Renowned for its beauty and abundance of natural resources, Canada is increasingly recognised for its innovative research capacity. Canada has invested billions of dollars over the last decade to create a robust R&D climate. Canada ranks second behind the US among the G7 and fourth in a 134-country review of the quality of scientific research undertaken in government and university laboratories. Canada ranks first in the Organisation for Economic Co-operation and Development in terms of higher education achievement, with more than half of Canadians between the ages of 25 and 35 having completed post-secondary education. Moreover, Canada continues to attract highly qualified newcomers from across the globe, given its business-friendly immigration policies and first-class management schools.

Canada is one of the most admired countries in the world in which to live, learn and work. Canada places a premium on health and wellbeing, reflected in a universal health system and social safety network that ensure equitable opportunities for citizens to participate in the life of its communities and country. This approach proves both a social and economic asset, providing cost benefits that give Canadian businesses a competitive advantage.

Canada excels in multiple sectors, as diverse as the country is vast. As one of the world's most competitive investment locations – with regional clusters of industrial excellence and indispensable connections to global value chains – Canada has clear advantages for sophisticated investors seeking new opportunities. A global outlook has helped Canada build a strong, stable economy that boasts many leading-edge companies, a highly skilled and educated workforce, world-class financial infrastructure, and top-quality research and development facilities. From wide open spaces to the most cosmopolitan places, Canada offers beauty, variety, an enviable quality of life and a setting for businesses to enjoy a competitive edge. ◆

Welcome to the bio-economy

Ensuring the world's supply of skilled biotechnology professionals

Biotechnology has a central role to play in the world's emerging knowledge economy. Its applications cut across virtually every sector, from energy and agriculture to forestry and textiles. Many countries' economic prosperity is likely to depend in some measure on their success in the biotechnology arena – making it critical for them to overcome a number of fundamental human resources challenges.

Equipped for the new economic reality

The tide of economic change – characterized by a focus on sustainability, the transformation of traditional industries and the dissolution of conventional sectoral silos – was rising long before the financial calamity of 2008. But since then, governments have made evolving their economies a key part of their recovery plans.

Biotechnology fits the new mold. It has the potential to address a number of urgent challenges and long-term opportunities: to cure infectious diseases and dramatically improve healthcare; to develop renewable sources of energy for industry, transportation and daily living; to help resolve food shortages. And biotechnology solutions are cross-sectoral, meaning they tend not to be restricted to just one segment of the economy. For example, genomics is an area of biotechnology with applications in agriculture, forestry and health-related industries – among others.

Biotechnology has also shown itself to be a growth field. While traditional industries struggled during the recent recession, the bio-economy continued to expand. It represents an opportunity for workers in traditional fields from which jobs are disappearing – for example, to transfer their skills from conventional manufacturing to biotechnology manufacturing.

Yet while biotechnology companies want workers, they're having trouble connecting with professionals who have the right mix of skills and experience.

Meeting the need for 'mindpower'

In Canada, there simply aren't enough qualified individuals to fill vacant biotechnology positions. Many graduates from post-secondary institutions aren't job-ready – prepared professionally to start working in the field. Access to capital poses a further challenge for companies. They need money to offer the salaries, benefits and job security that will attract top talent. Yet one of the factors investors weigh is whether or not a company already has the personnel on board to carry out its plans. It's a classic Catch-22 scenario.

Canada is not alone in facing bio-economy HR challenges. The next step in the maturation of the bio-economy will be for countries to start working together to build the strongest possible global foundation for biotechnology success.

A collective effort

Just as information now flows freely across borders, so too must skills. Mechanisms are required to connect job seekers with employers no matter where they are – overcoming the fact that many employers in the sector are small- and medium-sized organizations with limited resources to engage in global recruiting on their own.

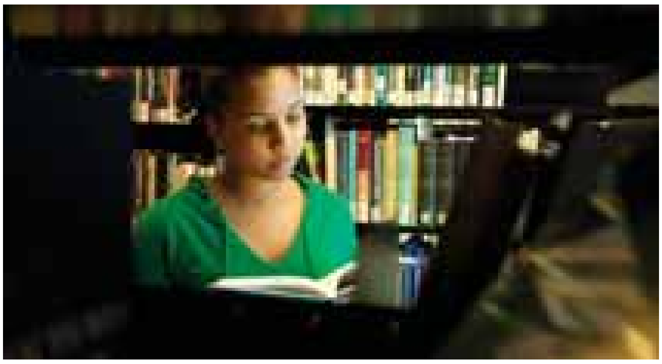
Simply sharing existing human resources isn't enough. The Canadian government and others around the world must raise the public profile of science and position biotechnology as a field that offers exciting, meaningful career choices. The industry needs more of today's youth to enter science-related post-secondary programs. It must also better access under-represented pools of talent.

Occupational classification systems should be modernized and standardized internationally – an effort that has to be led by industry to ensure real-world relevance. Classification systems should reflect labour market trends and learning realities and facilitate the movement of skilled workers between countries.

Working toward these ends, BioTalent Canada is a national non-profit organization committed to helping the bio-economy thrive globally. Focused on developing human resources and skills development tools, it helps ensure the industry has access to job-ready people.

Colette Rivet, Executive Director, BioTalent Canada

SPONSORED FEATURE



The challenge ahead

Canada is entering challenging times based on demographic realities. New innovations and rapidly evolving technologies are producing greater demands for a workforce with levels of knowledge and skills that far exceed the demands of the past.

Many of today's existing jobs will be more challenging in the years ahead. And there will be new high-demand jobs that don't even exist today. This could be anything from nano-mechanic to memory augmentation surgeon or waste data handler.

Can Canada meet this challenge?

Canada needs more college graduates

Higher education is the solution. The country must produce greater numbers of postsecondary graduates who have the creativity and skills to succeed in the workplace of tomorrow.

It is particularly important to produce more college graduates, as colleges provide a strong combination of academic learning and hands-on training that ensures graduates will make an effective contribution in the workplace.

Colleges prepare people for a wide range of careers, from finance administration to health care, tourism, advertising, construction technology, aviation, information technology, film, the culinary arts, and much more.

And it works.

Even in the worldwide recession, 85 per cent of Ontario college graduates found work within six months of graduating. And 93 per cent of employers were satisfied with the graduates they hired.

Providing greater access to higher education is the key to Canada's future success. In the years ahead, Canada must attract greater numbers of young people into its colleges and universities, and must help people already in the workforce to pursue further education and training.

Canada must make a profound shift in its views about higher education. Higher education and training must be viewed – by everyone – as a necessity.

Ontario's colleges look forward to working with the nation's leaders to produce a country where everyone has the opportunity to succeed.

COLLEGES ONTARIO | COLLÈGES ONTARIO

www.collegesontario.org

Ontario welcomes the world

The five-year Open Ontario Plan is bringing key sectors, such as education, healthcare and the economy, to the fore. The province has much to offer its worldwide investors

By The Honourable Dalton McGuinty, premier, Province of Ontario

Ontario is pleased to welcome the world to the 2010 G8 and G20 summits. These meetings come at a great time for our province and our trading partners across the globe. As the second decade of the 21st century begins – as the world faces unprecedented economic, environmental and social challenges – we are excited to do our part.

Ontario has a lot to offer. Our schools are educating our best and brightest who will go on to solve the problems of today's world. Our innovators are inventing tools such as the BlackBerry that keeps our world connected. Our skilled workers continue to build the advanced products the world needs.

We are a diverse province. Nowhere else do more people come together from more places to live together so well. And we are a compassionate province: not only do we lift one another up through our healthcare system and our public services, but also, when disaster strikes, Ontarians open their hearts to the world.

A plan for Ontario's economy

The next five years will be decisive for Ontario. That is why the province has launched a five-year Open Ontario Plan. Growing the economy and growing stronger requires that Ontario be open to change, opportunities and today's new world.

The Open Ontario Plan begins with creating a climate where business can thrive, create jobs and build innovative new products to sell to the world. There is already a package of reforms to modernise the tax system and make Ontario more competitive.

Ontario is also providing a stable price for clean energy producers so they will invest here in new, clean industries that did not exist a few years ago. Part of the Open Ontario Plan builds on Ontario's expertise in clean water technology. In the next 20 years, worldwide demand for water is expected to be 40 per cent greater than current supply – a crisis in the making if the world does not act now. Already, the province is beginning to provide solutions. From water conservation to nanotechnology, Ontario companies are leading the way. Government will work with the colleges, universities and entrepreneurs to attract even more clean water expertise. Together they will build on a strong foundation – and make the province the clean-water capital of North America.

In 2008, northern Ontario became home to the province's first diamond mine. This will bring future

Canada's Prime Minister Stephen Harper (left) and Ontario Premier Dalton McGuinty shake hands after announcing funding for bridge and road improvements in April, 2010

> The Open Ontario Plan begins with creating a climate where business can thrive, create jobs and build innovative new products to sell to the world

successes, particularly in the region known as the 'Ring of Fire' said to contain one of the largest chromite deposits in the world. Chromite is a key ingredient, for which there is no substitute, in stainless steel. No one else in North America produces chromite. It is the most promising mining opportunity in Canada in a century. Ontario's government is fully committed to working with northerners, aboriginal communities and mining partners to fully realise the Ring of Fire's potential.

The bedrock of the province's economy includes one of the strongest financial services industries in the world. Canada's banks – based here in Ontario – are widely recognised as the soundest in the world. Toronto is now North America's third-largest financial centre and home to 350,000 jobs. Ontario-wide, the sector supports 625,000 jobs. The Ontario government is working with leaders in the financial services industry to make Toronto one of the world's elite financial centres.

A plan for education

Education is the highest priority because, to put it simply, the places with the strongest schools today will have the strongest economies tomorrow. Ontario has reduced class sizes, raised test scores, increased the graduation rate and created thousands of new spaces in colleges, universities and apprenticeships.

The province has one of the highest rates of post-secondary education in the world at 62 per cent. But the bar has to be set even higher, because in the new world, 70 per cent of all new jobs will require post-secondary education. Ontario's Open Ontario Plan will raise the post-secondary rate to 70 per cent. The plan begins with increasing spaces in colleges and universities for 20,000 more students this year.

Ontario is also opening its colleges and universities to the world. Its post-secondary institutions will be promoted abroad and international enrolment will increase by 50 per cent. Ontario will be the classroom for the world.

A plan for healthcare

Ontario is proud of its healthcare system. No one who gets sick is turned away. Quality healthcare is one more thing families do not have to worry about and it gives the province a competitive advantage. Ontarians demand, expect and deserve public healthcare that is second to none.

Ontario's health system not only provides world-class care for patients, but it also develops leading-edge treatments and research. Open Ontario will export that expertise to the world, while providing quality care at home.

An open Ontario

Here in Ontario, we have built a society where our children get a great education, where our sick and our seniors are cared for, where our people speak every language, practise every religion and come from every place on Earth to live together in peace and prosperity. In Ontario, immigration is not just a word – it is our lifeblood.

We know that when we invest in each other's healthcare and education, we are investing in our shared future. We know that the new, clean technology products and services we will develop and sell will create not only good jobs for our families, but also a cleaner and better planet for all.

That is the goal of Open Ontario. Right now, in an Ontario classroom, there is a young person who will go on to improve or save lives somewhere in the world. We need to ensure that child – and every child – has every opportunity to succeed so we can keep building what the world needs, and keep building a good and compassionate society.

Together, we will seize the opportunities that await all of us in a new world that beckons. ◆


h
p
e

The Canadian Investment Industry – Positioned for the Future

Canada has not just survived the financial crisis. Canadian markets, investors and issuers have shaken off the financial shock and responded to growing opportunities in the global marketplace. The resilience and rebound in Canadian debt and equity markets is testament to the sound underpinnings of well regulated Canadian financial institutions. The timely and effective remedial actions of Canadian governments, and the Bank of Canada's well calibrated interventions in domestic credit markets, contributed to the recovery process. The strong fiscal position of the Canadian government provided maneuverability to support economic and market activity, and limits the prospect of future tax increases, contributing to investor confidence. Canada is now well positioned to take advantage of improving global economic and market conditions.

The Canadian securities industry and its more than 200 member firms provide the full range of financial services to individuals, institutions, corporations and governments, including advice, trading and market-making, and underwriting new securities. The industry has nine full service investment dealers and nearly 200 specialized institutional and retail firms located across the country, with 40,000 employees and $30 billion in regulatory capital to facilitate market-making and underwriting.

The turnaround in global equity markets in early March triggered renewed investor interest and participation in equity and debt markets, and corporate interest in capital raising. The pace of corporate borrowings accelerated as credit markets thawed. Canadian businesses raised $65 billion in debt offerings last year, the third best on record. Corporate equity financings by large companies gathered momentum through 2009, drawing issuers from across industry sectors, with financings totaling $59 billion. Small companies, especially in the resource sector, also found opportunities to tap equity capital with $3 billion in new offerings.

Traded share volume moved higher as investors returned to equity markets. Institutional and retail investors moved cautiously into secondary markets as risk appetite returned. The securities industry has advised retail clients effectively through the crisis and post-crisis period, enabling better performing portfolios as market conditions strengthened. The proficient, well regulated and diverse wealth management services offered by the Canadian industry provide investors with comprehensive advice, disclosure, multiple channels to execute financial transactions and effective safekeeping of securities.

Efficient clearing, settlement and custodial services have contributed to well functioning and liquid capital markets in Canada. The markets are taking a leading role in building a central counterparty for over-the-counter securities, first to incorporate a simultaneous repo netting facility and then to embrace other over-the-counter securities such as swaps.

Canadian financial markets have recovered strongly in the past year, matching the rebound in the Canadian economy. Moreover, the prospects for Canadian markets parallel the outlook for the Canadian economy. The high standards of regulation in capital markets, the unrelenting pace of innovation and professionalism among Canadian investment dealers that account for the majority of advisory and transactional activity in capital markets, presage a promising future for Canadians, and for investors and issuers around the world.

The Investment Industry Association of Canada (IIAC) is a member-based, professional association that advances the growth and development of the Canadian investment industry. IIAC acts as a strong, proactive voice to represent the interests of the investment industry for all market participants. **www.iiac.ca**

INVESTMENT INDUSTRY ASSOCIATION OF CANADA
ASSOCIATION CANADIENNE DU COMMERCE DES VALEURS MOBILIÈRES

INFORM INFLUENCE ADVANCE CREATE | INFORMER INFLUENCER AMÉLIORER CRÉER

Bay Street – Toronto's 'Wall Street' – is in the centre of the city's financial district

Toronto's financial services sector

Toronto has one of the largest financial centres in North America and a solid reputation for sound banks. The city's financial services sector is also earmarked for expansion

By David Miller, mayor, Toronto

The worldwide recession certainly affected Canada and Toronto. However, the strength of the country's financial system has meant that Canada has weathered the economic recession better than many countries. This has made Canada a success story among G8 and G20 countries.

Canada's financial district is located in the heart of Toronto's downtown core. The city is home to the vast majority of Canada's largest financial services companies, including global leaders in banking, life insurance and pension fund management, one of the largest stock exchanges in the world and the majority of Canada's top investment management and property and casualty insurance companies. The region is rapidly emerging as a hub for asset servicing, employing roughly 20,000 people in fund administration.

Toronto is the third largest financial centre in North America, behind only New York and Chicago – and it is the fastest growing one on the continent. The financial services sector has substantial economic clout, accounting for 220,000 high-quality jobs and 21 per cent of the Toronto region's gross domestic product (GDP). While the recession forced some economic centres in the region to decline, financial services continued to grow. Between 2003 and 2008, employment and GDP in the Toronto area's manufacturing sector declined by 3.5 per cent per annum and $3.8 billion respectively. Over the same period, the financial services sector more than compensated with employment and GDP growing by 4.3 per cent per annum and $6.2 billion.

Financial services companies choosing to locate or expand in Toronto frequently cite the diversity and talent of the local workforce. Half of the city's 2.6 million

The Toronto Stock Exchange is one of the biggest exchanges in the world

> The City of Toronto has embraced an action plan to mobilise the vital financial services sector for global advantage

residents are foreign born. More than 180 languages and dialects are spoken there, and about 60,000 immigrants settle in Toronto each year. When it comes to talent, Toronto has the best educated work force in the G8. It leads its peer cities in the number of post-secondary designations valued by the financial services sector, including financial designations such as chartered financial analyst and chartered general accountant. Financial companies and their employees also like the fact that Toronto has one of the lowest crime rates of any comparable city of its size and other attributes, such as a thriving cultural scene, that make Toronto an attractive place to work and live.

In 2007, I appointed a broad-based committee of representatives from government, business, education and labour to develop an economic competitiveness strategy for the city of Toronto. Released in January 2008, the Agenda for Prosperity was unanimously endorsed by the city council. 'Creative Toronto', one of the four pillars of the agenda, is about productivity and growth and expanding strategic industry sectors through collaboration. The financial services sector is one of those identified as a key sector for expansion.

Expanding the sector calls for collaboration. The City of Toronto is a founding member of the Toronto Financial Services Alliance (TFSA), working with key industry partners. The alliance is a unique public/private initiative that includes individuals representing the financial services industry and its trade associations, all orders of government and academic institutions. The TFSA, founded in 2001, has a mandate to enhance and promote the competitiveness of Toronto as a premier North American financial services centre. The city continues to provide direct financial investment and staff resources to the organisation.

In February 2009, US president Barack Obama praised Toronto's financial services sector when he said, "Canada has shown itself to be a pretty good manager of the financial system in the economy in ways that we haven't always been here in the United States." The World Economic Forum's 2009 *Global Competitiveness Report* ranked Canada as number one for the soundness of its banks. By comparison, the United States ranked 40th and the United Kingdom 44th. In the words of Canada's finance minister Jim Flaherty, "If Canada's financial system is boring, perhaps the world needs to be more like Canada." There is no better time to grow this strategic industry than when Toronto and Canada's financial sector are basking in the global limelight.

Recognising the urgent need for partnership and action to promote financial services, last year the TFSA worked closely with Boston Consulting Group to develop an ambitious action plan to advance Toronto's rank to one of the top ten global financial centres by 2015, and possibly one of the top five.

In November 2009, I was pleased to join Ontario premier Dalton McGuinty, Minister Flaherty, Ontario finance minister Dwight Duncan and leading executives from across the financial service sector at the Toronto Financial Services Summit. At that meeting, stakeholders agreed in principle to endorse and fund the Boston Consulting Group action plan. The plan is now in the mobilisation stage.

For the action plan to succeed, we need to enhance the conditions for our domestic financial services companies to grow and prosper internationally. We also need to encourage international financial services companies to come and invest here. Another pillar of the Agenda for Prosperity, 'Global Toronto', recognises the importance of attracting foreign direct investment to create jobs. Last year we launched a new agency, Invest Toronto, to attract investment to this city. The agency will work with many partners, including the TFSA, to promote the region as an ideal place for international businesses to locate and grow.

The focus of global attention will be on Toronto this June when leaders of the G8 and G20 meet in the region. Toronto is uniquely positioned to host the G20. It has the companies, the services and the diverse workforce that companies need to succeed in the global economy. Working with the provincial and federal governments, other partners and leading industry players, the City of Toronto has embraced an action plan to mobilise the vital financial services sector for global advantage. Our city will capitalise on that success in the years to come and become a place that is even more livable and prosperous and that provides opportunity for all. ◆

Muskoka: Canada's piece of paradise

Situated in the province of Ontario, Muskoka is renowned for its stunning natural beauty. In preparation for the 2010 G8 summit, the region has seen cutting edge and environmentally sustainable improvements to infrastructure

By Claude Doughty, major, Huntsville, Ontario, Canada

On behalf of the residents of Huntsville, Ontario, Canada, I would like to extend warm greetings and best wishes to all those visitors who will visit our community for the 2010 G8 summit.

Huntsville is tremendously honoured to have been chosen by Prime Minister Stephen Harper to host this year's G8 summit. As the people of Huntsville can attest, preparing our town for the arrival of the world's most powerful and influential leaders is undoubtedly a unique experience. Our community has been collaborating with our provincial and federal partners to ensure that Huntsville is fully prepared to showcase our piece of paradise to the world.

Those familiar with Huntsville are well aware of why the prime minister concluded that our town is an ideal location for this year's annual gathering. Huntsville is located in northern Muskoka, an area of the province of Ontario that is famous throughout the world for its vast unspoiled wilderness, lakes, wildlife and unique regional culture. Nestled among four picturesque lakes and situated at the doorstep of the much celebrated Algonquin

> Huntsville is striving toward becoming a national, and perhaps even international, centre of environmental research

Famed for its unspoiled wilderness, Muskoka, Ontario, is a popular destination for adventure and leisure

Provincial Park, Huntsville is home to a wide array of resorts, parks and campgrounds.

Our community is tremendously proud of its well-deserved reputation as one of Ontario's premier destinations for adventure and recreation. Our location in the rugged heartland of the Canadian Shield affords us the ability to provide a great variety of outdoor activities, ranging from the leisurely to the extreme. We are entirely committed to providing our residents and guests with the opportunity to live a healthy, active and fulfilling lifestyle that respects and appreciates our beautiful natural surroundings. Being selected as the host community for the G8 summit has served to further our ability to offer such a lifestyle.

As a result of our good fortune, Huntsville has received a cash infusion from the Government of Canada exceeding $28 million. I am delighted to assure you that we have fully capitalised on this opportunity. From the outset, Huntsville has acknowledged the immense potential for substantive community improvement accompanying our selection. Consequently, the town has initiated and, by the time of the summit, will have completed several projects of particular importance and achievement.

The G8 Legacy Fund has enabled us to take numerous steps to improve our infrastructure significantly in progressive, cutting-edge ways. Our brand-new $20 million Summit Centre is a massive expansion of the Huntsville Centennial Centre. True to our heritage, and in keeping with our values, Huntsville has made extensive efforts to ensure the building is as environmentally friendly as possible. Outfitted with only the highest quality materials and most sophisticated technologies, the now 6,500 square metre building is estimated to cost less per year in operating expenses than the previous Centennial Centre, which was less than half the size of the new building.

The Summit Centre is merely one small facet of Huntsville's G8 legacy. We are currently in the process of developing plans for our new Active Living Centre. This building, which will sit adjacent to the Summit Centre, has been designed specifically with seniors and children in mind. The Active Living Centre will stand as a testament to this community's steadfast commitment to healthy living throughout all of life's stages.

Perhaps more significant than all the other endeavours that Huntsville has embarked upon this past year is the initiation of a long-term relationship with the University of Waterloo. This prestigious institution will soon have a new, custom-designed permanent building in Huntsville. Devoted to the study and research of environmental science and ecosystem resilience, the building marks an exciting new beginning for Huntsville. We are honoured that the University of Waterloo recognised Huntsville as the ideal place to expand its operations.

Huntsville provides the University of Waterloo the ability to work with the Government of Ontario, Algonquin Park and the Northern Ontario School of Medicine to solve some of the most pressing and critical issues facing the natural world. It is our goal to foster this wonderful relationship into something greater. Huntsville is confidently striving toward becoming a national, and perhaps even international, centre of environmental research.

The University of Waterloo Campus is located directly above Cann Lake, on a piece of property recently christened Forbes Hill, in honour of the longtime former owners, the Forbes family. This area is now linked by road to the nearby Summit Centre, Huntsville High School and Muskoka Heritage Place. Forbes Hill Research Park has been intentionally developed to easily accommodate several other sites adjacent to the University of Waterloo building. These additional sites will be used for more environmental science research facilities.

The 2010 G8 Summit and the University of Waterloo Research Facility are two integral components of Huntsville's strategic vision. We are striving to define and brand the town as a leading community for event tourism and environmental research. Our achievements this past year only serve to further solidify our town as the foremost destination for sporting events, conferences and academic pursuits.

Huntsville takes great pride in honouring the past while simultaneously looking, with eager anticipation, toward the future. The year 2010 will undoubtedly be remembered as a seminal time in the history of Huntsville. Our town in no way lacks in ambition; in fact, to anyone who spends a little time here it quickly becomes evident just how passionate the people of Huntsville are about moving their community forward.

I would like to personally invite you to experience all that Huntsville has to offer. ◆

Sustaining global growth: a strategic approach to development

The OECD highlights the importance of country-led strategies and effective aid in order to achieve global growth

By Angel Gurría, secretary-general, Organisation for Economic Co-operation and Development

The Organisation for Economic Co-operation and Development (OECD) has cooperated with the G7, and then G8, from its inception by providing expertise and intellectual input and by carrying out tasks mandated by the leaders. Since Germany hosted the G8 in 2007, this cooperation has strengthened considerably. Work has been stepped up to address the major global challenges.

The OECD's contributions cover an extensive range of issues, including investment, environment, employment and corporate governance policies. But one long-standing area of work with the G8 is development. In fact, since the OECD's establishment, development has been an integral part of its own mission to build a stronger, cleaner and fairer world economy. The OECD has established a reputation for its expertise on the drivers of development and its objective assessments of member countries' aid efforts through peer reviews. Moreover, the OECD plays a key role in assuring transparency and accountability in the aid system.

The OECD's 50th anniversary celebration, which will begin later in 2010, is an opportunity to reflect on the progress it has made and on what remains to be done. This is also a special year for development, because many of the donor commitments have targets for 2010, and it is only five years until the 2015 target to achieve the Millennium Development Goals (MDGs).

> "The OECD has substantial expertise in promoting capacity for countries to succeed in the global economy"

Development merits a new impetus

The decade prior to the financial crisis witnessed a rapid pace of development: two thirds of African countries had per capita income growth of 3 per cent or more for several years. Nonetheless, further progress is required to meet the MDGs. Moreover, the global financial and economic crisis has at best stalled and, more likely, set back what progress has been made. However, with the right policies and institutions and with external finances harnessed to complement the domestic resources of developing countries, there are grounds for optimism that the MDGs can be achieved by 2015.

But what policies and institutions are conducive to development? How, for instance, did Korea, which had the same per capita income as the Cote d'Ivoire in 1960 and as Brazil in 1980, sustain a consistently high growth trajectory to become a middle income economy within a generation? Empirical investigation of the diverse country experiences suggests that education, social cohesion and sound policy governance are some of the prerequisites to support and attract investment, spur innovation and sustain growth – the most powerful driver of poverty reduction. A detailed understanding of the layers of this 'onion' remains limited, however.

There is a need to reflect on the experiences of developing countries to draw the lessons on how to mobilise domestic resources better. Conventional wisdom regarding effective development policies must be reconsidered, with an open mind.

The OECD has substantial expertise in supporting development and promoting capacity for countries to succeed in the global economy. This expertise lies in many specific domains, including taxation, the promotion of a favourable investment climate, regulatory governance, the fight against bribery and corruption, gender inequality and education, and science, technology and innovation, to name a few. The OECD is a source of knowledge on these and almost all other areas of public policy, making it the ideal place to understand the linkages between different policy areas and development.

Gender inequality, for example, is an area worthy of expanded coordination and policy sharing. Gender equality and empowered women are powerful catalysts for multiplying development efforts, and investing in women has a strong impact on poverty and on growth. Fifteen years after the ground-breaking fourth United Nations World Conference on Women in Beijing, it is timely to reflect on what has been achieved, to learn from what has worked well and to identify and urgently address the remaining gaps and challenges. Without progress toward gender equality and the empowerment of women, the MDGs cannot be achieved.

At the same time, it is important to ensure coherence between policies in G8 and developing countries. Openness is fundamental to growth. No country has achieved sustainable growth in the long run without the expansion of trade flows. But this is easier said than done. Low-income countries often lack the capacity – be it in terms of policies, institutions or infrastructure – to exploit the opportunities presented by more open markets and to trade their way out of poverty. Programmes such as the Aid-for-Trade Initiative have been successful in helping poor countries develop this capacity and overcome their supply constraints.

Angel Gurría, secretary-general of the Organisation for Economic Co-operation and Development. Global development is a key part of the organisation's mission

Taxation is another policy domain that is crucial for sustained development. Taxation provides governments with the funds needed to invest in development. In the longer term, it offers an antidote to aid dependence by the poorest countries and a predictable fiscal environment to promote growth. Taxation is also integral to the good governance agenda. By stimulating discussion between states and their citizens, the taxation process is central to more effective and accountable states.

Aid expenditures rose in 2009

In addition to developing countries' domestic resources, aid will remain vital to meet the MDGs. The good news is that most donor countries have maintained their commitments and are on track to meet 2010 aid targets. New OECD figures show continuing growth in development aid in 2009, despite the most severe economic downturn in a lifetime. However, the specific commitment made by the G8 at its 2005 Gleneagles Summit to increase aid by $25 billion by 2010 has, according to OECD calculations, fallen well short.

A key issue is aid prospects in the next five years. Aid represents a lifeline for hundreds of millions of the poorest people in the poorest countries. It also represents an investment in the emergence of effective and functional states around the globe. Aid is an investment, not charity.

> "Most donor countries have maintained their commitments and are on track to meet 2010 aid targets"

The tough fiscal environment underscores the need to make greater progress in boosting aid effectiveness. Here the G8 can lead by example, by accelerating the implementation of the Paris Declaration and the Accra Agenda for Action. In this respect, the decision to establish a G8 accountability mechanism to implement and monitor progress, with a report to be delivered at the Muskoka Summit, is very welcome.

The OECD is involved in this work. For example, it is contributing to the development of the methodology and statistical means for monitoring G8 commitments on development. It is also pushing forward with its work on measuring and communicating development results. The OECD has designed methodologies for tracking cross-country aid fragmentation.

To conclude, a strategic approach to development must embrace several elements. First of all, a renewed commitment to work in support of country-led strategies and domestic resource mobilisation is vital, as are rising levels of official aid in fulfilment of existing pledges. This aid should complement other development finance sources, such as private and voluntary finance. Second, efforts to enhance and ensure aid effectiveness need to be strengthened. A third critical element is to understand better what constitutes effective development policies at country level and internationally. By sharing its rich policy experience and establishing mechanisms that help countries learn from each other, the OECD is aiming to give a new impetus to development. Only by working together and by leaders making a deliberate, politically courageous effort will the MDGs be met by 2015. ◆

By Dr Tarek Kamel, minister of communications and information technology, Egypt

An emerging platform for a new economy

A decade ago, in the wake of the dotcom bubble and with emerging markets' information technology and communications infrastructure lagging, cyberspace was nearly an afterthought. Today, it is the home to a vibrant economy, and in the years ahead it will grow in importance to rival traditional economic channels including retail shops, sea lanes and airways.

For those of us in emerging markets, then, the questions are stark: Are we prepared for a full-scale shift to cyberspace as a concurrent venue for our developing – and hopefully prospering – economies? Are we prepared for an environment in which the internet is a platform for economic opportunity beyond the high-tech sector?

Securing this environment is crucial to the world's future, especially in a reality in which emerging economies are still grasping the benefits of advanced technology and the impact it can have on a broad socioeconomic agenda.

Building this kind of environment requires forward-looking, reliable infrastructure as well as a foundation of good governance. While many countries have made progress on this front, there is significantly more to be done.

Capturing this platform in developing countries

Presence in cyberspace requires a platform of advanced governance policies, regulations and initiatives that promote an enabling environment. Promising economies can play an important role in initiating and leading global efforts that address the issues attendant to cyberspace. The proven success of the World Summit on the Information Society process, which assisted in building national and regional information and communications technologies (ICT) across the world utilising multi-stakeholder approaches, gives us the confidence that developing economies have the will to create a strong footprint in cyberspace.

Indeed, collective global endeavours are a must – coordinated policy development, collaboration and standardisation of internet-related policies are of vital importance and must receive high priority at the national level and on an international scale. These global policy outcomes must address the challenges inherent in the future's digital economy – with security topping the list.

Without doubt, trust – the fundamental lubricant of the knowledge-based economy – is premised on security. Users and active participants in this economy must feel that the internet is as secure, that it is always available and that its presence, though unseen, is as a real and predictable as their physical environment.

Readiness is a second issue of priority for building the potential of a widespread online economy – both as a technical matter and as a public awareness imperative. A robust online economy tomorrow requires dedicated preparation today. If we build resilient, secure internet infrastructure and we educate our populations on the potential of this tool for improving their lives and livelihoods, then a more mature and impactful cyberspace will emerge. But in many cases, the technology must come before its widespread application. This requires forward-looking leadership from our governments.

By readiness of public awareness, I mean widespread trust in the network and cyber activity in its capacity to act as an extension of the traditional economy, and even to build its own, very real economy. Critical to public readiness are questions of privacy rights, data security, intellectual property rights and the safety of online transactions. This imperative is only possible where the rule of law is ensured and respected.

In this context, a close study of our legal systems and cyber laws requires that we continually ask whether the laws that govern cyberspace live up to our expectations. Is this governance adequate and ready for the future? Is this legal infrastructure shaped to facilitate a dynamic transition to the cyber world, one that will undoubtedly present opportunities and challenges we cannot imagine today?

The importance of addressing these concerns will surely drive the internet economy and rapid internet adoption in developing countries. Without building a cyberspace conducive to trade, the emerging world will lose the enormous potential afforded by online commercial endeavours.

With coordinated focus and commitment to addressing these challenges – security and readiness of infrastructure and public awareness – emerging economies can harness the speed and global presence of cyberspace to build unimaginable new economic opportunities.

What's more, this revolution will not only spur economic growth and diversification, but will also bridge social, geographic, demographic and educational gaps among and within emerging markets.

Egypt's progress toward online achievement

Since 2000, the government of Egypt has worked on creating a legislative environment supportive and essential to an enabled cyberspace. These measures included a comprehensive telecommunications act, an electronic signature law, an intellectual property rights law and legislations related to child online protection. Today, Egypt has, in the pipelines, draft laws covering cybersecurity, privacy, and access to information.

Concurrently, Egypt was careful to develop its state-of-the-art telecom infrastructure and a world-class telecom regulatory framework, while simultaneously moving forward with efforts to ensure that its network remained secure, resilient and robust. Early on, it introduced various internet and content-related initiatives to include multiple segments of society, focusing especially on access affordability and content availability. As a result of these efforts and commitment to an online world, Egypt's internet usage is growing at a rate exceeding 20 per cent annually.

Egypt's leaders also looked to ensure that public awareness and understanding accompanied the country's technological capacity. Primary among these efforts is a national programme to promote internet safety (particularly among children and teenagers), implemented in collaboration with the Suzanne Mubarak Women's International Peace Movement. This international initiative is championed by Egypt's first lady, Suzanne Mubarak, and is a joint effort with top international and local partners from government bodies to non-governmental organisations and technology innovators.

Extending this work to ensure a safer online culture for our children, a priority that is critical in any emerging knowledge society, Egypt launched the country's Integrated Child Online Safety Agenda. Efforts to address this issue have fostered international coordination – Egypt is currently chairing the International Telecommunication Union Council Working Group on Child Online Protection.

Today's dynamic youth are a key stakeholder in this better future – they own the skills, energy and creativity to provide the solutions to the challenges a globalised, internet era introduces. This concept needs to be vigorously promoted. They need to be inspired, act, react, and be part of building Egypt's information society and economy. For this to happen, empowerment and strong conviction in their powers is necessary.

On another note, Egypt's efforts to introduce world-class ICT infrastructure and security legislations has supported its economy and placed it on the world map of outsourcing. Egypt's ICT-enabled services and applications capabilities and large, skilled, multilingual workforce have attracted the business of global giants.

Still the opportunities inherent in ICT advances extend far beyond today's returns and the present economy – Egypt is aggressively venturing into cutting edge technologies such as cloud computing that will require continually advancing infrastructure and legislative environments that will in turn translate into still-higher economic returns.

Egypt has also been responding carefully to cybersecurity issues. One major project is the Computer Emergency Response Team (CERT), which works in coordination with various national bodies and the group's international counterparts. In this capacity, the CERT has successfully managed and avoided incidents on the national and international levels in cooperation with American, European, South-East Asian, and Arab partners. Furthermore, Egypt's observer status in the Organisation for Economic Co-operation and Development's Information and Communications Policy Group allows it to work closely with G8 countries on policy and strategy issues.

Moving forward with collaboration and trust

Trust and capability have been developed at home, but Egypt's initiatives to develop ICT and its potential as a socioeconomic enabler go far beyond its borders. Egypt made a commitment to the region and to Africa a decade ago. In 2010 and 2011 Egypt will invite African and Arab countries to a number of regional meetings to raise awareness, share knowledge and expertise, and work on policy and strategy development and implementation.

In conclusion, allow me to confirm that advances in internet technology can close the gap between industrialised and developing economies. With the right agenda and framework, knowledge-based economies will flourish in the developing world and strong intellectual property rights and valuable innovation will extend from these countries to create a more prosperous, truly global online economy.

But to achieve these ambitions, trust is instrumental. To gain this trust, global good governance must prevail, and soon enough, countries and regions must unite and work closely together to build a positive culture for a more secure cyberspace. ◆

Prospects for global growth

The rate and pace of economic recovery have varied across the globe, with the US leading the way in the industrial world and China showing strong growth in the emerging economies

By Robert Fauver, former G7/G8 sherpa, United States

As leaders gather for the G8 Muskoka Summit on 25-26 June, 2010, the short-term prospects for growth are stronger than earlier anticipated. The latest forecast by the International Monetary Fund (IMF) suggests that for 2010 "world output is expected to rise by about 4.25 per cent, following a 0.5 per cent contraction in 2009". As such the risks appear to be on the downside.

Monetary policy has been expansionary and has included unprecedented injections of liquidity in many countries. In addition, fiscal policy – especially in industrial countries – has provided strong stimulus to the recovery process. Budget deficits are running at unsustainable rates in many countries.

In the industrial world, growth recovery has once again centred on the US economy, with Europe and Japan lagging behind the rebound. In the emerging economies, China leads the pack with a surprisingly strong 10 per cent real growth projection for 2010. India is close behind, expecting 9 per cent real growth.

While the short-term growth outlook is encouraging, other parts of the situation are not. For the first time in history, the recovery in the industrial world is lagging significantly behind that of many of the developing countries. Historically, the developing world has depended on the industrial world's demand for its exports in order to provide growth stimulus. Now the recovery is led by the developing world. One real question is whether the developing world can be an engine of growth for the global economy. Are developing countries' propensities to import – based on domestic demand growth and not export growth – significant? And are their import volumes large enough to promote global growth?

> One real question is whether the developing world can be an engine of growth for the global economy

On the external side, the sharp recession did produce a much-needed reduction in external imbalances in the industrial world – particularly in the United States. The US current account deficit, which was running at an unsustainable rate of 6 per cent of gross domestic product (GDP) prior to the global recession, dropped to 3 per cent in 2009. Most of this improvement is likely temporary since it reflects a slowdown in imports due to the recession in the United States. Forecasts indicate that the deficit will start growing again this year. Germany's current account surplus narrowed a bit in 2009 to a little less than 5 per cent of GDP, but it is projected to rise again this year and will approach 5.5 per cent next year. China's surplus rose to a staggering 11 per cent of GDP in 2007, but narrowed to a little less than 6 per cent in 2009. It is projected to rise steadily in coming years. Clearly the recession has reversed some of those imbalances. The question is whether this is a temporary reversal or a structural one.

The recession has led to very large fiscal and monetary efforts to stimulate domestic demand – especially, but not exclusively, in the industrial countries. Rebalancing the world economy must also include a return to sustainable fiscal positions in many countries. And it must include the eventual withdrawal of the extraordinary monetary easing that has taken place in the past year or so.

It is almost axiomatic to suggest that one way or another, global imbalances will adjust over time. Rebalancing of external accounts will, in the end, occur whether or not governments undertake separate or coordinated policy actions. Eventually, market forces will react to unsustainable deficits or surpluses and bring about rebalancing through foreign exchange market reactions to the situation. A rebalancing not generated by government tends to result in an overshooting of exchange rate movements and a relatively dramatic rebalancing process caused by relative price changes.

Without appropriate policies coming from China, the adjustment of imbalances in the industrial world will be very slow – or will move toward greater imbalances. China needs to foster greater appreciation of its exchange rate. It has witnessed a relative devaluation of the yuan during the recession as the dollar – to which the yuan has been linked – has moved downward against the yen and the euro. In addition, China could help the global adjustment process if

Cars at the Volkswagen factory's Autostadt customer reception centre in Germany. Although VW has been affected by the worldwide financial crisis, many of VW's brands reported growth, especially in China

it shifted away from export-focused growth and substituted domestic demand growth. At first blush, this seems to be the aim of authorities with their recent stimulus policies. However, China's marginal propensity to import due to domestic demand is quite low. Most of its import demand is related to production for export. Hence the role of China as an engine for global growth or external rebalancing based on domestic growth is not very significant.

Collectively, governments can decide – perhaps through the G8 or G20 process – that coordinated demand management could foster smoother adjustment than either going it alone or letting markets bring about the adjustment. Deficit countries need to foster policies that encourage domestic saving over domestic spending. This holds for private and public sector decisions about savings and spending.

It is important that in most economies government stimulus needs to be withdrawn very carefully. None of the deficit countries should move precipitously to rebalance their savings and consumption. The unwinding of government monetary and fiscal stimulus in the industrial world too early would risk damaging the emerging yet still fragile economic recovery.

Surplus countries, on the other hand, need to foster policies that encourage consumption over savings. This policy switch will be tricky to implement, especially as the output gaps in several major developing countries is closing rather rapidly. This situation argues for a modest tightening of monetary policy in some key developing countries. A rise in interest rates, if coupled with an easing of capital controls, would also foster exchange rate appreciation, which would help facilitate the adjustment of imbalances.

For the industrial countries – most of which are still in the fragile recovery stage – the withdrawal of monetary support is less urgent and more precautionary than a move needed to cool off domestic pressures. While the unwinding of recent extraordinary monetary ease may be warranted, some important degree of ease is still necessary. Additionally, continued monetary ease will likely prevent unwanted exchange rate appreciations. A gradual removal of fiscal stimulus is perhaps more important for many industrial countries, in order to rebalance savings/spending propensities. In particular, a public announcement of a medium-term strategy for reducing fiscal deficits could stabilise expectations in many of the industrial countries.

If the weak recovering European countries move too quickly in implementing an exit strategy, their fragile recovery will quickly weaken further. Their contribution to global rebalancing should be to run trade and current account deficits as opposed to relying on export surpluses to help domestic growth as they have for the last decade.

For the United States, a serious plan for the medium-term reduction of the fiscal deficit is critical to a sustainable recovery. The Obama administration's medium-term budget submissions indicate that government spending will average something on the order of 26 per cent of GDP for the next ten years. Historically, federal revenues have averaged 19 per cent of GDP. This 8 per cent of GDP deficit is unsustainable and will need attention. ◆

Vision 2050: performance based on sustainability – innovations for sustainable lifestyles

The growth in world population and the steady increase in the average standard of living call for a radical reassessment of our production methods and consumption. Currently, private consumption accounts for a large part of global greenhouse gas emissions. A decisive reduction in carbon dioxide emissions could therefore be achieved by encouraging people to change their consumption habits. Through its many products and services, industry has tremendous potential to make positive contributions to social challenges such as climate protection and resource conservation.

Henkel's ambition is to combine product quality with responsibility toward people and the environment, thus driving change toward innovative, sustainable consumption. With regard to its laundry and home care brands, Henkel refers to this combination as "Quality & Responsibility." Through this logo, which has been printed on our laundry detergents and household cleaners since 2008, we aim to make it easier for consumers to reach responsible purchasing decisions.

People will always consume. The essential thing is to make this consumption as sustainable as possible. Henkel's aim is to develop ever better products and solutions. These are designed to reflect the three dimensions of sustainable development – ecology, economy and social progress. The company is thus setting a new quality standard in the market. "Performance based on Sustainability is the decisive innovation driver of the new decade and a strategic competitive advantage," says Christian-André Weinberger, Corporate Senior Vice President and Global Chief Marketing Officer in the Laundry & Home Care business sector.

To achieve this, Henkel has defined five overarching focal areas: energy and climate, water and wastewater, materials and waste, health and safety, and social progress. A central feature of our commitment is that each new product contributes to sustainable development in at least one of our focal areas. We consider it essential to act responsibly throughout the entire value chain – from the selection of raw materials to manufacture, and to the use of our products in the home. Henkel has been using ingredients based on renewable raw materials for decades. The washing active substances (surfactants) in our laundry detergents and household cleaners, for example, are derived from renewable raw materials such as palm kernel oil. Since 2003, we have therefore actively participated in the Round Table for Sustainable Palm Oil (RSPO). In 2008, we were the first company worldwide to purchase certificates for sustainable palm kernel oil – for our Terra Activ brand products. As a result, palm kernel oil from sustainably managed plantations was integrated into the supply chain for the production of surfactants for the first time. Building on this, we are now planning the next steps to align our overall product portfolio to certified sustainable palm oil and palm kernel oil by 2015 at the latest.

The combination of "Quality & Responsibility" is the innovation driver of the future

"We see the combination of 'Quality & Responsibility' as a powerful innovation engine to drive ahead the development of intelligent solutions and products," explains Weinberger. "Performance based on Sustainability" therefore applies to 100 percent of the product concepts in our innovation pipeline. The focus is not necessarily on the development of green products, but rather on offering more intelligent solutions. The basis for this is an exact analysis of our value chains. For all our laundry and home care product categories, we have carried out life cycle analyses on sample products to enable us to identify suitable starting points for improvements. Sustainable consumption can only be achieved if we all work together. Communication with our consumers is therefore just as important as the development of sustainable products. Through the "Quality & Responsibility" logo printed on our laundry detergents and household cleaners since 2008, we aim to make it easier for consumers to reach responsible purchasing decisions. The logo indicates to consumers that, by buying this product, they will not only obtain superior performance but a sustainable solution as well.

To drive this change Henkel also draws on its many years of experience and its leading role in the field of sustainability. Our innovations are used daily in millions of households, and therefore offer great potential to actively help to shape the sustainable lifestyles of tomorrow. We work to develop products that enable consumers to make more efficient use of energy and water. Our laundry detergent Persil ActicPower, for example, is based on technology that enables enzymes to act at low temperatures, and therefore performs effectively even at 15 degrees Celsius. And our dishwasher detergent Somat 9 delivers excellent cleaning performance at just 40 degrees Celsius. Energy savings of up to 20 percent are achieved over comparable programs that require temperatures of 50 or 55 degrees Celsius. Henkel brands around the world also repeatedly set new benchmarks. Purex Complete 3-in-1 Laundry Sheets have taken laundry detergent concentrates to a new level in the USA. Thanks to the 10 times concentrated detergent formula, one laundry sheet contains all of the detergent, softener and anti-static needed for one wash cycle and the following dryer cycle. The low weight and volume reduce the carbon dioxide emissions associated with transport by almost 70 percent, and the Laundry Sheet refill pouch generates 45 percent less packaging waste – in both cases, in comparison with a bottle of a conventional laundry detergent concentrate.

Working together to achieve responsible, innovative and sustainable consumption

Making consumption more sustainable is certainly an immense challenge. If millions of households saved energy by washing their laundry at lower temperatures, this would already make a significant contribution to climate protection. Every individual consumer can do his or her part in everyday life by developing an awareness for climate protection and acting accordingly. This is why Henkel is now using Quick Response (QR) codes and the mobile Internet. We thus offer consumers the possibility to use their mobile phones even when buying our brands to find out how they can use laundry and home care products in the most environmentally compatible way – and save money at the same time. These tools enable the company to talk directly to consumers and to encourage them to adopt sustainable usage methods and habits. QR codes are small black and white patterns that contain a link to mobile-enabled websites. Mobile phones with a camera and loaded with the appropriate free 'app' (application software) can "read" these QR codes and therefore retrieve the associated mobile internet pages. The mobile internet is already widely available and user numbers are increasing from day to day – especially among young consumers. By providing QR codes on its product packs, Henkel is able to meet a growing demand for the immediate availability of query-specific information.

The worldwide introduction of the Quick Response codes is a logical progression of "Quality & Responsibility" – the sustainability initiative of Henkel's Laundry & Home Care business. The QR code and its innovative technology presents a further opportunity for Henkel to promote innovative and sustainable consumption worldwide. Since the beginning of 2010, Henkel has been gradually introducing the new QR codes on all the company's major international laundry and home care brands, to make it as easy as possible for consumers across the world to make responsible decisions when purchasing and using products.

Henkel's efforts have repeatedly earned excellent ratings – from many different national and international institutions and from its customers. In 2010, the company has already received two major German awards: Henkel's Laundry & Home Care and Cosmetics/Toiletries business sectors were recognized with the Best Innovator Award for their successful and sustainable innovation management. And Henkel proved once again that its name is synonymous with sustainability by winning the Best Brands Award. Based on criteria such as environmental alignment, resource conservation, social engagement and employee responsibility, the high-caliber jury selected the best sustainability brand in Germany – with the majority deciding in favor of Henkel. Henkel is also successful on a global scale. At the most recent World Economic Forum in Davos, Corporate Knights – a magazine focusing on responsible business practices – presented its list of the Global 100 Most Sustainable Corporations. Henkel took 11th place as the second best German company.

In a rating of DAX 30 companies published in January 2010 by the sustainability rating agency Sustainalytics, Henkel also achieved an excellent second place. In 2009, Henkel was again included in the Dow Jones Sustainability World Index (DJSI World) as the sustainability leader in the Nondurable Household Products sector. Within this index, Henkel is also among the companies that made most progress in sustainable development during the period under review.

"Performance based on Sustainability is the strategic successfactor to stay in the lead and drive change towards innovative sustainable consumption"

Generating jobs, sustaining growth

The world may be seeing signs of economic recovery, but unemployment is still high. The G20 leaders need to find and act on the right policy frameworks to boost employment and ensure sustained global growth

By Juan Somavia, director general, International Labour Organization

Global unemployment is still at record levels – and that is just the tip of the iceberg of discouraged job seekers, involuntary, temporary and part-time workers, informal employment, pay cuts and benefit reductions. However, the signs of economic recovery are becoming clearer and some countries are growing at a brisk pace. Yet for working women and men, and for many enterprises in the real economy, the recovery has not yet begun.

One year ago, as the global financial and economic crisis was in full force, the International Labour Conference agreed on a global jobs pact to guide the response of the International Labour Organization (ILO) to the worst worldwide jobs crisis in more than 60 years. It has helped shape a period of policy activism that has eased the worst effects of the crisis. In 2010, the test is to accelerate a jobs-rich recovery and get onto a path of strong, sustainable and balanced growth that leads to the goal of decent work for all.

The G20 leaders in Toronto will review progress on the commitment they made in Pittsburgh in September 2009 "not to rest until the global economy is restored to full health and hard-working families the world over can find decent jobs". They asked G20 ministers of labour and employment to assess the evolving employment situation, review ILO reports on the impact of policies implemented, report on any necessary further measures and consider employment and skills development policies, social protection programmes, and best practices so workers can take advantage of advances in science and technology.

In April 2010, the G20 labour and employment ministers met in Washington. Their statement offers broad policy consensus on what has to be done in the field of employment and social protection policy: "We want to ensure that productivity gains are shared with workers as rising living standards; that work is a reliable path out of poverty for all of our people; that the fundamental rights of workers are respected; and that social dialogue is fostered."

> "A central challenge is finding policy frameworks that generate patterns of growth to yield full, productive and freely chosen employment"

The ministers offered five sets of policy recommendations to be considered by G20 leaders:

- accelerate job creation to ensure a sustained recovery and future growth;
- strengthen social protection systems and promote inclusive active labour market policies;
- place employment and poverty alleviation at the centre of national and global economic strategies;
- improve the quality of jobs for everyone; and
- prepare workforces for future challenges and opportunities.

The G20 ministers recommended coordinated efforts to make employment growth a priority because strong growth of jobs and incomes in many countries will reinforce global demand, which in turn will create more jobs. Moreover, growth in employment and incomes, particularly in countries with many low-income households, is indispensable to strong, sustained and balanced global growth.

Securing the jobs recovery and fair globalisation

The approach advocated by the G20 ministers also reflects a global policy consensus expressed in the ILO Global Jobs Pact and Decent Work Agenda, which the ministers described as "valuable resources" for designing further measures to address employment and social protection systems.

Accelerating a Job-Rich Recovery in G20 Countries: Building on Experience, the report submitted to the G20 labour ministers by the ILO, showed that overall, policy responses will have created or saved 21 million jobs in G20 countries by the end of 2010 – the equivalent of 1 per cent of total employment for the whole G20 – as a result of both discretionary fiscal stimulus and the working of automatic stabilisers. Stimulus measures have created or saved millions of jobs, even though they have been resisting a strong tide of job destruction.

As global growth revives, governments might be pushed into pulling out of stimulus packages before the still fragile recovery takes firm root. But a premature exit would lead not only to lower employment by 2015, but also to worse deficits than would be the case with a more measured return to fiscal balance.

For the critical years ahead when globalisation could be improved, a central challenge is finding policy frameworks

A human resources development and employment centre in China: the country has benefited from stimulating labour demand through public spending and fiscal stimulus

> Stimulating labour demand – through fiscal stimulus, public spending and reduced working hours – has proven efficient

that generate patterns of growth and development to yield full, productive and freely chosen employment and decent work. Even before the financial crisis, many countries experienced frequent periods in which growth did not produce enough decent work to match the growth of the labour force and support improved living standards and reduced poverty. Now the world needs to accelerate a jobs-rich recovery and implement policies that support stronger job creation and poverty reduction for the long term.

Such a new growth strategy will require a finance sector that meets the needs for investment, innovation, trade and consumption. It is thus vital to adopt financial policies and regulations that encourage resource flows and allocations – including development cooperation – toward long-term productive investment by sustainable enterprises and the creation of decent work opportunities.

Stimulating labour demand – through fiscal stimulus, public spending, reduced working hours and hiring subsidies – has proven efficient. Australia, China, the Republic of Korea, the Russian Federation, Saudi Arabia and South Africa adopted average fiscal stimulus in the range of 3 per cent to 4 per cent of gross domestic product in 2009. Hence, the rebound since mid 2009 was particularly strong in these countries. A reduction in working hours, commensurate with wages, helped retain workers in Germany and, to a lesser extent, in Canada, France, Italy, Japan, Mexico, the Netherlands, South Africa, Spain, Turkey and the United States.

Extending social protection – by providing a basic social protection floor and by targeting public employment programmes in low-income countries – has shown strong results during the downturn. China has announced plans to achieve universal coverage of basic healthcare by 2020. India is expanding its health protection for low-income households and is developing a national old-age pension scheme. Temporary benefits for families have been introduced in Germany and on a permanent basis in Argentina. Brazil continued to expand the coverage of its conditional cash transfer programmes, as have Mexico and Turkey. India's National Rural Employment Guarantee Scheme – possibly the largest such programme – is providing 100 days of employment at the minimum wage to 43 million low-income households in 2009-10. A similar programme in Mexico created more than half a million jobs in 2009.

In 2010 and 2011, private and public policies must converge to strengthen credit flows, investment, sustainable enterprises and decent work creation and to reinforce what is still a fragile recovery.

The employment and social protection policies deployed by many countries interact with each other and contribute to improved macroeconomic performance and a stronger employment intensity of growth. A continued focus, in all countries, on productive investment, sustainable enterprises, inclusive labour markets, wide coverage of social protection and basic labour rights, and the elements of the decent work agenda, will usher in a more stable, stronger world economy with a robust social dimension. ◆

Gibraltar – EU domicile meeting the highest international standards

Gibraltar is a self-governing, economically successful and self-sufficient Overseas Territory of the United Kingdom within the European Union. It has its own Parliamentary system of Government and legislation, and is thus a distinct legal, executive and political jurisdiction.

In 2008 Gibraltar was ranked (by Jane's Country Risk) as the fifth most prosperous state measured by political stability, economy and security. As an integral part of the European Union Gibraltar's financial services licensing, regulatory and Investor and Depositor Compensation regimes are fully compliant with EU requirements and thus it enjoys passporting rights throughout the EU in all financial services matters including banking, investment services, insurance, insurance mediation and reinsurance. Gibraltar-licensed financial services firms therefore have access to a market of close to 500 million people. Gibraltar's financial services sector contributes approximately 30% to the GDP of Gibraltar.

Significant recent political developments include a new constitution which has modernised our political relationship with the UK to take it out of its historical colonial context and historic direct dialogue and co-operation agreements with Spain.

International initiatives

Gibraltar's successful finance centre is based on the Government's conviction that it must remain squarely within the mainstream of international consensus. In line with its commitment to transparency and effective exchange of information (www.oecd.org) Gibraltar has to date negotiated and signed 18 Tax Information Exchange Agreements with OECD member countries, is on the G20-instigated OECD 'white list', and is currently negotiating similar agreements with other countries.

The Government of Gibraltar has a long track record of proactive and constructive engagement with international standards-setting initiatives. In October 2000, for instance, Gibraltar was the first jurisdiction to volunteer to undergo the full range of Module 2 assessments by the International Monetary Fund on banking, insurance, investment services, and trust and company management.

In the resulting Report the IMF noted that Gibraltar was "at the forefront of the development of good practices". It further noted that Gibraltar was "one of the first jurisdictions to have introduced regulation and supervision of the company and trust services business," and highlighted the fact that "Gibraltar has been a pioneer in the supervision and regulation of Professional Trusteeship and Company Management services providers".

The IMF concluded that Gibraltar's regulator, the Financial Services Commission ('FSC'), "carries out its duties diligently and has an intimate knowledge of the institutions under its supervision…. The results of our assessments indicated that supervision is generally effective and thorough and that Gibraltar ranks as a well-developed supervisor. The regulatory regime across the industry meets most international standards and accords with best practice."

The IMF again endorsed Gibraltar's robust regulatory environment and anti-money laundering regime in a second round of assessments reported on in 2007. In all the areas of banking, insurance and anti-money laundering / counter-terrorist financing Gibraltar was judged to have met the international standards demanded of any reputable finance centre and, indeed, to be ahead of many onshore, and much larger, finance centres.

The IMF concluded that "the Gibraltar authorities are concerned with protecting the reputation and integrity of Gibraltar as a financial centre, and are cognizant of the importance of adopting and applying international regulatory standards and best supervisory practices. Gibraltar has a good reputation internationally for co-operation and information sharing". The IMF Reports on Gibraltar are available online at www.imf.org, www.gibraltar.gov.gi and www.fsc.gi.

Significantly, Gibraltar was among the first wave of countries and territories to be granted Qualified Intermediary status by the United States Internal Revenue Service, signifying that Gibraltar's know-your-customer rules were regarded as acceptable.

The economy

Gibraltar has an extensive and diversified service-based economy, the principal contributors being tourism, financial services, port operations including bunkering and online gaming. It is a global or regional leader in every economic sector in which it operates.

Gibraltar's economy is entirely self-sufficient, its fiscal position is strong, and sustains a high standard of living and public services.

Although Gibraltar has not been totally exempted from the current global economic recession and financial crisis, these have not adversely affected its fiscal position or prevented continuing growth of our economy. In the year to 2009, the economy grew by 6% (to £850 million), the Government's budget remains in substantial surplus (c. 6%), net public debt is very low at just 15% of GDP and taxation rates, both corporate and personal, continue to fall very significantly.

The Government has announced that it will introduce an across-the-board, low corporate tax rate of ten per cent with effect from 1 January 2011, down from the current 22%. Gibraltar does NOT tax capital gains or investment or pensions income.

Employment levels continue to rise to record levels, and this is coupled with very low unemployment.

The Hon Peter Caruana, QC
Chief Minister of Gibraltar

Making globalisation work

G20 members must leave behind narrow nationalism and embrace their sovereign duties if the G20 is to rise to meet the challenge of globalisation

By The Right Honourable Paul Martin, former prime minister of Canada

As Canada and Korea prepare for this year's G20 summits, the question arises as to the measure by which the world's new steering committee should be judged. The answer is its capacity to relieve the gridlock on those issues it inherited from the G8 and that go to the very heart of globalisation.

Three that immediately come to mind are the global financial crisis, climate change and food security.

The G20 came into being because the world has changed. Its members are members because they have power and position, but they also have responsibilities. In short, multilateralism must mean more than a camouflaged concern only for one's national interests. It must recognise the needs of others including those who are not at the G20 table.

This is certainly true in the case of the financial crisis. What the world is experiencing now is not simply another economic downturn. It is one that mutated into a perfect storm because at its core was a banking crisis of unprecedented global reach. The world cannot afford another one. To put it starkly, the recession of 2008-09 has done its damage and the United States, the United Kingdom and, indeed, too many countries must now deal with decimated balance sheets. None of them can afford to engage in their own massive deficit fight only to have their efforts unravel because another bank liquidity crisis has appeared on the horizon.

While the G20 made progress initially, it is now bogged down as its members appear unable to come to grips with one basic point. In a world of seamless capital markets, there are no borders; if those are the rules of the game the bankers play by, then those must be the rules of the game the referees referee by as well.

At present, the G20 story is one of headline-grabbing differences within and between the US and Europe. What this has led to is the failure to implement the key measure, which is determining the core equity standards and leverage ratios for G20 financial institutions. Given the vacillation between the political players on the wider host of regulatory issues, the most urgent need today is to establish these core standards and ratios forthwith, all the while working out the other differences before memories of the financial crisis fade.

In short, the time for the G20 to draw the line in the sand is now. What the disputants should remember is that they are not there to speak only for themselves, but also for the 173 countries that are not at the G20 table.

The G20 is a global steering committee, not a small club of the self-interested. The question to ask is not how to keep New York, London or German bankers happy, but how to keep the global economy healthy.

As in the case of many issues, what is important are the signals the G20 sends to the world's negotiating tables. In the case of climate change, this meant Copenhagen where, suffice it to say, the wrong signals were clearly sent.

> "Multilateralism must mean more than a camouflaged concern only for one's national interests"

Historically, the prime responsibility for carbon dioxide emissions lies with North America and Europe. But this does not mean that all of the G20 members do not have an increasing responsibility as their emissions increase to Bangladesh, the Philippines, Central America and Africa, for instance – regions of the world that are virtually innocent of the causes of climate change and yet whose poor will bear the greatest cost in terms of creeping deserts, flooding and famine.

The next climate change summit will be held in Mexico in November-December 2010. Rather than a last-minute, ad hoc meeting between the US, China and a few others as was held in Denmark, let the G20 prepare now to send the proper signals well ahead of time so that the Mexican meeting has a chance to succeed.

Furthermore, if after five meetings of the G20, not to mention countless expanded meetings of the G8, the differences between the developed and emerging economies show as few signs of being bridged in Mexico as they were in Copenhagen, then clearly the world will have

> If the G20 seeks to do its job, it is here in the definition of sovereignty where the battle lines will be drawn

a problem that extends far beyond climate change to the very heart of the effort to revive true multilateralism after its lengthy siesta.

In terms of food security, the United Nations predicts that within a generation the demand for food will increase massively as the globe's population soars by a third and growing, affluent populations intensify the pressure on agricultural resources already depleted by drought and major imbalances in the food chain.

The year 2008 was the canary in the coal mine. The price of the world's staples tripled in price and developing countries' budgets were decimated as they struggled to import food, and famine spread throughout Africa and Asia. The world has been warned.

So where does all this leave the world as the Canadian and Korean meetings approach?

What is common to the financial crisis, climate change and food security, and what in the end will determine whether the G20 meets the test, depends on whether the leaders of the member countries show a capacity to rise above the political comfort of narrow nationalism – because making globalisation work requires a consensus that cannot be squared with the traditional definition of sovereignty.

In short, the parochialism of rigid borders makes no sense, not if one wants to make globalisation work. The Treaty of Westphalia established the definition of national sovereignty in 1648. That was a long time ago and it was all about sovereign rights. However, the world has evolved and the definition of sovereignty today must now include sovereign duties.

Clearly, if the G20 is to do its job, it is here in the definition of sovereignty where the battle lines will be drawn, for with the designation of the G20 as the world's new steering committee, the debate is no longer what will replace the G8. It is whether any steering committee can succeed under the old rule of sovereign rights without sovereign duties.

The future of globalisation is the great issue of our time. The issues of the financial crisis, climate change and food security are all manifestations of the need to make it work better. Quite simply, how the G20 deals with them will provide an indication of how it will deal across the board with the interdependence of states in the future.

The question the G20 has to answer is, now that there will be not one or two, but, for the first time, five or six giant economies at the table, what must be done to ensure that this works to everyone's benefit. The answer does not require genius, but it does require a level of international cooperation that improved in Pittsburgh but failed the test in Copenhagen.

If the G20 is to succeed, it must ensure that its dialogue takes place not just on the basis of the sovereign rights of its members, but on the basis of their sovereign duties as well. Indeed, this could be the most important role the G20 has to play as the world's steering committee. ◆

The euro and the Greek crisis: a new international monetary scenario

The global market requires an international currency that is managed beyond national interests and a disciplined common exchange-rate regime. The EU and the euro need urgent reform if the euro is to be a monetary heavyweight

By Paolo Savona, Guglielmo Marconi University, Rome

The 2007-09 crisis has taken one more victim: the euro. The collapse of confidence in Greece has the reduced credibility of the European Union. This is an expression of the weakness of the European institutional architecture. Surprisingly, the fall in the euro's value followed a period characterised by the belief that the euro would replace the dollar as the international reserve currency. Although some economists – and, indeed, some vested interests – insist this was largely inconsistent with prevailing political conditions, the conventional belief did not waver.

The euro area – with only 16 out of the 27 EU members – is not an optimal currency area from many points of view. It needs compensatory fiscal unification to share the risk for a common future. The rejection of the Lisbon Treaty sent a clear message of the EU's unwillingness to apply the same rules for every citizen in Europe.

Nonetheless, after having acquired sovereignty on competition policy and money management, the EU reinforced the role of the European Parliament. Yet it has been unable to coordinate fiscal policies, which remain in the hands of member states. Complicated decision-making procedures and ill will toward political unification limit the permanent success of the euro area and the possibility of the EU using all its potential geopolitical influence.

The Greek crisis has revealed deep political differences among EU members. These differences date back to the signing of the Maastricht Treaty. They grew after a long period of relatively low growth and the impact of the recent financial crisis on employment. The founding 'idea of Europe' lost its appeal after the great events at the end of the 20th century: the fall of the Berlin Wall and the rise of China and other emerging countries. The most influential EU members and the EU Commission itself revealed their inability to adapt treaties to the new geopolitical and geoeconomic changes.

> The Greek crisis has revealed deep political differences among EU members

Since the start of the 21st century the value of the euro has increased under the pressure of the conversion of the dollar made by countries with a fixed or pegged exchange rate regime, such as China and oil producers, that participate in global trade. This was the result of the United States abandoning the Bretton Woods agreement in 1971 without enforcing a common exchange-rate regime among the members of what is now the World Trade Organization (WTO). The EU did not understand that the euro needed a different external exchange rate regime – fixed or pegged, instead of floating – to protect itself from the conversion of the dollar-denominated official reserves of other countries into euros. This pushed up the euro's value, discouraging European exports, lowering the euro area's rate of growth and weakening the appeal of political unification among European citizens. The rejection of the Lisbon Treaty has been interpreted as a result of the poor economic performance of EU institutions.

The European Central Bank (ECB), however, was satisfied by the euro's strength, seen as evidence of the ECB's success in anti-inflationary management. The appreciation of any currency helps keep the rate of inflation down but raises the question of whether deflation can produce monetary success.

The ECB's monetary policy became paradoxical when the ECB (together with the European Commission) pressured China to revaluate the yuan-renminbi as requested by the United States. China firmly resisted, and the euro was saved from greater appreciation.

From this perspective, the drop in the euro's value as a result of the Greek crisis has helped the recovery of European exports. This new situation would allow a change in the Chinese exchange rate regime or an extension of the range of pegging the yuan without affecting the euro. And yet this contingent condition does not change the fundamental need for a true political organisation within the EU as a prerequisite for a strong euro. It is thus difficult to understand Germany's approach of creating a reserve currency by a country or an area with a balance-of-payments deficit. Having a strong currency is inconsistent with keeping a huge surplus in the balance of payments, as Germany does.

One concern with regard to the Greece bail-out is whether the EU should accept any intervention by the International Monetary Fund. The idea that the euro might seem a better reserve currency than the dollar is the result of a misinterpretation of the real needs of a well-functioning global market. A global market requires an international currency managed beyond national interests, as is the case with both the dollar and the euro. Free, asymmetric competition among national currencies produces gains derived from managing differing exchange rates. The different exchange rate regimes tear

apart the common rules of fair competition and lead to structural disequilibria in trade balances. Yet this issue is not on the global agenda, nor was it during the 2007-09 crisis and its Greek appendix. The appreciation of the dollar diverted the attention of policymakers from its instability and the poorly functioning international monetary system, both part of a more general problem concerning the international financial architecture still on the global agenda.

The possibility of speculation grew after the large diffusion of derivative contracts. Speculation no longer needs money since it has many new instruments in addition to the traditional, controlled monetary and financial instruments. The G20 promised a global legal standard to fight speculation, but the world is still waiting for it. To be effective, the new monetary and financial architecture should regulate all sectors in the same manner to avoid facilitating moves toward less regulated sectors (such as credit default swaps and hedge funds) instead of regulated ones (such as bonds and shares).

With regard to the EU, any attempt to regulate the euro without a parallel programme to regulate the dollar and differences in exchange rate regimes is destined to fail. European governments and regulators maintain that the euro is safe but that fiscal and wage discipline is required. As for the dollar, its regulators claim they can do nothing to control its supply or to force China – or any other country with a surplus – to change its currency regime. Perhaps they speak the truth. But it is not enough to avoid proposing a solution for improving the performance of world trade, and thus sustaining and enlarging growth.

Zhou Xiaochuan, governor of the People's Bank of China, has proposed expanding the creation of special drawing rights (SDRs) to allow a smooth substitution of the dollar as the international reserve currency. Such an agreement should be implemented by China shifting to a floating system in exchange for the guarantee of the value of its dollar-denominated official reserves. The

"European governments and regulators maintain that the euro is safe, but that fiscal and wage discipline is required"

United States cannot keep the dollar at the centre of the international trade system and continue to borrow from the rest of the world in order to keep a high domestic rate of growth. Eventually the dollar will collapse, as in August 1971. Its recent recovery is the result of a psychological reaction to the crisis – the view that the dollar was 'the worst currency except all the others'. But for how long? The market constantly produces monsters that kill the market itself to regenerate its rational role. If it does not perform this 'purification' process, things end up in the hands of the judiciary's power, as is happening now.

If the EU and the euro area cannot reform their institutional and constitutional architecture, they would benefit from implementing an international agreement on a new international currency, such as SDRs, together with a change in WTO rules: those countries that participate equally in the free global market must have the same exchange rate regime.

If so, the euro would grow stronger instead of being exposed, as it is now, to the perils of a stormy sea, just like a boat caught between the weakness of the dollar and the official reserves of countries with trade surpluses heavily reinforced by speculation. ◆


© 2010 KPMG LLP, a Canadian limited liability partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International, a Swiss cooperative. All rights reserved.
Seeing the other side is one step.
Getting there is another.
KPMG can help.
KPMG has built considerable global knowledge in helping senior government officials achieve the level of strategic transformation needed to focus service delivery for the 21st Century. We understand the scope of the radical structural change required, and we are architecting new ways of getting there. A new model requires a structured approach to customized long-term strategies.
www.kpmg.ca
Strategies for
Fiscal Sustainability
AUDIT ▪ TAX ▪ ADVISORY
KPMG

Strategies for fiscal sustainability

The global economic crisis, from which the world's governments are still struggling to emerge, could not have come at a worse time. Saddled with immense stimulus-related debt that will be carried forward for years to come, the world's major economies are about to confront a second unsettling crisis – preparing for the costly needs of their aging populations. At risk is the fiscal sustainability of jurisdictions; yet, as KPMG International found in a recent survey entitled Tough Choices Ahead: The Future of the Public Sector, public sector leaders are not yet adequately engaged. The need for action is urgent, and the current relatively simple approaches to reforming the public sector in the past likely will no longer work.

The survey found that public sector leaders are well aware of the growing needs of the aging population, but they are not prepared to take immediate action. Although 60 percent of respondents said they intend to make long-term changes to prepare their organizations, only 20 percent of respondents are prepared to make the kinds of radical changes to their programs and services that will be necessary to provide service during a period of severe budgetary pressures. For the majority, traditional public service delivery simply isn't sustainable.

KPMG has developed a three-stage model that responds to the need to revolutionize the public sector. This revolution begins with a debate between the public and their politicians on what suitable roles government should have in public service delivery. Governments must be able to communicate and then demonstrate their commitment to cutting nonessential and inefficient programs and services.

As with traditional responses to the financial crisis, the plan begins with short-term cost reductions, then moves to medium-term improvements in efficiency, and a strategic transformation in program and service delivery. The responses are a familiar exercise for government administrators; they cut costs and provide a quick political boost, but they are at best a finite exercise. Eventually, they prove too painful for the public and politicians alike and must be curtailed. They are only buying governments time. Similarly, the medium stage-improvements to efficiency, such as sharing resources and reviews to human resources practices can offer longer-term results, but they still operate within a legacy of inefficient structures.

The ultimate stage is strategic transformation, as it is both far reaching and comprehensive, and also far more difficult to execute. It requires a reassessment of spending priorities, determining what government can do and do well, and what it needs to cut loose. It calls for a search for new sources of funding. With falling revenues, the public sector must look for funding in other ways, such as private finance initiatives, public-private partnerships, user fees, and sales of assets. It also must decide which services to outsource to the private sector and which to maintain, and it must communicate to the public the wisdom of doing so. The true measure of success in the public sector is effective outcomes from public expenditures, not the traditional notion that governments are always the best providers of public services.

Increasing public-private co-operation through greater degrees of collaboration, group accountability, and traction from an effective commissioning model – these are the tasks of strategic transformation. They are complex challenges and they demand leadership that views the enterprise from a system-wide perspective. Public sector leadership should bring disparate public and private organizations together to create change in a mutually beneficial manner. The time has come to hold a debate on major change. Concerns over global financial conditions; research demonstrating government willingness to change strategies; and openness among citizens to address their country's financial health all point to an overwhelming need to redefine the role of the public sector.

The public sector is destined to become more complex, requiring its management to synthesize a strategy based on complex information and drivers rooted in manifold and overlapping sectors. In short – strong, sophisticated leadership is one of the most important drivers in strategic transformation.

Strategic transformation is a responsibility that government cannot afford to put off. In a new era of declining conventional revenues, aging populations, and greater expectations, radical change is needed. It should address years of public sector growth and complexity, and it requires real political courage, but more sophisticated knowledge of how to execute a large-scale overhaul. At issue is the fundamental change in the role of the state; the time has come for deep, long-term fundamental change in public sector service delivery. The challenge is urgent; the response must be intelligent and orderly, but bold.

To pick up your copy of *Tough Choices Ahead: The Future of the Public Sector* go to: www.kpmg.ca/toughchoices

Article by Jeff Smith, Partner and National Industry Leader, Public Sector
Telephone: (001) 416 777 8409
Email: jmsmith@kpmg.ca

John Herhalt
KPMG Global Head of Government Sector
Telephone: (001) 416 777 8778
Email: jherhalt@kpmg.ca

www.kpmg.ca

KPMG

Monte Carlo, Monaco: once considered a non-cooperative jurisdiction, Monaco has been removed from the OECD's 'black list'

By Amandine Scherrer, associate researcher, Canada Research Chair in Security, Identity and Technology, Université de Montréal

Offshore jurisdictions

In the wake of the financial crisis, the G20 crackdown on offshore jurisdictions and tax havens aims to strengthen and regulate the international financial system

In the declaration of the G20 Summit on Financial Markets and the World Economy at Washington in November 2008, the G20 leaders committed themselves to a range of medium-term actions, including the implementation of national and international measures that protect the global financial system from uncooperative and non-transparent jurisdictions. At its London Summit in April 2009, the G20 went further and announced a crackdown on offshore jurisdictions and tax havens. In their final communiqué, the G20 leaders endorsed sanctions against non-cooperative jurisdictions and boldly declared that the "era of banking secrecy is over".

This focus on tax havens and offshore jurisdictions has been presented as a way to strengthen and regulate the international financial system. Indeed, tax havens and offshore jurisdictions are places where trillions of dollars circulate every year. According to the World Bank, these places lead to massive fraud. Hundreds of billions of dollars are estimated to be hidden from tax authorities in offshore banks. Accused of being a haven for illicit finance, tax havens and offshore jurisdictions are also singled out for creating mistrust in investments and for destabilising financial flows and free market activities. Moreover, these jurisdictions shield two thirds of hedge funds that have come under fire since the 2008 financial crisis.

What was seen by many commentators as the major concrete achievement of the London G20 Summit has led to the publication of a renewed list of non-cooperative jurisdictions by the Organisation for Economic Co-operation and Development (OECD). It has three specific categories: jurisdictions that have substantially implemented the OECD standards are on the 'white list'; tax havens and financial centres that have committed to implementing these standards are on the 'grey list'; and those that have not committed to the standard are on the 'black list'. Since the publication of these lists, the only three jurisdictions considered as non-cooperative (Andorra, Liechtenstein and Monaco) have been removed, thanks to their efforts to implement the internationally agreed standards. Other countries on the grey list, such as Malaysia and the Philippines, have been removed on the same grounds. Even Switzerland endorsed the OECD standard and the end of banking secrecy. The shaming effect of the OECD list has worked.

The G20 has also improved its regulatory mechanisms. In 2008, the G20 leaders transformed the Financial Stability Forum into the Financial Stability Board, with an expanded membership and a broadened mandate to promote financial stability. This new structure includes an expert group on non-cooperative jurisdictions. Moreover, through the Global Forum on Transparency and Exchange of Information, the G20 has enhanced the peer review process. According to the progress report on actions taken to promote financial regulatory reform, issued by the United States at the Pittsburgh G20 Summit in September 2009, even jurisdictions that are not members of the Global Forum, where appropriate, will be subject to the same review and invited to engage with the forum in the context of any review. Preliminary assessments from the peer review programme are expected by June 2010. The Global Forum will also submit a report on multilateral tax information exchange agreements (TIEAs) and the steps necessary to accelerate full implementation of the approved reforms.

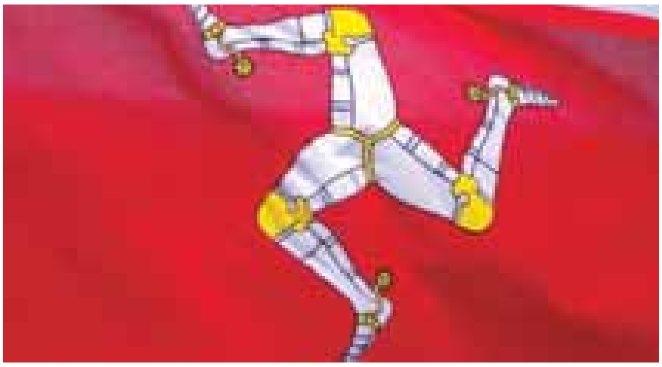
Despite these achievements and the apparent consensus among G20 members displayed since the London Summit, problems remain. First, the G20 commitment to tackle these jurisdictions still fails to overcome the political challenges of identifying and targeting them. Territories

> "The G20 leaders should agree on a toolbox of countermeasures to pressure tax havens to comply"

such as Macau, Hong Kong, the Channel Islands and the Virgin Islands are still politically highly sensitive and have not been included on the OECD grey or black list, despite the fact that these jurisdictions share common features with well-recognised non-cooperative offshore jurisdictions and tax havens. This situation raises the issue of the comprehensiveness of the regulatory mechanism promoted at the international level, which fails to include territories linked to influential powers such as China, the United States and United Kingdom. Second, even though the regulatory mechanisms and the peer review system have been improved, the issue of sanctions is still a subject of heated debate among G20 leaders. Even if the G20 London Summit and the G20 Pittsburgh Summit were supposed to adopt a consensus on proper sanctions against tax havens that fail to sign new anti-secrecy agreements, no agreement has yet been reached. Therefore, even if the move for greater transparency seems to be durable and taken seriously, further work and improvement are needed. The G20 Toronto Summit in June 2010 will thus be the occasion for a substantive follow-up. The work of G20 leaders will benefit from the release of the Global Forum's preliminary assessments of the peer review programme and the report on TIEAs.

Switzerland is one of the countries that has implemented the OECD standards

Among the issues to be tackled at Toronto, the G20 should encourage the expansion of the Global Forum's membership, which currently gathers 91 countries and territories. More jurisdictions should enter into agreements in line with the Global Forum's model agreement and article 26 of the OECD and United Nations models. The network of TIEAs also needs to be expanded. Moreover, even if the shaming effect of the OECD lists seems to be effective, a jurisdiction's mere declaration of intention for better implementation of OECD standards should not be a sufficient condition for its removal from the list. Proof of accountability and transparency should be displayed and monitored closely by the Global Forum. Furthermore, the OECD lists should be more comprehensive, consistent and credible, specifically regarding the current offshore jurisdictions and tax havens not yet included on the OECD list. Finally, as announced at the London Summit, the G20 leaders should agree on a toolbox of countermeasures to pressure tax havens to comply. For instance, the risks encountered by financial service firms if they intentionally use foreign centres to evade full reporting of their clients' accounts to the tax, customs and judicial authorities should be clarified. At the same time, those countermeasures should avoid using development aid as blackmail to force developing countries to commit to OECD standards. The Toronto Summit should thus be the occasion to reflect more carefully on how developing countries can be further integrated into and benefit from the work of the Global Forum. ◆



The Isle of Man: a responsible international neighbour

The economic uncertainty experienced in recent times has underlined the importance of international co-operation and the need for countries, large and small, to develop even closer working relationships.

Unity, openness and compliance with global standards, applied equally, are seen to be key elements if the world economy is to emerge from this unprecedented turbulence into strong, sustainable and balanced growth.

International collaboration is a cornerstone of the approach adopted by the Isle of Man, a self-governing British Crown Dependency centrally located in the Irish Sea between England, Ireland and Scotland. We have established a reputation for facilitating good business within a diversified economy while working with our global partners and regulatory bodies as a responsible international neighbour.

Our Island strives to be a model of political stability, transparency, financial regulation and supervision, and has remained at the forefront of efforts to tackle money laundering and terrorist financing. These attributes have been recognised by the IMF, for example, in a report published in 2009. A United Kingdom review of British Overseas Territories and Crown Dependencies acknowledged the Isle of Man as a well-regulated and co-operative jurisdiction with a sound and diverse economy able to cope with and adjust to global economic crises.

One of our major priorities has been responding to pressures from the international community on tax transparency and co-operation – an area in which the Isle of Man has long been a leader.

A decade ago, the Isle of Man helped to develop the OECD model tax information exchange agreement. Since then we have led the way in signing these agreements: from the United States in 2002, through the Scandinavian countries in 2007, to France and Germany in 2009, for a total so far of 15. In addition, the Isle of Man signed three comprehensive double taxation agreements in 2009. More of both types of agreement are currently under negotiation.

Our commitment to openness was recognised when the G20 met in London last year, with the Isle of Man earning a place on the OECD's 'White List' of countries complying with the global standard for tax co-operation and exchange of information.

Recognising that we need to continue to respond to evolving international standards, the Isle of Man has committed to moving to automatic exchange of tax information on savings, under the EU Savings Directive.

We have a track record of contributing to the debate on emerging global standards and we intend to continue to contribute as the debate moves forward on issues such as minimum rates of taxation. This is a matter which would be best advanced through discussion rather than coercion.

In parallel with our collaborative approach to taxation, the Isle of Man has also shown leadership in international engagement through our involvement in a major initiative to help small countries respond to the repercussions of the global financial crisis and improve aspects of their regulation and management of their financial sectors.

Our Government has made a significant investment into international development by playing a key role in delivering the Small Countries Financial Management Programme in conjunction with the World Bank, Commonwealth Secretariat, Small States Network for Economic Development and Oxford University.

The aim is to promote the sustainable development of small state economies and give them a more powerful voice within the international community.

As our track record clearly demonstrates, the Isle of Man is known for its innovation, professionalism and long-term policy of positive engagement with international initiatives and standards.

All countries have a responsibility to pursue global solutions to existing and emerging challenges, and we look forward to continuing to play our part in this process.

Hon J A Brown MHK
Chief Minister
Isle of Man

www.gov.im

Isle of Man Government

Convergence of accounting standards – can the different perspectives ever be reconciled?

In their first *Joint Quarterly Progress Report*[1] on the co-development of selected accounting standards, the IASB and the US FASB (collectively, the Boards) highlighted potential issues on two major projects – financial instruments and insurance contracts, due to different conclusions on certain important technical issues. The Boards also noted that "… addressing those differences in ways that foster convergence could affect the project timetable …".

With more than 110 countries either already applying International Financial Reporting Standards (IFRS) or having announced plans to adopt IFRS, and with the US Securities and Exchange Commission (SEC) committed to making a decision about adoption in 2011, the ramifications of non-convergence of accounting standards are potentially far-reaching. We spoke to Ruth Picker (RP), Global IFRS Leader and Danita Ostling (DO), Americas IFRS Technical Leader about why the convergence of accounting standards is important and whether the different perspectives of stakeholders in the standard-setting process can ever be reconciled.

What is the cause of the different conclusions on the two major projects and how might resolution be reached?
DO: The delay in the financial instruments project stems from the differing views and perspectives between the Boards about when fair value should be used to measure financial assets. The IASB favours a mixed measurement model,[2] whereas the FASB seeks a wider application of fair value. The Boards have acknowledged that these differences in opinion exist for a variety of reasons, primarily about the extent of use of fair value, but also the phased approach adopted by the IASB as compared with the comprehensive approach adopted by the FASB. However, Sir David Tweedie, Chairman of the IASB and Bob Herz, Chairman of the FASB, believe that, even if a single approach is not agreed upon, both Boards' proposals could provide sufficient information in banks' disclosures to enable a comparison to be made between US GAAP and IFRS reporting. The Boards have agreed to expose both approaches for public comment and the views of the users of financial statements are important when considering these differing approaches.

Ruth Picker
Global Leader
of IFRS Services

Danita Ostling
Americas IFRS
Technical Leader

"Convergence alone is neither sufficient nor sustainable in the long-term. We believe that all countries, including the US, should ultimately commit to adopting IFRS."

RP: The IASB has indicated that it does not intend to move away from the mixed measurement model in IFRS 9, which was developed in response to calls from existing IFRS adopters, particularly in Europe. The fair value approach proposed by the FASB is unlikely to gain much support in Europe. There is a concern that, by exposing the FASB's proposal, the IASB could be seen to be reconsidering IFRS 9 to increase the use of fair value and this will likely concern existing opponents to IFRS 9, especially in Europe.[3] However, we understand that this is clearly not the IASB's intention. On the contrary, we think that the FASB's proposals may be unlikely to gain wide support in the US and there is a possibility that IFRS 9's approach may be preferred by some US constituents. Ernst & Young has globally publicly supported both IFRS 9 and the mixed measurement model as a reasoned approach.

DO: Similarly, the Boards currently have divergent views on the measurement of margins (profit) in insurance contracts. These differences may demand more attention and consideration from the Boards, but I do not believe they are insurmountable.

[1] The International Accounting Standards Board (IASB) and the US Financial Accounting Standards Board (FASB) agreed in their 2006 Memorandum of Understanding (MOU), to align certain of their respective accounting standards, such as revenue recognition and leasing, and to reach convergence on these projects. The MOU was further updated in 2008 and 2009. The aim is to achieve a single, globally-accepted set of high quality accounting standards by mid 2011. The financial crisis has resulted in increased calls for this goal to be achieved by groups such as the G-20.
[2] This would be either amortised cost or fair value, depending on an entity's business model and the nature of the asset as set out in IFRS 9 Financial Instruments.
[3] IFRS 9 has not been endorsed in Europe and opposition to it remains, as some consider that it increases the use of fair value.
[4] SEC, Release Nos. 33-9109; 34-61578, Commission Statement in support of Convergence and Global Accounting Standards.

Why is the convergence of accounting standards important?
DO: The US is a key and important financial market in the world's economy, and the US SEC has, for many years, promoted the view that a single set of high-quality, globally-accepted accounting standards would be useful. In this regard, the SEC also has strongly supported the efforts of the IASB and the FASB to align their standards, noting that successful completion of the convergence agenda would be a "significant accomplishment toward improving financial reporting for investors worldwide".[4] The convergence of accounting standards is seen by many in the US as a pre-requisite step towards developing a single accounting language. However, as we noted in our Point of View piece last year, convergence alone is neither sufficient nor sustainable in the long term. We believe that all countries, including the US, should ultimately commit to adopting IFRS. The US is the remaining major capital market that has not made this commitment. Existing IFRS adopters are growing increasingly frustrated with the US influence on the IASB, given that it has not formally committed to the adoption of IFRS.

RP: A single globally-accepted set of high-quality accounting standards would serve to improve the capital flows of global capital markets. Investors would be able to compare the financial statements of companies around the world and make informed decisions accordingly. This would improve the transparency of financial information and also address concerns and limit the potential for accounting arbitrage where the accounting rules of one country may provide for a more favourable accounting treatment than another.

"Ultimately, the governance of the IASB needs to ensure a balance between independence and accountability to all stakeholders."

DO: Multinational companies also can gain efficiencies when the parent and subsidiaries are able to report under the same accounting standards. Furthermore, the onset of the financial crisis and the political push by the leaders of the Group of Twenty nations (G-20) has served to add impetus to the convergence project as global leaders seek to improve financial stability.

Detractors have stated that the IASB is not independent and investor-oriented. What can the IASB do to address these concerns?
DO: The IASB's composition of members now has representatives from the major economies of the world, such as Europe, Japan, Oceania, China, India and Brazil, as well as the US. The Standards Advisory Council also has been set up to provide independent advice to the IASB on technical issues. In addition, the International Accounting Standards Committee Foundation (IASCF), the oversight body of the IASB, has revised the IASB's Constitution to introduce a three-year public consultation period on its technical agenda and identify investors as a target audience for financial information. The IASCF's Monitoring Board also was established to facilitate interaction with capital market authorities and ensure public accountability of the IASCF. The Monitoring Board recently agreed to review the governance of the IASCF and IASB, including its own composition. These are steps in the right direction to demonstrate that the standard-setting process is free from political interference and underpinned by appropriate due process that gives all stakeholders an opportunity to provide input.

"For our part, Ernst & Young has been working to build the bridges between the different stakeholders, to encourage discussion and co-operation to achieve this goal."

RP: I would add that the IASCF and the IASB also recently launched an investor outreach programme to enhance investors' participation in the development of IFRS. However, the heightened scrutiny of other stakeholders, including prudential regulators and governments, has led to a greater involvement and desire to influence the standard-setting process. This desire to improve financial stability can cause conflict with the stated objective of an independent standard-setter. Ultimately, the governance of the IASB needs to ensure a balance between independence and accountability to all stakeholders.

With the differing views on two of the key joint projects and the fragile political environment surrounding IFRS, can the aim of a single set of accounting standards ever be reality?
DO: I think so. This brings to mind an analogy about the upcoming Football World Cup that Jim Turley (Chairman and CEO of Ernst & Young) made in a webcast in September 2009 – that a key part of the global appeal about the game of football is that a single common set of rules exists. Imagine how chaotic it would be if each country brought their own rules to a global tournament! There may be a different ball or size of goal posts, depending on which countries were competing. So, the case for a common accounting language is clearly compelling. How we get there is the challenge but I believe it is achievable.

RP: I agree and I think this is the right time, given that the calls for one accounting language are coming from numerous sources and that we have come so far in the journey. We now stand, closer than before, at the crossroads of possibly developing a single globally-accepted set of accounting standards. Some challenging steps in this journey still lie ahead and some will undoubtedly involve difficult decisions. However, I think, we now have a chance of a lifetime to make this happen. For our part, Ernst & Young has been working to build the bridges between the different stakeholders, to encourage discussion and co-operation to achieve this goal.

The role of Islamic finance in the post-crisis world

Excessive and imprudent lending was arguably the primary cause of the crisis that hit the global economy. Can Islamic finance help to restore market discipline?

By Ahmad Muhammad Ali, president, Islamic Development Bank Group

Banks do not evaluate loan applications carefully, which leads to an unhealthy expansion in the volume of credit and excessive leverage

The international financial system has just come out of a serious crisis that has been far more severe than any experienced in living memory. It took more than $3 trillion in bailouts and liquidity injections by a number of industrialised countries to abate the severity of the crisis. This action has intensified the call for a new architecture to minimise the frequency and severity of such crises in the future. Can Islamic finance respond successfully to this call?

Primary cause of the crises

It is not possible to answer this question without first determining the primary cause of this crisis. The most important cause of almost all crises is excessive and imprudent lending by banks. Market discipline should be able to prevent banks from resorting to the unhealthy practice of excessive and imprudent lending, which is not only against their own long-run interest, but is also a primary cause of international financial instability. But market discipline has itself weakened.

Discipline is enforced by incentives and deterrents. In the financial system, these take the form of risk and reward. Risks must be controlled effectively for this purpose. Profit-and-loss sharing can make a valuable contribution to realising this objective. If it is removed from, or weakened within, the financial system, the system will fail to operate effectively. Since banks are assured of a positive return on their advances in the conventional interest-oriented financial system, they have an incentive to lend excessively. The more they lend, the higher their profit. This phenomenon gets a further boost from recent innovations such as credit default swaps (CDS), which provide insurance to banks against loan losses. Collateralised debt obligations might be desirable if they were not an instrument for wagering. In addition, there is the 'too big to fail' concept, which assures big banks that governments' central banks will come to the rescue.

The false sense of immunity from losses provided by these factors has contributed to a decline in market discipline, although such discipline is considered the pride of the market system. Banks do not evaluate loan applications carefully, which leads to an unhealthy expansion in the volume of credit and excessive leverage. The availability of excessive credit produces not only an unsustainable rise in asset prices and living beyond one's means, but also increased speculative activity. Unwinding later on causes a steep decline in asset prices, as well as financial frangibility and debt crises, particularly if accompanied by overindulgence in short sales. As Jean-Claude Trichet, president of the European Central Bank, says, "A bubble is more likely to develop when investors can leverage their positions by investing borrowed funds."

The sub-prime mortgage crisis

The recent sub-prime mortgage crisis in the United States is a classical example of excessive and imprudent lending. Securitisation or the originate-to-distribute model of financing played a crucial role. Collateralised debt obligations, which mixed prime and sub-prime debt, made it possible for mortgage originators to pass the entire risk of default to the ultimate purchasers who would have normally been reluctant to bear such risk. Mortgage originators did not, therefore, have adequate incentive to undertake careful scrutiny of the debt proposal. Consequently, loan volume gained greater priority over loan quality and the amount of lending to sub-prime borrowers, as well as speculation, increased steeply. 'Teasing' rates to attract unsophisticated borrowers boosted this phenomenon further. Ben Bernanke, chair of the US Federal Reserve System, observed that "far too much of the lending in recent years was neither responsible nor prudent. In addition, abusive, unfair or deceptive lending practices led some borrowers into mortgages that they would not have chosen knowingly."

Market discipline thus fell short. Even the supervisors did not perform their task effectively by not nipping unfair practices in the bud. The result was that several banks either failed or had to be bailed out or nationalised by the governments in the United States, the United Kingdom, Europe and elsewhere. This created uncertainty about the recovery of loans and rendered banks reluctant to lend. The consequence was a credit crunch, making it hard for even healthy institutions to find financing. There was a lurking fear of a prolonged recession. The timely intervention by governments and central banks with enormous injections of liquidity averted this.

When there is excessive and imprudent lending and lenders are not confident of repayment, derivatives such as CDS are used excessively to protect against default. The buyer of the swap (creditor) pays a premium to the seller (a hedge fund) for compensation in case the debtor defaults. If this protection had been confined to the actual creditor, there might not have been any problem.

> "Islamic finance should, in its ideal form, raise substantially the share of equity and profit-and-loss sharing in businesses"

However, hedge funds sold the swaps not to just the actual lending bank but also to many others who were willing to bet on the default of the debtor. These swap holders, in turn, resold the swaps. The whole process continued several times. The Bank for International Settlements estimated that in 2007 the total outstanding derivatives (including \$54.6 trillion in CDS) rose steeply to \$600 trillion, more than ten times the size of the world economy. While a genuine insurance contract indemnifies only the insured party, in the case of CDS several swap holders had to be compensated. This greatly accentuated the risk and made it difficult for the hedge funds and banks to honour their commitments. No wonder George Soros described derivatives as "hydrogen bombs", and Warren Buffett called them "financial weapons of mass destruction".

The Islamic financial system

One of the most important objectives of Islam is to realise greater justice in human society as stated in the Qur'an. Justice, however, requires a set of rules or moral values, which everyone accepts and faithfully complies with. The financial system may be able to promote justice if, in addition to being strong and stable, the financier also shares in the risk so as not to shift the entire burden of losses to the entrepreneur.

To fulfil this condition of justice, Islam requires both the financier and the entrepreneur to share the profit as well as the loss equitably. For this purpose, one of the basic principles of Islamic finance is 'no risk, no gain'. This should motivate financial institutions to assess risks more carefully and to effectively monitor the use of funds by borrowers. The double assessment of risks by both the financier and the entrepreneur should help inject greater discipline into the system and go far in reducing excessive lending.

Islamic finance should, in its ideal form, raise substantially the share of equity and profit-and-loss sharing in businesses. Greater reliance on equity financing has supporters even in mainstream economics. Henry Simons of the University of Chicago, writing after the Second World War, argued that the danger of economic instability would be minimised if there were no resort to borrowing, particularly short-term borrowing, and if all investments were held in the form of equity. More recently, Harvard University's Kenneth Rogoff has said that in an ideal world, equity lending and direct investment would play a much bigger role.

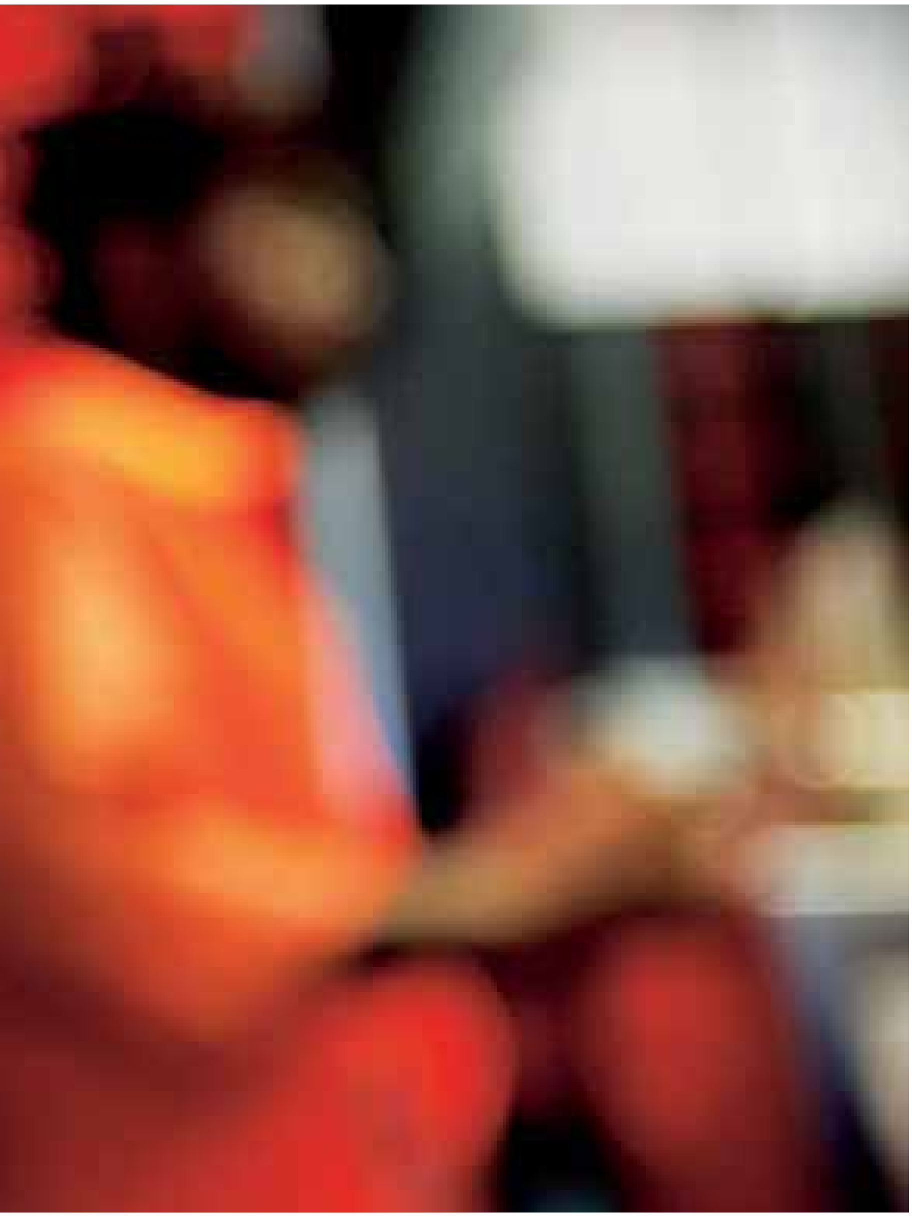
> Debt is indispensable but should not be promoted for non-essential and wasteful consumption

Greater reliance on equity does not necessarily rule out debt financing. This is because the financial needs of individuals, firms or governments cannot all be amenable to equity and profit-and-loss sharing. Debt is, therefore, indispensable, but should not be promoted for non-essential and wasteful consumption and unproductive speculation. For this purpose, the Islamic financial system does not allow the creation of debt through direct lending and borrowing. It requires the creation of debt through the sale or lease of real assets by means of its sales- and lease-based modes of financing (*murabahah, ijarah, salam, istisna and sukuk*). It has, however, laid down a number of conditions for the effective operation of these modes.

The first condition is that an asset being sold or leased must be real, and neither imaginary or notional. Second, the seller or lessor must own and possess the goods being sold or leased. Third, the transaction must be a genuine trade transaction with full intention of giving and taking delivery. Fourth, the debt cannot be sold and the associated risk must be borne by the lender.

That first condition helps eliminate many derivatives transactions that involve nothing more than gambling by third parties that claim compensation for losses suffered only by the principal party. The second condition ensures that the seller (or lessor) also shares the risk in order to get a share in the return. The seller (financier), on acquiring ownership and possession of the goods for sale or lease, bears the risk. This condition also constrains short sales, thereby removing the possibility of a steep decline in asset prices during a downturn. Shari'ah law has, however, made an exception to this rule in the case of *salam* and *istisna*, where the goods are not already available in the market and must be produced before delivery. Financing extended through Islamic modes can thus expand only in step with growth in the real economy and thereby helps curb excessive credit expansion.

The third and the fourth conditions not only motivate the creditor to be more cautious in evaluating the credit risk but also prevent an unnecessary explosion in the volume and value of transactions. This limits debt from exceeding the size of the real economy and releases substantial financial resources into the real sector, thereby increasing employment and self-employment and producing need-fulfilling goods and services. The discipline that Islam introduces in the financial system may not, however, materialise unless governments reduce their borrowing from the central banks to a level that is in harmony with the goal of price and financial stability.



Thus the Islamic financial system is capable of playing a stabilising role in the global economy by eliminating the major weaknesses of the conventional system and thereby helping minimise the severity and frequency of financial crises. By requiring the financier to share in the risk, it introduces greater discipline into the system. It links credit expansion to the growth of the real economy by allowing credit primarily for the purchase of real goods and services that the seller owns and possesses and the buyer wants. It also requires the creditor to bear the risk of default by prohibiting the sale of debt, thus ensuring a more careful evaluation of risk.

Islamic finance has been growing rapidly in recent decades. But it is still in its infancy and holds only a very small proportion of international finance. It has far to go before it attains maturity and starts reflecting the ethos of Islamic teachings. The use of equity and profit-and-loss sharing remains relatively small, while debt-creating modes remain preponderant. This is due in part to inadequate understanding of the ultimate objectives of Islamic finance, the non-availability of trained personnel and the absence of a number of shared or support institutions needed to reduce risks associated with anonymity, moral hazard, principal/agent conflict of interest and the late settlement of financial obligations. However, the system will gradually gain momentum and will effectively complement the current international efforts to bring health and stability to the global financial system.

Conclusion

The Islamic financial system is not something unique and unknown to the world of finance. It only represents an effort to revive some of the universally accepted principles of sound and healthy finance that have, in fact, been a part of the conventional system, but have gradually become weakened over the last few decades. This weakening has given momentum to the crises. Therefore, for the future health and stability of the global financial system, it is desirable for the conventional system to adopt the sound principles of its own heritage, which the Islamic financial system is trying to revive.

> “The Islamic financial system represents an effort to revive some of the universally accepted principles of sound and healthy finance”

Such principles of Islamic finance include the following: The proportion of equity in total financing must be increased to create a proper balance between equity and debt. Credit must be confined primarily to transactions related to the real sector to ensure that credit expansion moves in step with the growth of the real economy and does not promote destabilising speculation and gambling. Leverage must be controlled so that credit does not exceed the borrower's ability to repay.

Furthermore, if it is not desired to prevent the sale of debt in keeping with Islamic teachings, there should be full transparency about the quality of debt being sold so that the purchaser clearly understands the ramifications of the transaction. The ultimate purchaser of the debt should have the right of recourse, which would ensure that the lender has an incentive to underwrite the debt carefully.

Moreover, while there may be no harm in the use of CDS to protect the lender against default, they must be insured so as not to become instruments for wagering. Their protective role should be confined to the original lender and not cover the other purchasers of swaps who wish to wager on the debtor's default. For this purpose the derivatives market must be properly regulated to remove the element of gambling.

The compensation of bank management must be rationalised to safeguard against the taking of unnecessary risks. This rationalisation should, however, not deprive them of their due reward for their contribution to efficient and prudent management.

Finally, all financial institutions, and not just the commercial banks, must be properly regulated and supervised so that they remain healthy and do not become a source of systemic risk.

The adoption of these principles should put the international financial system on a sound footing and thus minimise the frequency and severity of crises. Nonetheless, prudent regulation and supervision remain important, and should continue to complement the greater discipline that must be injected into the system. ◆

Award-winning Islamic investment banking & finance house

Liquidity Management House for Investment K.S.C.C ("Liquidity House") is an investment company wholly owned by Kuwait Finance House K.S.C ("KFH") and is regulated by the Central Bank of Kuwait. Head quartered in the State of Kuwait, Liquidity House was established in December 2007 and commenced its operations in 2008 as KFH's international investment arm. The company was launched with a paid up capital of Kuwaiti Dinars 100 Million (approximately US$ 370 million).

Liquidity House through its vision to be a proactive and principal player in the International Sukuk Market and Shari'a compliant structured finance arena is committed to developing innovative Shari'a compliant structured finance products and services. Further, Liquidity House is committed to constantly providing customized solutions that caters to its clients ever changing and evolving needs.

Liquidity House current team has extensive experience within the Islamic Finance space and is a source of strategic strength. In addition to its team, Liquidity House derives its strength from KFH brand recognition, distribution capabilities and geographic coverage while offering its products and services to its clients.

Liquidity House is currently involved in various business lines as mentioned below;

- Capital Market & Securitization
- Corporate Finance & Advisory
- Syndication & Distribution
- Asset Management
- Direct Investment
- Sukuk Secondary Market Trading Activities
- Liquidity Management
- Discretionary Portfolio Management

Liquidity House is currently managing approximately US$ 1.5 billion as Assets Under Management as part of its discretionary portfolio management services which encompasses an array of diverse investments.

Within its nascent history, Liquidity House has emerged as one of the leading players in the Sukuk Arena. During the year of 2009 Liquidity House has successfully lead managed and book run various notable international deals such as the debut sukuk issuance for GE Capital Corp ("GECC") for which we won the Sukuk Deal of the Year Award for 2009 by Islamic Finance News Awards.

Liquidity House has also acted as one of the joint lead managers and book runners for the International Finance Corporation ("IFC"), private sector arm of the World Bank Group for its debut sukuk issuance. The aforementioned deal was awarded the Best Wakala Deal of the Year 2009 by Islamic Finance News Awards. At another instance Liquidity House was one of the Joint Lead Managers and Book Runners for Ras Al Khaimah sovereign sukuk issuance during the mid 2009. Liquidity House has already won various other awards and accolades by numerous international organizations.

Liquidity House also played a pivotal role in Corporate Finance and Syndication arena, where we successfully syndicated various deals despite the negative global market sentiments in 2008 throughout 2009.

Mr. Emad Al Monayea (Chairman & Managing Director) speaking at the first Islamic Conference in Russia

Mr. Ahmed Al Kharji (Senior Vice President) receiving the Sukuk Deal of the year 2009 award at the IFN

Liquidity House is committed to the effective transfer of knowledge in the Islamic Finance arena and materialization of proper structures. We are equally committed to make the greatest possible difference to society using our expertise, resources, time and skills of our people all while professionally servicing the demands and needs of our customers.

بيت السيولة
LIQUIDITY HOUSE

www.liquidityhouse.com

Social business and the G8/G20

Eradicating such world crises as poverty and hunger requires more than just good economics. Social business – business without personal gain – has a key role to play

Muhammad Yunus, founder of Grameen Bank, at a Grameen America open house, St. John's University, New York. The non-profit organisation provides banking services to entrepreneurs living below the poverty line

By Muhammad Yunus, founder, Grameen Bank; Nobel Peace Laureate, 2006

When the G8 was formed as a coalition in which each of the eight countries is among the most highly ranked exporters, there was great hope that these chosen eight would collaborate for the greater good of the globe as a whole. When this clearly did not work out well, the G20 was designed to represent the 20 countries that account for 85 per cent of the world's gross national product (GNP) and 80 per cent of its trade.

The result is a list of countries that have the power to alleviate social ills and poverty and, eventually, eradicate both. The G8 has the financial means, academic institutions and technology to share with countries that have been left behind during the great digital boom. The G20 has the scope to disseminate the human resources and markets necessary for poverty eradication. The G8 and G20 can join forces to eliminate the most denied human right of all: the right to not be poor.

Media coverage of the financial crisis gives the impression that, once this crisis is fixed, all the troubles will be over. But the financial crisis is only one of several crises that are threatening humankind. The world is also suffering a global food crisis, an energy crisis, an environmental crisis, a healthcare crisis and the continuing social and economic crisis of poverty. These crises are as important as the financial crisis, although they have not received as much attention.

Furthermore, media coverage may give the impression that these are disconnected crises that are taking place simultaneously, just by accident. That's not true at all. In fact, these crises grow from the same root – a fundamental flaw in our theoretical construct of capitalism.

The biggest flaw in the existing theory of capitalism lies in its misrepresentation of human nature. In the present interpretation, human beings engaged in business are portrayed as one-dimensional beings whose only mission is to maximise profit. This is a much distorted picture of a human being. Human beings are not money-making robots. The essential fact about human beings is that they are multidimensional beings. Their happiness comes from many sources, not just from making money.

Yet the theoretical framework of economics has built the whole theory of business on the assumption that human beings do nothing in their economic lives other than pursue their selfish interests. The theory concludes that the optimal result for society will occur when each individual's search for selfish benefit is given free rein. This interpretation of human beings denies any role to other aspects of life – political, social, emotional, spiritual, environmental and others.

No doubt, human beings are selfish beings. But they are selfless beings too. Yet this selfless dimension of human beings has no role in economics. This distorted view of human nature is the fatal flaw that makes such economic thinking incomplete and inaccurate. Over time, it has

> "Grameen has launched different social business joint ventures that seek to fight malnutrition"

> "A charity dollar has one life, but a social business Bangladeshi taka has an endless life"

helped to create the multiple crises facing the world today.

Once this flaw is recognised in the theoretical structure, the solution is obvious. The one-dimensional person in economic theory can be easily replaced with a multidimensional person – a person who has both selfish and selfless interests at the same time.

Immediately, the picture of the business world thus changes. Now there is the need for two kinds of businesses, one for personal gain (profit maximisation), another dedicated to helping others. In one kind of business, the objective is to make the most economic gains for the owners, even if this results in nothing left for others. In the other kind of business, everything is for the benefit of others and nothing is for the owners – except the pleasure of serving humanity.

Let us call this second kind of business, built on the selfless part of human nature, social business. A social business is one where an investor aims to help others without taking any financial gain. At the same time, a social business generates enough income to cover its own costs. Any surplus is invested in the expansion of the business or in increased benefits to society. A social business is a non-loss, non-dividend company dedicated entirely to achieving a social goal. Regarding the source of funds, one source can easily be philanthropic money creating social businesses. This makes enormous sense. One problem of charity programmes is that they remain perpetually dependent on donations. They cannot stand on their own two feet. Charity money goes out to do good things, but that money never comes back. It is a one-way route. But if a charity can be converted into a social business that supports itself, it becomes a powerful undertaking. Now the money invested is recycled endlessly. A charity dollar has one life, but a social business Bangladeshi taka has an endless life. That is the power of social business.

In recent years, Grameen has launched different social business joint ventures that seek to fight malnutrition, including Grameen Danone, Grameen Veolia Water Ltd. and BASF Grameen Ltd. Additionally, in North America, it is conducting research on social business in healthcare together with Google, GE Healthcare, Pfizer and the Mayo Clinic.

In response to the G8's commitment to pledge $20 billion in aid for hunger relief, Grameen has developed a proposal to establish the Global Social Business Fund to End Hunger by putting 10 per cent of this money into the proposed fund. This initiative represents an unprecedented opportunity to introduce a new, more strategic solution to feeding the poor. The technological, academic and management contributions of G8 and G20 countries are crucial to the eradication of poverty. Instead of giving a dollar one life by giving it out as a charity, it can be given many lives through investing in social business. Now is the time to put poverty in museums. The technology is right. The desire for change is high. Social business must spread across the globe. What good is a wonderful seed if it is not scattered to the four winds? ◆

British Virgin Islands: A thriving economy

Premier, Honourable Ralph T. O'Neal

We welcome the opportunity to contribute to this publication as the G20 gathers for this important summit in Canada, to consider areas with particular relevance to the British Virgin Islands (BVI) such as financial sector reform, global trade and future growth.

The strength of the BVI is grounded in its internationally acknowledged standards of good governance, adherence to the principles of an established rule of law and low crime. Politically stable and self-governing, the BVI maintains a fully democratic system. We have adopted a new Constitution which allows for significant constitutional advancement and which ensures a role for the BVI Government in all issues which might directly impact on the Territory's populace.

The BVI has a thriving economy with low levels of unemployment. This originates from its successful management of the twin pillars of tourism and financial services. In both of these sectors the BVI has undertaken pioneering work. In tourism, close attention has been paid to ensuring that high quality, sustainable tourism is supported; from being a key destination for Caribbean cruises to being one of the world's sailing capitals, we welcome many thousands of tourists to our islands each year. Over the years we have invested time, effort and resources into developing a well-established infrastructure for the tourism industry and as the second crucial pillar of the BVI economy, tourism now accounts for 40% of annual revenue.

Our strength in tourism sits alongside the competitive success of our financial services industry, something of which we are all rightly proud. In the BVI we have an increasingly diversified financial services sector and we are widely regarded as operating a robust regulatory regime.

It is important that the G20, which can do so much to impact on global perceptions, is informed about our responsible approach as a cooperative member of the international community.

These building blocks of stability are reflected in how our economy has withstood the recent economic shocks. There is no room for complacency but we are firmly focused on securing our future through stability at home and our continuing engagement with relevant international bodies and institutions abroad.

Recent G20 summits have of course been focused on financial regulation and financial sector reform is a key theme of this G20.

There are five key principles that underpin the BVI financial services sector; regulation, collaboration, enforcement, transparency and expertise.

Regulation

The BVI is widely acknowledged as having a robust regulatory system which has been recognised by international bodies including the Caribbean Financial Action Task Force (CFATF), the International Organisation of Securities Commissions (IOSCO) and the OECD.

The BVI's high standards against money laundering and terrorism financing have been confirmed by the Financial Action Task Force's International Co-operation Review Group process.

In addition we have implemented a mixture of innovative and relevant legislation which, when combined with regulators and practitioners who are committed to remaining at the forefront of the industry, will serve to keep the British Virgin Islands at the cutting edge of financial services.

The Securities and Investment Business Act (SIBA), which has just been enacted responds to the requirements of IOSCO and enhances the BVI's attractiveness by establishing the right legal and regulatory framework for institutions, managers and investors. Also, the new Insurance Act ensures full compliance with the International Association of Insurance Supervisors' Core Principles; it simplifies the BVI's insurance regime and makes it even more transparent. Both new laws are aimed at strengthening our regulatory regime and ensuring we continue to be a jurisdiction of choice for doing business.

Collaboration

In line with the BVI's commitment to the OECD's principles for effective exchange of information and transparency, we have signed 17 Tax Information Exchange Agreements (TIEAs), with countries such as the UK, Australia, the USA, China, France, Ireland and the Netherlands.

We are also fully committed to signing further TIEAs as well as ensuring that TIEAs now signed with our OECD partners are effectively implemented.

The BVI is also on the Peer Review Group (PRG) which was formed at the OECD Global Forum on Taxation in Mexico in September 2009. The PRG is responsible for assessing the implementation of OECD standards in member jurisdictions of the Global Forum, and non-member jurisdictions, as well as ensuring there is a monitoring and assessment process which is universally applied to all finance centres. The BVI's framework is due to be reviewed in the first half of 2011, to which we are very much looking forward.

Enforcement

The BVI legal system's enforcement of robust and fair laws continues to attract high quality business to the territory. High profile prosecutions, such as that of IPOC, a Bermuda based mutual fund, and the establishment of the Financial Investigations Agency underline the Territory's commitment to effective enforcement. The BVI was chosen by the Eastern Caribbean Supreme Court (ECSC) as the jurisdiction to house the Commercial Division, opened in 2009, due to its reputation as the jurisdiction of choice for international commercial matters. The BVI has a legal and judicial system based on English common law principles, with ultimate appeal to the Privy Council in the UK.

Transparency

The BVI follows the principle that good business is built on honesty and integrity. Therefore, the BVI does not have, and has never had, a secrecy law nor does it have any legislation which institutionalises secrecy in any part of the financial regulatory process. The BVI subscribes to the common law principle of confidentiality while having in place avenues for accessing information for regulatory and law enforcement purposes including rendering assistance to foreign regulatory and law enforcement authorities.

Expertise

One reason for the success of the BVI as a financial services centre is the high level of cross sector expertise resident in the territory, supported by strict adherence to competency requirements. A strong relationship with the private sector enables the BVI to attract the requisite skills base from overseas as well as develop these skills from the local employment base.

The diversified financial services sector has been further enhanced by the award of Category 1 status to the BVI Shipping Registry and the creation of an Aircraft Registry.

The BVI boasts a relatively small population of 30,000 but we claim big hopes for the future. At home we are also focused on the continued development of high quality healthcare and education, as well as a robust environmental policy.

We have solid foundations, with a heritage of stable democracy and good governance. Through our deeds as well as our words, we have shown and will continue to show that we are a fully integrated participant in the international community.

As a Government we are committed to doing everything in our power to secure our futures – socially, environmentally and economically.

The G20, the International Monetary Fund and global surveillance

Through its surveillance framework, the IMF aims to achieve strong, sustainable and balanced global growth

By Domenico Lombardi, president, The Oxford Institute for Economic Policy, non-resident senior fellow, Brookings Institution

At the G20 Toronto Summit, for the first time leaders will mutually assess their economic policies on the basis of the Framework for Strong, Sustainable and Balanced Growth, proposed by the United States at the Pittsburgh Summit in September 2009. Through this framework, leaders pledged to devise a method for setting objectives, to develop policies to support such objectives and to assess outcomes through mutual evaluation. The involvement of the International Monetary Fund (IMF) has been sought in providing analysis on various national and regional policy frameworks and how they fit together. The end goal is "strong, sustainable and balanced growth" in which the improvement of living standards in emerging markets and developing countries is meant to be a critical element.

On the basis of country submissions, the IMF has been asked to point out inconsistencies and incoherence in national assumptions, to evaluate the mutual compatibility of different country frameworks and policies, and to determine the aggregate effects of various national frameworks and policies on the global economy. After the initial phase of the mutual assessment process, which culminates with the June 2010 Toronto Summit, using data provided by the IMF, the G20 will devise a set of specific mutual assessment and policy recommendations that take into account not only policy implementation but follow-ups as well. Once the entire framework process is completed, in November 2010, following the Seoul Summit, it could then be fully implemented on an annual basis.

This exercise represents the first instance of multilateral surveillance on a global scale in recent history. It is characterised by two main innovations. To start, this is the first time the US has agreed – even proposed – to submit itself to a structured, full peer review process. In the case of the Jamaica Amendment, when the current IMF surveillance framework was discussed and approved in 1978, the US only reluctantly accepted its basic premise. The second novelty this time is the distinct shift from the previous practice whereby multilateral surveillance of the global economy was, in effect, handled within the closed circle of the G7.

Different from the narrow G7 membership (that is, the G8 without Russia), the G20 includes all the systemically important countries, such as the largest emerging Asian economies of China and India, as well as Korea and Japan. This expanded membership gives Asian countries an immediate and alternative platform for engaging with the IMF, which these countries still see as dominated by Europe and North America. The G20 was chosen, in fact, to integrate rising powers, mainly from Asia, into the multilateral system.

The G20-led multilateral surveillance poses some important challenges, however. One is that the exercise appears to be geared mainly toward raising awareness among national policymakers of the international spillover effects of their policies and providing a context in which they can exercise pressure. Whether this will bring about substantial revisions to national frameworks is uncertain, as it presupposes a common vision of the costs and benefits from coordination. Countries may have to change their policy stance in order to preserve the overall stability of the global economy, to accept higher risks by revisiting their precautionary reserve accumulation policy, or to revise their exchange rate policies.

G20 countries have so far all committed to a peer review process for their economic policies and to a broadly defined policy objective. This pledge does not mean that they have committed to numerical policy targets – consistent with quantitatively defined objectives set for the overall group – for which they can be held accountable in a multilateral forum. This situation is reminiscent of early IMF attempts, in the 1970s, to get systemically important economies to commit to a multilateral surveillance framework. Ultimately, these countries distanced

"G20 countries have so far all committed to a peer review process for their economic policies and to a broadly defined policy objective"

themselves from specific commitments. IMF multilateral surveillance became simply a forum for exchanging views and information on each other's economic policies.

An additional challenge refers to the IMF itself and to its role in the G20-led process. Like the G7, the IMF continues to enjoy an advisory function. Unlike with the G7, however, its advisory role is more clearly spelled out and, given the greater number of G20 member economies, is much more strategic. Still, it is not clear what an advisory role of this sort means for discharging critical tasks from its own mandate. The proposal from the US to grant the G20, and not the IMF, authority over the issue of China's exchange rate is a case in point.

In keeping with recent tradition, the IMF's executive board plays no part in formulating the organisation's advice to the G20. While it is true that many members of the G20 also sit on the board of the IMF and thus their involvement is guaranteed through their respective capitals, most of the executive directors do not just represent their nominating countries alone, but rather represent a group of countries. This added responsibility confers much greater legitimacy to each decision of the IMF's policy-making body.

Clearly, the dualism between the IMF and the G20 would disappear if the latter were to become a formal decision-making ministerial body within the IMF itself. This arrangement would have two distinct advantages: it would increase the legitimacy of the G20, as each member of the ministerial committee would also represent a number of other countries based on the constituency system that underpins IMF governance. And it would

“IMF's executive board plays no part in formulating the organisation's advice to the G20”

reassert the centrality of the IMF's role as overseer of the international monetary system, thereby providing the institution with unprecedented political impetus.

This proposal has been put forward by a number of authoritative figures, including Tim Adams, former under secretary of the US Treasury, and Mervyn King, governor of the Bank of England. The *Fourth Pillar Report*, submitted to the IMF managing director in 2009 by a group of civil society organisations, has outlined a number of preconditions for such a reform to be feasible, including realigning voting power within the IMF membership, reconfiguring the composition of the executive board and establishing board constituencies with some basic accountability mechanisms that are currently completely absent. ◆

UN Photo / Sophia Paris

UN secretary-general Ban Ki-moon (left) meets residents of Port-au-Prince, during his second visit to Haiti since the January 2010 earthquake

Keeping the promise of the Millennium Development Goals

A decade ago, world leaders pledged to tackle extreme poverty and to work tirelessly for a stable, just and secure world for all. Are we making progress?

By Ban Ki-moon, secretary general, United Nations

Ten years ago, the international community began a new century with a pact to tackle extreme poverty, promote human development and save the planet from environmental degradation, with a renewed focus on the priorities and needs of Africa. In agreeing on the Millennium Development Goals (MDGs), developed and developing countries alike recognised that it is unacceptable, in the 21st century, for children to die of preventable diseases, mothers to lose their lives in the process of giving birth and millions of people to be denied an education or a decent job to improve their standard of living. World leaders pledged to spare no effort in responding to the plight of the poor and vulnerable and in transforming this world into a safer, more equitable, more sustainable and prosperous place.

Amid the current global economic challenges, the promise of the MDGs is more important than ever. The MDGs have helped bring the human element to the fore – and given the world a common framework for progress. And indeed, there has been a remarkable worldwide mobilisation. Rarely have so many organisations – from the global to the grass roots – agreed on a shared agenda for change. Rarely have so many civil society activists, CEOs, philanthropists and political leaders found such common ground.

UN Photo / Eskinder Debebe

A woman and her child visit a family clinic in Khovd Province, Mongolia. UN agencies work closely with Mongolia's local hospitals to provide immunisation and healthcare for children

Five years from the target date of 2015, the world stands at a crossroads with enormous challenges ahead

We have made great strides toward the MDGs. But progress has been uneven, and is now facing headwinds due to a congruence of recent crises and natural disasters. Large disparities remain within countries, communities and even families. The global recession has made development more difficult, yet more urgent. Global markets remain volatile, the economic recovery is fragile and gains are not finding their way to the villages, streets and daily lives of far too many families. The food, energy and economic crises have pushed millions more into poverty. Hunger was on the rise even before these crises, and for the first time in history the number of undernourished people rose above 1 billion last year. Of all the MDGs, improvements in maternal health have been the slowest and proven particularly difficult. Disasters have also taken a toll, nowhere more notably than in Haiti. Climate change brings the risk of more severe and frequent droughts, declines in agricultural productivity and threats to political stability.

We must act now ...

With a decade of experience in hand, it is now time to translate hard-earned knowledge into bold new solutions. The G8/G20 meetings in June and the MDG summit at United Nations Headquarters in September provide unique opportunities to do so.

> The agenda should be specific, practical and results-oriented, with concrete steps and timelines

... by delivering on existing commitments

Achieving the MDGs is a joint responsibility, and everyone has a role to play: governments, civil society, the private sector, religious communties and multilateral institutions. Both developing and developed countries need to live up to their commitments, including on aid, debt relief, trade, prioritisation of the MDGs in policy frameworks and budgets, accountable and inclusive governance, and access to new technologies. We are falling short not because the goals are unreachable or because time is short, but because of inadequate resources and a lack of focus and accountability. Within the context of this year's G8 summit which has been declared an accountability summit, I can think of no better way to live up to that pledge than by delivering on earlier commitments both by developing and developed countries.

... by agreeing on a tangible strategy

Keeping the Promise, my report to the General Assembly, points the way toward reinvigorating efforts and strengthening the global partnership for development. It suggests ways to accelerate progress, including through South-South cooperation, innovative financing and investments in areas that have large multiplier effects, such as maternal and child health and the empowerment of women. The report is intended to provide a starting point for deliberations, culminating in agreement at the MDG summit, on an agenda for action from now until 2015 and beyond. That agenda should be specific, practical and results-oriented, with concrete steps and timelines. And it should provide for monitoring and mutual accountability for all development stakeholders – individuals and institutions alike.

... by capitalising on gains to date

With the right set of nationally driven policies, adequate investments and international support, countries can make remarkable progress. The success of partnerships, such as the Global Alliance for Vaccines and Immunization, UNITAID and the Global Fund to Fight AIDS, Tuberculosis and Malaria, has shown the importance of novel approaches and innovative financing mechanisms. Information and communication technologies have revolutionised development, especially in Africa. Some of the most impressive achievements have been attained by the poorest countries. For instance, school feeding programmes have encouraged more families to enroll their children, giving the young people a real chance to break the poverty trap. Improvements in health and sanitation have led to reductions in child mortality. Capacity improvements in key ministries and local authorities have helped progress across multiple MDGs.

To capitalize on gains to date and to address shortfalls, I would like to suggest the following as actions essential this year:

1. To ensure food security by delivering the promise of the L'Aquila Food Security Initiative, with well-aligned support for country-led investment plans;
2. To adopt the Joint Action Plan for Women's and Children's Health and step up efforts to empower women;
3. To fully replenish the Global Fund in order to meet projected needs over the next three years;
4. To provide the pledged 'fast start' funding for developing countries over the next three years to enhance their climate change mitigation and adaptation efforts.

In order to tackle the food, energy and economic crises, I have advanced the idea of a Global Green New Deal. It offers the opportunity to accelerate economic recovery while addressing the development, climate change and food security challenges. We must ensure the Global Green New Deal becomes a central plank of the broader countercyclical response to the crisis. This framework will help mobilise and re-focus the global economy toward investments in clean technologies, which should lead to the revival of growth that is both environmentally and socially sustainable.

Bridging the implementation gap

Achieving the MDGs is not only a practical necessity and a moral imperative; it is also entirely within our means. We have the resources and the knowledge. We just need leadership to direct them to the right places. Meeting the MDGs is everyone's business. If we fall short, the dangers facing our world will grow. Achieving the goals, on the other hand, will put us on a fast track to a world that is more stable, just and secure. I call on all member states of the United Nations – at this year's meetings of the G8/G20, at the MDG summit in September, every day and everywhere – to join this noble enterprise. ◆

Just 0.05%

A global Financial Transactions Tax of only 0.05% would:

- **Generate an estimated total revenue equivalent to 1% of global GDP**
- **Contribute to greater stability of the financial system by reducing speculation**

… and could right the wrongs caused by the financial crisis by dedicating funds to the world's poorest people who suffered most from a crisis they did not create.

By 2008 the total value of financial transactions had reached the equivalent of 74 times the nominal global gross domestic product - an increase of approximately 59% on 1990 figures. Such financial activities did not create sustainable jobs or food security. They created a growth bubble that burst and unleashed a financial crisis of immense proportions. Millions of women and men throughout the developing world have lost their jobs and homes, pushing them deeper into extreme poverty. People already suffering the increasingly severe impacts of the climate and food crises have seen their hopes for a dignified life, free from poverty, reduced even further.

As Catholic development agencies we call on the G20 to translate the sense of urgency that brought them together into concrete actions. We need to generate sufficient funds to alleviate the suffering of, and provide new hope to, those who are suffering the consequences of a problem they did not create.

By adopting a Financial Transactions Tax, which could ease the suffering of the world's poorest and contribute to the global common good, the leaders of the G20 countries would take a big step towards creating a fairer and more just world.

The world needs Just solutions to ensure our common future.

CIDSE
together for global justice
ensemble pour un monde de justice
juntos en pro de la justicia global

CIDSE is an international alliance of Catholic development agencies working together for global justice. 16 agencies from Europe & North America, inspired by shared Christian values, come together in the lay-led network to promote justice and solidarity. **www.cidse.org**

MEMBERS: Fondation Bridderlech Deelen - Luxembourg • Broederlijk Delen - Belgium • CAFOD - England and Wales • Center of Concern - USA • CCFD-Terre Solidaire - France • Cordaid – the Netherlands • Development & Peace - Canada • Entraide et Fraternité - Belgium • Fastenopfer - Switzerland • FEC - Portugal • KOO - Austria • Manos Unidas - Spain • MISEREOR - Germany • SCIAF - Scotland • Trócaire - Ireland • Volontari nel Mondo-FOCSIV - Italy •

Investing in girls and women is smart economics: no woman should die giving life

Maternal health programmes aren't just items of expenditure – they're investments that yield high returns

Today the world loses an estimated $15 billion in productivity every year because women and newborns die during pregnancy, delivery and after childbirth. With 99 percent of maternal deaths occurring in developing countries, maternal mortality represents one of the largest health inequities in the world. The good news is that we know how to address this health and human rights challenge. Maternal death is not a disease for which we need to find a cure. We know what works to save women's lives. In countries where women have access to reproductive health services – such as family planning, skilled attendance at birth and emergency obstetric and neonatal care – survival rates are high and maternal and newborn deaths are rare.

Enhanced reproductive health fosters women's empowerment and assures better health for women, translating into improved pregnancy outcomes, lower rates of sexually transmitted infections including HIV, reduced incidence of unwanted pregnancy and unsafe abortion, and broader individual, family and societal benefits. Good reproductive health enables couples and individuals to lead more productive lives, and in turn make greater contributions to their children's education and well-being, and household income, thus improving national economic growth.

One of the most dramatic transformations in the past 30 years has been women's growing role in the labor force. This was catalyzed by many factors, including the ability of women to control their fertility and shape their educational and employment experiences. Worldwide, the use of modern contraceptive methods spiked from 10 percent to 65 percent in the last 45 years. However, in less developed countries, an estimated 215 million women who want to delay or avoid pregnancy are unable to do so, resulting in unwanted pregnancies, desperation, and recourse to unsafe abortion. Worldwide, unsafe abortions cause 13 percent of all maternal deaths. Family planning alone could reduce maternal mortality by an estimated 25 to 40 percent.

With 2010 marking the start of the five-year countdown to 2015, which is the target date to reach the Millennium Development Goals (MDGs), many countries are far from achieving MDG 5 to improve maternal health. The goal calls for a drop in the maternal mortality ratio by three-quarters between 1990 and 2015 and universal access to reproductive health by 2015.

It is widely recognized that greater international support for reproductive health is essential to the success of initiatives to improve maternal and child health. While global development aid for health rose from $2.9 billion in 1995 to $14.1 billion in 2007, an encouraging five-fold increase in 12 years, aid for reproductive health did not keep pace, growing from $901 million in 1995 to only $1.9 billion in 2007.

Recent research by UNFPA and the Guttmacher Institute reveals that maternal deaths in developing countries could be slashed by 70 percent, and newborn deaths cut nearly in half, if the world doubled its investment in family planning and maternal and newborn health care from $12 billion to $24 billion a year. The report argues that combined investments in family planning and maternal and newborn services can achieve the same outcomes for $1.5 billion less than investing in maternal and newborn health services alone.

Investing in sexual and reproductive health is also strategic for curbing the HIV/AIDS epidemic. Today AIDS-related maternal deaths are rising in highly affected areas such as sub-Saharan

Africa. Globally, young women are 1.6 times more likely to be living with HIV than young men and there is a need to expand HIV prevention, including the prevention of mother to child transmission.

Making real progress on MDGs 4 and 5 requires strengthening health systems and also addressing the challenges of gender inequality, discrimination and violence. It is important to invest in the health and education of girls. Today in many parts of the world, girls continue to get married off too early and drop out of school. When girls become pregnant early in life, both they and their babies face increased risks to their lives. Pregnancy is a leading cause of death in 15- to 19-year-old girls worldwide. And stillbirth and newborn deaths are 50 percent more likely for mothers age 19 and under than for mothers who are 20 to 29 years old. The 600 million girls in the developing world represent a huge untapped potential. Whether they flourish with opportunities or languish in poverty can dramatically influence the direction of their countries' long-term development.

The G8/G20 Summit allows for some of the world's most influential economies to tackle crucial international development issues and rally the resources needed to address some of these pervasive challenges. UNFPA welcomes the initiative of Canada as host of the Summit to declare maternal and child health a development priority. Strong commitments to achieve universal access to reproductive health by 2015 will help ensure success for the joint action plan recently launched by UN Secretary-General Ban Ki-moon on women's and children's health. As countries and international organizations respond to the economic downturn, they must ensure continued provision of social protection and be vigilant that austerity measures do not reduce health and education budgets. The achievement of the MDGs requires political leadership and broad-based community mobilization. Sustained investments are crucial to guarantee that hard-won development gains are not eroded.

UNFPA is engaged in a number of strategic partnerships dedicated to improving global health and development coherence and effectiveness to achieve stronger results. We will continue to support countries and communities to advance reproductive health, women's empowerment and equal opportunity. Momentum is building and profound change is possible. When world leaders gather at September's MDG10 Summit, commitment and courage can transform these goals into reality. Let's move forward guided by the conviction that progress for women and girls is progress for all.

www.unfpa.org

UNFPA

The end of the Third World?

The economic and political dynamics of the world are changing, bringing an end to the 'Third World' and giving developing countries a new voice. What is needed to ensure modern and effective multilateralism?

By Robert B. Zoellick, president, World Bank Group

The Muskoka G8 and Toronto G20 summits come at a time of far-reaching change in the global economy. For decades, students of security and international politics have debated the emergence of a multi-polar system. It is time to recognise the new economic parallel.

If 1989 saw the end of the 'Second World' with communism's demise, then 2009 saw the end of what was known as the 'Third World': the world is now in a new, fast-evolving multi-polar world economy – where north and south, east and west are now points on a compass, not economic destinies.

Poverty remains and must be addressed. Failed states remain and must be addressed. Global challenges are intensifying and must be addressed. But the manner in which to address these issues is shifting. The outdated categorisations of First and Third Worlds, donor and supplicant, leader and led, no longer fit.

The modern G20 was born out of crisis. It showed its potential by acting quickly to shore up confidence. The danger now is that as the fear of the crisis recedes, so too will the willingness to cooperate. Already, gravitational forces are pulling a world of nation-states back to the pursuit of narrower interests.

This would be a mistake. Economic and political tectonic plates are shifting. The world can shift with them, or it can continue to see a new world through the prism of the old. We must recognise new realities. And act on them.

Today, the strains in multilateralism are evident. The Doha round of trade negotiations at the World Trade Organization (WTO) and the climate change talks in Copenhagen reveal how hard it is to share mutual benefits and responsibilities between developed and developing countries. And this will be the case for a host of other looming challenges: water, diseases, migration, demographics and fragile and post-conflict states.

It is no longer possible to solve big international issues without developing country buy-in. But this new forum of the G20 ought not to impose a new, inflexible hierarchy. Instead, the G20 should operate as a steering group across a network of countries and international institutions. It should recognise the interconnections among issues and foster points of mutual interest. This system cannot be hierarchical, and it should not be bureaucratic. It must also prove effective by getting things done.

> “The G20 should operate as a steering group across a network of countries and international institutions”

But modernising multilateralism is not all about developed countries learning to adapt to the needs of rising powers. With power comes responsibility. Developing countries need to acknowledge that they are now part of the global architecture and have an interest in healthy multilateralism.

The world cannot afford geopolitics as usual. A new geopolitics of a multi-polar economy needs to share responsibility while recognising different perspectives and circumstances, so as to build mutual interests.

For example, with regard to financial reform, better financial regulation is, of course, required. But it may bring unintended consequences such as financial protectionism. Regulations agreed to in Brussels, London, Paris or Washington might work for big banks but could choke off economic opportunity and growth in developing countries. Wall Street has exposed the dangers of financial recklessness, and the world must take heed and serious actions. But financial innovation, when used and supervised prudently, has brought efficiency gains and protected against risk, including for development. A developed country populist prism can undercut opportunities for billions.

Another case is climate change. It can be linked to development and win support from developing countries for low carbon growth – but not if it is imposed as a straitjacket. Developing countries need support and finance to invest in cleaner growth paths. There are 1.6 billion people in the world without access to electricity. While the world must

take care of the environment, African children must not be consigned to doing their homework by candlelight, and African workers must not be denied manufacturing jobs. The challenge is to support transitions to cleaner energy without sacrificing access, productivity and growth that can pull hundreds of millions out of poverty.

As for crisis response, with a world in transition, there is a danger that developed countries will focus on summits for financial systems or concentrate on the mismanagement of developed countries. Developing countries need summits for the poor. Hearing the developing country perspective is no longer just a matter of charity or solidarity: it is self-interest. These developing countries are now sources of growth and importers of capital goods and developed countries' services. Developing countries do not just want to discuss high debt in developed countries; they want to focus on productive investments in infrastructure and early childhood development. They want to free markets to create jobs, higher productivity and growth.

This new world requires multilateral institutions that are fast, flexible and accountable, that can give voice to the voiceless with resources at the ready. The World Bank Group is reforming to help play this role. This is why its shareholding countries gave a strong vote of confidence in the World Bank Group at the spring meetings in April by increasing capital by $86 billion. Just as important, shareholders have shown how developed and developing countries can join together to share responsibilities in pursuit of mutual interests: developing countries will provide more than half of the additional financial resources through price increases and complete use of their investments in World Bank shares. The historic package of reforms also included a shift in voting power to developing countries, giving them more than a 47 per cent share, as well as backing a strategy for the post-crisis period and programme of reforms to modernise the World Bank. These changes are crucial for its effectiveness and legitimacy and to make modernised multilateralism work in this new multi-polar global economy.

It is crucial that while the world concentrates on taking care of the environment, developing countries are not left behind; investment in education, for example, is a priority

In this economy, most governmental authority will still reside with nation-states. But many decisions and sources of influence flow around, through and beyond governments. Modern multilateralism must bring in new players, build cooperation among actors old and new, and harness global and regional institutions to help address threats and seize opportunities that surpass the capacities of individual states.

Modern multilateralism will not be a hierarchical system, but will look more like the global sprawl of the internet, interconnecting more and more countries, companies, individuals and non-governmental organisations through a flexible network. Legitimate and effective multilateral institutions, such as the World Bank Group, can form an interconnecting tissue, reaching across the skeletal architecture of this dynamic, multi-polar system. We must all support the rise of multiple poles of growth that can benefit all. ◆


growing prosperity

We will achieve a food secure Africa when we unlock the full potential of Africa's smallholder farmers

By Dr. Namanga Ngongi, President, Alliance for a Green Revolution in Africa

Agriculture is Africa's lifeline. Three-quarters of our people farm and roughly 40 percent of our GDP comes from agriculture. Smallholder farmers, the majority of whom are women, produce most of Africa's food. Most farm to survive, with minimal resources and little support.

Lacking good seed and healthy soils, African agriculture has fallen far behind that of every other continent except Antarctica. Africa's farmlands yield one-quarter of the global average.

But the agricultural system can not only be fixed, it can become a model of efficiency, high productivity, and sustainability.

Millions of smallholder farmers in Africa are poised to deliver long-term solutions to chronic hunger and poverty across the region. We have the land, the labor, the experience and the will to grow the food that Africa needs to end the undernourishment that affects more than one in three people.

But to realize that potential, an African Green Revolution must catalyze change across the agricultural system that enables smallholder farmers to significantly boost their yields and income. This can be done by focusing our investments in smallholder farmers, through integrated programs in the areas of seeds, soils, market access, policy and innovative financing. Together, these innovations across the entire value chain will trigger sustainable change. There is no one single solution but rather many small interventions identified and implemented by working on the ground with farmers.

As a first step, we must rapidly increase the availability of high-quality, locally-adapted seed, at prices farmers can afford. AGRA is doing this through investments in farmer-participatory crop breeding, training the next generation of African crop scientists and providing start-up capital for establishment or expansion of African seed enterprises.

What is needed is the development of cost-effective regional fertilizer procurement facilities and national fertilizer production and distribution, as well as promoting methods of enriching the soil through biological nitrogen fixation (fertilizer trees, grain legume rotations) and organic matter.

Once improved seed and fertilizers are available, they must get these into farmer's hands by expanding national networks of rural farm input retailers. At the village level, rural traders in farm inputs, or agro-dealers, are uniquely situated to reach millions of farmers with seed, fertilizers, and other farm inputs, we well as the knowledge of how to use them effectively, thus supplementing the work of public extension services. In just four countries – Malawi, Tanzania, Kenya, and Zambia – 9,200 agro-dealers have been trained and certified. In 2008 alone, these agro-dealers sold more than $45 million in inputs to farmers.

Once farmers increase their yield and produce a surplus, they need access to local and national markets. So we must invest in improving farmers' access to market information and training them in how markets function. Through support to a non-profit business and economic development organization, 12,000 banana growers in Uganda – more than one-third of them women – have increased their farm gate prices by 30 percent simply by being empowered with market knowledge.

Agricultural policies across Africa must support women farmers, who are the backbone of Africa's rural economies. Policies must ensure land security for women, and enhance their access to financing, extension services and education. In addition, policy support means strengthening farmers' associations and civil society organizations that benefit smallholder farmers.

When farmers have access to credit, to good seeds, to sustainable farming practices, to sound management of land and water resources, and to markets, they will fully derive the benefits of their labor.

As we work with farmers to put the pieces together, and work with governments to develop coherent policies – affecting agriculture, trade, the environment and gender issues – we are seeing Africa's Green Revolution take hold. It is led by the new African farmer, not a lifelong recipient of aid, but an investor and a strategic thinker, in charge of her own resources, and leading Africa on a new path to prosperity.

Elizabethi Justin, a young Tanzanian woman, captures this spirit. She operates three agro-dealer shops, which supply hundreds of remote farmers with affordable, high quality seeds and fertilizers. She secured a low-interest loan from the National Microfinance Bank for eight million Tanzanian shillings. With access to capital, Elizabethi is a successful business woman.

Her success is part of Africa's green revolution.

Implementing the type of comprehensive changes necessary to multiply these success stories will require massive investments in Africa. Estimates are that Africa will need $32 billion to $39 billion annually to realize the full economic potential of its farm sector, not including the cost of climate change adaptation.

While this investment is massive, it is achievable. Between African governments and increased investments by the global community, including bilateral and multilateral partners, foundations, and especially the private sector, we can unlock the continent's agricultural potential.

Agriculture is the roadmap for moving tens of millions of Africans out of poverty.

AGRA is an African led and African based organization working in partnership with governments, agricultural research organizations, farmers, private sector, civil society and other rural development stakeholders to significantly and sustainably improve the productivity and incomes of resource poor farmers in Africa. AGRA's programs in seeds, soils, markets policy and innovative finance work to bring about transformational change along the agricultural value chain.

Funded initially by the Rockefeller Foundation and the Bill and Melinda Gates Foundation, AGRA is chaired by Kofi Annan and has offices in Nairobi, Kenya and Accra, Ghana.

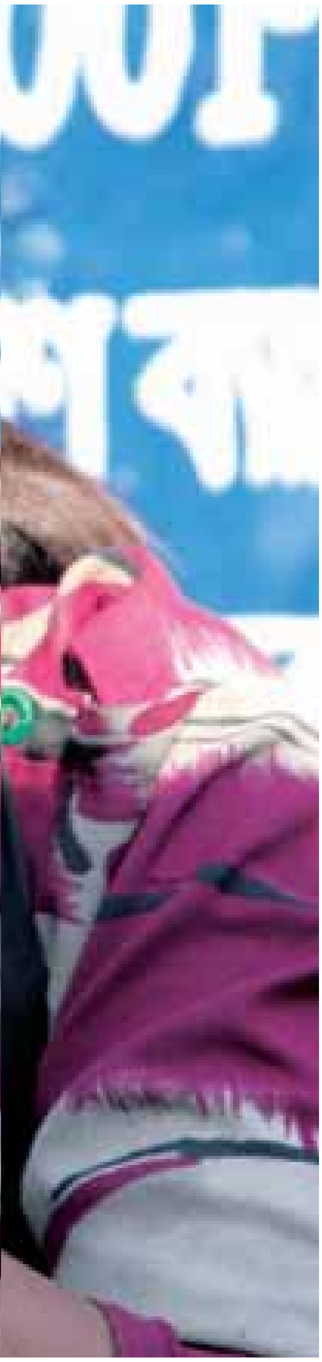
For more information, please visit: www.agra-alliance.org

The private sector and inclusive business models

What can the private sector do to help the 4 billion people around the world living in poverty today? The International Finance Corporation believes that working with the poor through inclusive business models is a starting point

The Manila Water Company – privatised with help from the IFC – pipes clean water to 1.6 million poor people at a fraction of the cost

By Lars H. Thunell, executive vice-president and CEO, International Finance Corporation



People should have the opportunity to escape poverty and improve their lives.

This is the vision of the International Finance Corporation (IFC), a member of the World Bank Group. Increasingly, it is met by supporting clients that are investing in inclusive business models – offering basic goods, services and livelihoods to the poor in financially sustainable, scalable ways. The private sector can play a pivotal role in meeting these people's needs.

Landmark research by the World Resources Institute and the IFC has shown that approximately 4 billion people, approximately two thirds of the world's population, live on less than the equivalent of $3,000 per year in local purchasing power. Beyond low incomes, they have significant unmet needs, depend on informal or subsistence livelihoods and pay a 'poverty penalty' – higher prices for basic goods and services, often of lower quality, than wealthier people pay.

At the same time, the working poor are creative and resourceful economic agents with an appetite for change. Pioneering companies are finding ways to tap into this potential, integrating low-income producers and consumers into their value chains. By using inclusive business models, local companies are investing in supply and distribution chains that provide better income opportunities and more goods and services for the poor. These are core activities for these companies. They are designed to scale up and reach commercial viability within a determined time frame. This is an important role for the private sector: to be able to invest in business models that include the poor as full economic partners.

The IFC's clients are at the forefront of this movement.

Real-life examples

There are many recent examples of the way this work is being done, and the impact it is having on people's lives. Let me provide some, drawn from each of the regions in which the IFC works.

In South Asia, since the IFC financed the entry of Idea Cellular, a local mobile phone provider in India's poorest state, Bihar, in 2008, the company has attracted 2.4 million paying customers in that state alone. But a large, untapped market remains among the rural poor. Supported by the IFC's Dutch donor partner, a proven model is being applied that helps Idea find village entrepreneurs who sell shared phone access by the minute, improving rural communications and increasing their incomes by 25 per cent in the process.

> “The working poor are creative and resourceful economic agents with an appetite for change”

In the region of East Asia and the Pacific, Manila Water Company is a successful, respected Philippine company. It provides clean water to 1.6 million poor people, many of whom never had household connections before. Privatised with the IFC's help in 1997 and receiving its financing and advisory services since then, Manila Water serves the city's east zone, selling 99 per cent of households in the area with 24-hour, clean, affordable water. The poorest now pay just P70 ($1.50) per month – well within their reach, and a tiny fraction of the P3,000 ($65) per month they once paid. They have experienced a dramatic drop in waterborne diseases such as diarrhoea.

In Africa, Coca-Cola SABCO is one of the continent's largest soft-drink bottlers, operating in 12 countries from its base in South Africa and working diligently to bring its products to hard-to-reach markets. In Ethiopia, Tanzania and other countries of East Africa, its dominant distribution model involves working with small-scale, independently owned distribution companies that use push-carts and bicycles to take its products to places that trucks cannot go. In Tanzania, there are more than 400 such businesses – many owned and operated by women – accounting for 93 per cent of Coca-Cola SABCO's local sales. This system has created more than 12,000 jobs and $500 million in revenue annually in East Africa. Roughly 50,000 dependents rely on the income these distributors generate.

In Latin America and the Caribbean, education and job skills are often the key to higher incomes. In Colombia, the IFC is financing the expansion of an innovative private educational institution, Uniminuto, that has attracted 35,000 paying students of all ages, nearly half from the country's lowest income groups. Most are the first members of their families to receive higher education. The IFC's $8 million, peso-linked loan will help Uniminuto reach 45,000 students by 2011.

In Europe and Central Asia, in Tajikistan, a large majority of people earn their living from cotton – the crop they call 'white gold'. But the sector has undergone steady decline, leaving it indebted and inefficient. A lack of competition in marketing and limited access to finance from local banks have left cotton farming barely viable for many smallholders. With support from Canada, the IFC helped its clients Tojiksodirot Bank and First Microfinance Bank introduce a new form of cotton lending. Between them they lent nearly $5 million to local small-scale farmers. More than 96 per cent of loans have been repaid – much higher than average repayment rates for the industry – raising confidence in this new commercial product that does much to increase rural incomes.

In the Middle East and North Africa, the IFC helped found Afghanistan's First Microfinance Bank in 2004, providing its sponsors at the Aga Khan Agency for Microfinance with the capital and advisory services needed to get started. Today, it is the country's most successful commercial microlender, bringing modern banking to more than 85,000 low-income people nationwide. To widen the impact, the IFC last year began helping the bank develop low-income housing finance products. It now has a well-performing $3.1 million housing finance portfolio, allowing nearly 2,000 people to improve their living conditions with monthly payments of less than $100.

Challenges ahead

Building on these pioneering efforts – and the development imperative – the IFC's challenge now is to greatly increase the number of financially sustainable, inclusive business models operating at scale.

The IFC is approaching this challenge with integrated investment and advisory services, as well as proactive efforts to document and share what it learns. Recognising that its vision will require the combined effort of many partners, the IFC is also working to build a network of corporations, financial institutions, donors, service providers and others interested in making the process of starting and scaling inclusive business models easier. It invites those interested to join its efforts.

With investment and advisory services, a global/local presence and convening power spanning business, government and civil society, the IFC will continue to drive action toward a world in which millions of people have improved access to goods, services and livelihoods through inclusive business. ◆

The greening of Azerbaijan

Sustainable finance means a sustainable future

2010 is a banner year for sustainable development in Azerbaijan. The President designated 2010 the Year of the Ecology as a central component of economic diversification and to accelerate non-oil sector investment and new industries to benefit the economy and country as a whole. It is a turning point and enormous opportunity for government-business partnership as well as global collaboration.

Azerbaijan fared comparatively well during the financial crisis maintaining 9.3 percent GDP growth in 2009 and prudential policies that maintained liquidity. Post-crisis, GDP will slow this year to around 3 percent, however non-oil sector growth is set to resume at 4.2 percent for 2010 and targeting new export strategies. Non-oil sector development includes sustainable practices applied across industry sectors, from new waste processing plants, new Caspian Oil & Gas port facilities to energy grid efficiency.

Recently, Azerbaijan's Cabinet of Ministers adopted critical next steps to prepare the legal environment for regulation of renewable and alternative energy development including permits to govern hydropower, geothermal, wind, solar and biomass facilities. The recent gathering of the CIS Power Council in Russia of CIS energy ministers, large energy companies and power firms of the broader region, will enhance regional coordination and parallel development of renewable energy use and sector construction.

Caspian energy corridor developments, particularly in Kazakhstan, mean that Baku's status as a trusted pipeline transit hub and reliable partner make it the strategic center of economic stability and energy infrastructure for the region. With over 164 years in the oil business – Baku had 3000 wells by 1900 – and a finite oil boom looming over the next decade, leaders are sanguine about the necessity to manage margins and chart sustainable strategies for growth. We want a future that transforms the world's first oil capital into a greener, cleaner city on the Caspian Sea for the long-term.

For over a decade, IBA has invested in sustainable development finance with excellent results and honorable ROI, ranging from agriculture, windfarms, biofuels, solar pilots to ecological rehabilitation. Baku is one of the windiest cities on earth. EMEA Finance recently honored IBA and Société Générale windfarms as the "Best Sustainable Deal of the Year" award for the region. IBA's prior introduction of the first drip irrigation and sustainable water use practices has helped spark a quiet revolution in regional agriculture, where half of the country's labor is employed, and a candidacy for an FT Sustainable Banking award. We have applied global know-how to local best assets, a simple but effective model.

IBA has been privileged to stand on the shoulders of giants in efforts to enhance the flow of knowledge and capital to Baku and in investment successes that are helping to forge a clearer path toward sustainable finance as one of the most dynamic emerging markets. Strategic partnerships with the Carbon War Room, and its braintrust of global experts, the World Economic Forum's Global Growth Community and other global business leaders are helping to inform our vision for the future. We applaud the Sustainability Report of the Royal Bank of Scotland which offers a thoughtful blueprint for practical application of the IFC's Equator Principles for global and emerging market banks alike.

Azerbaijan has the potential to become a net regional energy exporter, with vast renewable resources. As Azerbaijan's National Development Bank, IBA looks to sustainable finance practices to help make the nation's unique location and diverse resources not only a hub but a corridor of economic growth.

THE INTERNATIONAL BANK OF AZERBAIJAN

www.ibar.az

Modernising the Asian Development Bank

Just as much of Asia and the Pacific were being lifted out of poverty, the global economic crisis struck. Despite this huge setback, the downturn appears to be coming to an end in the region, thanks to its dynamic and resilient economies

By Haruhiko Kuroda, president, Asian Development Bank

The global economic crisis has not spared Asia and the Pacific. Efforts to cut poverty and improve the lives of hundreds of millions of its citizens have come under severe pressure over the past two years.

After a lengthy period of impressive growth, the region saw demand for its exports slump in 2008 and 2009 in the wake of a sharp drop in global trade. The result was a widespread closure of factories, lost jobs and disrupted supply chains. Regional growth fell from the decade's peak of 9.5 per cent in 2007 to little more than 5 per cent in 2009.

The impact has been especially severe on the poor and the vulnerable. Even before the global crisis, about two-thirds of the world's poor lived in the region, with about one of every two individuals (54 per cent of the region's total population, or 1.8 billion people) surviving on less than $2 a day. Based on current projections by the Asian Development Bank (ADB), as many as 54 million additional people in the region have remained in the ranks of the extreme poor (living on less than a $1.25 a day), people who would otherwise have been lifted out of poverty had the crisis not occurred.

But 2010 is not a year for despair. As a result of strong national and regional efforts, the global downturn may be coming to an end. With its dynamic and resilient economies, developing Asia is expected to lead the recovery, with aggregate growth projected to rebound to above 7 per cent in 2010.

As the region assumes a larger role in the world's recovery, it must also assume its responsibility for other pressing global problems, such as climate change, which has emerged as a critical development challenge.

Regional cooperation and integration are also increasingly important to enable economies to diversify their sources of growth and to provide much-needed regional public goods. Infrastructure gaps remain huge in Asia. They will need to be addressed to sustain the region's growth rebound.

The reform path

Over the past three years the ADB has been carrying out far-reaching organisational reforms to strengthen its operations, in order to become more effective in assisting its developing country members. As the dramatic global economic events linked to the financial and economic crisis have unfolded, these reforms have helped the ADB to respond quickly to its clients' needs.

With the adoption of Strategy 2020, a long-term strategic framework to guide operations until 2020, the timely completion of its fifth general capital increase and the successful replenishment of the Asian Development Fund – its concessional financing window – the ADB is well positioned to play an expanded role in the region's future development.

These initiatives have helped to scale up assistance significantly to meet the growing development challenges faced by the region. Total ADB operations increased from $5.5 billion in 2004 to $11.3 billion in 2008 and $16.1 billion in 2009. In 2010, the projected level of the ADB operations is expected to rise to about $17 billion.

This increase in assistance is complemented by a greater emphasis on improved portfolio management and better project implementation. Within the Strategy 2020 framework, the ADB is focusing its attention on fewer sectors in order to prioritise its work and to achieve better results on the ground.

> Within the Strategy 2020 framework, the ADB is focusing its attention on fewer sectors in order to prioritise its work and to achieve better results on the ground

Focus on results

Along with growing its resource base, the ADB has sought to strengthen its effectiveness, results orientation and accountability as a development agency.

In September 2008, it became the first multilateral development bank to adopt a corporate-wide results framework. The framework, which incorporates quantified baselines and targets, is enabling the ADB to measure its progress against its Strategy 2020 goals.

It is a key management tool for strengthening the ADB's development effectiveness, and for promoting ongoing organisational and institutional improvements. The ADB's progress in achieving these desired results is assessed annually and reported in the annual Development Effectiveness Review. Corrective measures are taken in response to the assessments.

As a follow-up to the ADB's commitment to enhance the independence and effectiveness of its evaluation work, with a view to improving the development results of its assistance, the Operations Evaluation Department became the Independent Evaluation Department in January 2009.

Strengthening internal control systems

A number of other internal reforms have been carried out to enhance risk management and transparency.

Risk management has been strengthened, with the Risk Management Unit upgraded to the Office of Risk Management in October 2009, to bring the ADB's risk management function into line with best practices and to boost its effectiveness.

The ADB also separated the Integrity Division from the Office of the Auditor General in October 2009 and established the Office of Anticorruption and Integrity, to ensure independence and impartiality in the conduct of investigations. As part of overall efforts to encourage the reporting of integrity violations and misconduct, in December 2009 the ADB introduced new provisions for whistleblower and witness protection.

Better business practices

To improve its responsiveness and service delivery to developing country members and to increase internal efficiency, the ADB has undertaken several measures. It is offering a new array of financial services and has streamlined its business processes. In 2008, for example, it mainstreamed its multi-tranche financing facility, enabling it to provide assistance programmatically and facilitate long-term partnerships with clients in a way that reduces some of the repetitive project preparation tasks associated with traditional financing. Efforts are continuing to update the ADB's menu of financing instruments and to explore the possibility of introducing new ones.

> Alongside business process improvements, the ADB has been strengthening its use of information technology

New streamlined business processes for country programme strategies and loan delivery took effect in January 2010. They have resulted in several important changes in the way the ADB conducts business. This includes more concise and streamlined documentation for product delivery and stronger quality assurance processes.

Alongside business process improvements, the ADB has been strengthening its use of information technology. A new initiative has been launched to upgrade the information technology system, especially for preparing country partnership strategies and projects and portfolio management. Through this initiative, the ADB can provide up-to-date project information more quickly throughout the project cycle.

Externally, the implementation of the ADB's policy of resident missions has enhanced its responsiveness to clients, improved the effectiveness of operations and strengthened country coordination. Over time, the ADB's resident missions have grown substantially in size, staff and responsibilities. It will further enhance the role of resident missions in the coming years and increase their staff strength correspondingly.

Workforce change

Stronger human resource management has been another feature of the ADB's reform programme.

Following a comprehensive review of its previous human resources strategy (2005-07) and a 2008 staff engagement survey, the ADB developed a detailed, time-bound Human Resources Action Plan in early 2009. The plan resulted in the development of a new personnel strategy – Our People Strategy – which serves as the basis for recruiting, retaining and developing staff and improving the workplace environment for the successful implementation of Strategy 2020.

To enable it to carry out its development mandate effectively, the ADB expects to recruit a significant number of new staff from 2010 to 2012.

Conclusion

Change is a constant for all organisations. Going forward, the ADB will continue to review and adjust its policies, procedures and structure to ensure that it is using its resources efficiently and delivering the desired results. As new challenges emerge in the future, the ADB remains committed to becoming an even more relevant, responsive and results-oriented partner for economic growth and poverty reduction in the region. ◆

Back on the table? Climate change at the G8 and G20 Summits

The UN climate change conference in Copenhagen in December 2009 involved 120 Heads of State – an unprecedented level of political engagement in a UN meeting held outside of the UN Headquarters in New York. This shows that tackling climate change is recognized as one of the most pressing and multi-faceted challenges we face – it requires agreement of every country and cuts across virtually every geopolitical issue from energy security to food security, from human health to historical responsibility.

The Copenhagen summit failed to deliver the comprehensive, science-based and equitable 'global deal' millions of people around the world called for. Yet we must not drop the ball on climate change, and other international meetings can help achieve progress that can in turn generate momentum towards agreeing a new treaty.

Putting climate change back on the table

Canada hosts the G8 and G20 Summits in June and is responsible for injecting new momentum towards a climate change agreement. Global warming is not new to the agendas of such meetings; it was the G8 who, in 1979, committed unilaterally to reduce $C0_2$ emissions in the atmosphere and in 2009 they agreed to limit global temperature rise to below the 2°C threshold. The G20 meeting in September in Pittsburgh in 2009 committed to phase out subsidies for coal and oil.

This shows that meetings outside of the UN processes can provide clear political signals to tackle climate change, and thereby build trust in the multilateral UN process.

Great expectations – close the gap

A major gap exists between the Copenhagen Accord's aspiration of limiting global temperature rise to below 2°C and the greenhouse gas reduction pledges. Even if all countries achieve emission reductions at the upper end of the commitment ranges, analysis suggests we face warming of 3.5-4°C, with devastating impacts on people and communities, species and habitats.

There is a pressing need for the G8 countries – the richest in the world, with the greatest historical responsibility for causing climate change – to show leadership by agreeing to increase their emission reduction targets in line with the levels recommended by scientists.

In addition, countries can help close the gap by providing climate financing required to enable the poorest and most vulnerable countries to adapt to climate change, as promised in the Copenhagen Accord. G20 countries must make a political commitment to identify the sources and mechanisms for long-term climate financing in time for the UNFCCC meeting to be held in Cancun, Mexico this December.

Each G20 country is due to deliver plans and time-lines showing how they will phase out their subsidies to energy sources including coal and oil. WWF expects to see movement forward, which would lower emissions of greenhouse gases and allow us to transition to clean, renewable energy sources as part of the transition to low-carbon economies, providing economic stimulus and green jobs in the process.

Building capacity for transformative change

ACBF Executive Secretary, Dr Frannie Léautier

Africa's development achievements in the years following independence are visible, but varied. Prior to the recent global economic crisis, real GDP growth in Africa was above 5% - and with broad macro-economic stability. The overall prospects for sustainable poverty reduction seemed good. However, the financial crisis, while not impacting Africa to the extent initially envisaged, negated some of the significant gains made in the last decade. The crisis also highlighted specific demands for capacity development, such as the skills to manage reserves and spending programs, but also those related to sustaining reforms in complex global and national environment.

The African Capacity Building Foundation (ACBF), with its mission to build human and institutional capacity for sustainable growth and poverty reduction in Africa, recognised the challenges presented by this crisis and the important role to be played by capacity building in helping countries to respond in the future. ACBF's emerging strategy is also derived from the Foundation's experiences in the past.

Over the last two decades, ACBF has focused on building sustainable, effective institutions and policies to deliver development results for poverty reduction. ACBF's successes are attributable to the Foundation's approach; primarily its ownership, flexibility and innovation. As a catalyst and strategic development partner, ACBF has worked in fragile states, such as Rwanda and Liberia for example, to respond to the urgent needs of such societies, by identifying and filling gaps within the current capacities of local and international actors. At present, ACBF supports 24 of the 29 countries classified as being fragile or post-conflict states. In reformer states such as Burkina Faso and Tanzania, the ACBF has played a critical role in supporting country-level dialogue between the public and private sector, as well as supporting the professionalization of the voices of civil society, among others. The Foundation also transcends political barriers, which are often a key factor affecting the development process on the continent. Support to national and sub-regional parliaments is a key example of how the Foundation helps to build the capacity of dynamic oversight entities. As an institution responding to country demands, ACBF scales up its activities via partnerships, strategic alliances and coordination activities. Putting in place an innovative approach to capacity development, ACBF has drawn lessons from experiences across sectors and themes and also across various levels of engagement. Lessons learned from more than 15 years of support in the creation of Think Tanks and Policy Units in countries such as Kenya, Uganda, Mali, Senegal – and Zimbabwe, have allowed the Foundation to embed effective approaches to capacity development in its other interventions, as well as supporting the creation of similar policy hubs in other countries.

In addition, ACBF prides itself in its **leadership** as the foremost, apolitical, institution in Africa, where people go to for ideas on capacity development. ACBF is connected to the key institutions that deliver capacity results on the continent, and funds creative trials on ways to build capacity. **Partnerships** are also key to the Foundation's success and ACBF operates as a credible, value-adding resource to capacity development institutions. **Excellence** is another guiding principle, where ACBF is recognized as an organization that has contextual knowledge about Africa, has the capability to coordinate the actions of others in capacity development and is joined-up with strategic institutions at the regional and sub-regional level. ACBF is known by key stakeholders and seen as a major source of support for getting things done. ACBF is also the only foundation in Africa that focuses on "human and institutional capacities" on a regional level.

Looking ahead, in 2011 ACBF will celebrate 20 years of capacity development in Africa. The 20th Anniversary is an opportunity to review the past and build on lessons learned. The Foundation will use this milestone to reposition itself and address the ongoing and pressing capacity challenges facing the continent. High level forums, lectures and learning events will be held throughout the year, culminating in the launch of the inaugural *African Capacity Indicators Flagship* report on February 8 2011. Now working in 44 countries, the Foundation will seek to learn lessons from past experiences, consolidate the gains from efforts at sector and country level, and seek opportunities for scaling up results through smart program designs and effective partnerships. In particular, ACBF will continue to support strategic interventions, using them as opportunities for transformational change.

Building capacity in Rwanda: ACBF's strategic intervention for transformational change

ACBF was one of the first international organisations to assist the Government of Rwanda after the genocide of 1994 that decimated more than 800,000 people. At that time, the Rwandan Ministry of Economic Planning and Finance (MINECOFIN) faced major problems in capacity-building and retention of staff. The country had inherited a workforce with a low-skill base and the existing training institutions had achieved limited impact due to the inadequacy of qualified teachers, especially at higher education level, and an ill-suited curriculum for the real needs of the economy. Moreover, a major constraint in Rwanda was the lack of a human resource development planning capability.

The ACBF funded a study in 2000, which, for the first time, helped to assess the country's capacity needs in economic and financial management. This study proposed the establishment of the Human Resource Development Agency (HRDA).

As part of a collaborative donor assistance framework, ACBF took the lead in assisting MINECOFIN to prepare a pilot human resource development strategy. The thrust of ACBF's support was to create a critical mass of skilled staff in economic and financial management for the Ministry, as well as strengthening the institutional capacity for training, policy analysis and human resource development.

ACBF's Executive Board approved funding of US$3,000,000 specifically to support the Capacity Building Program in Public Financial Management in Rwanda. Key beneficiaries of this program are MINECOFIN, the National University of Rwanda (NUR), the School of Finance and Banking (SFB) and the Rwanda Institute of Policy Analysis and Research (RIPAR). HRDA was envisioned to be Rwanda's focal agency for capacity building activities, with responsibility for implementing the program. As a result of ACBF's support, HRDA was established. The institution later became the Human Resource and Institutional Capacity Development Agency (HIDA) and was recently transformed into the Public Sector Capacity Building Secretariat (PSCBS), fully embedded within the Ministry of Public Service and Labor.

With ACBF's intervention, the Government of Rwanda has a better sense of the overall requirements for developing and delivering capacity in the area of economics and financial management. The ACBF grant supported the training of some 270 public sector officials, providing institutional support for the beneficiaries that allowed them to remain networked and effective in their jobs.

Given the enormous challenges facing the country and recognizing that capacity-building interventions had to be long-term and multisectoral, the Government of Rwanda requested continuing support from ACBF and other donors, including the World Bank, to develop an overall framework for capacity building. This set out a vision, strategy and plan to link the Poverty Reduction Strategy Paper (PRSP) with other institutional reforms. Thus, Rwanda's Multisectoral Capacity Building Programme was developed in May 2007. ACBF made a contribution of US$4,000,000 to support the Government's development efforts by creating a high-performing and efficient public sector, capable of managing the country's transition towards a service-oriented economy.

Key beneficiaries of this funding are the Rwanda Institute of Public Administration and Management (RIAM), the National University of Rwanda (NUR), the School of Finance and Banking (SFB), the Rwanda Institute of Policy Analysis and research (RIPAR), the Rwanda National Parliament and the *Conseil de Concertation des Organizations d'Appui des Initiatives de Base* (CCOAIB), which is the umbrella organization for Rwanda's civil society. Under this program, HIDA, which focused on coordinating the training of 270 public sector managers and Members of Parliament, as well as developing the skills of trainers in key training institutions, took a leadership role. This achievement was part and parcel of the Government's development plan to strengthen institutional and human capacities for effective delivery and monitoring, under the Economic Development and Poverty Reduction Strategy (EDPRS).

To complement ACBF's support for non-state actors, the Foundation also supported the Rwanda Private Sector through the approval of a US$1,700,000 grant to implement the Rwanda Private Sector Capacity Building Project. The Project took off in late 2008 and it has strengthened the capability of Rwanda's Private Sector Federation to continue playing a key role in advocacy and awareness – creation of private sector issues, providing capacity building opportunities to different business groups, including women.

In total, the African Capacity Building Foundation's partnership with the Government of Rwanda has benefited the people of Rwanda, since it started at a time when the country desperately needed to build the capacity destroyed during the genocide.

Through a total of US$8,500,000 invested since early 2000, ACBF has been a strategic ally for the Government, facilitating the emergence of a country-wide capacity building framework, which has resulted in the development and implementation of comprehensive and coordinated projects and programs that have had a positive impact on the delivery and monitoring of Rwanda's national development strategy.

Reforming financial systems and institutions: modernising the African Development Bank

The global financial crisis significantly undermined growth levels in Africa. The African Development Bank has responded to the crisis while maintaining its focus on Africa's needs, such as infrastructure, governance, education and health

By Donald Kaberuka, president, African Development Bank

As signs of recovery emerge in the global economy, the focus of both the G8 and G20 has turned to timely exit from the extraordinary stimulus packages and how best to promote sustainable growth. Attention is also being given to improvements in financial regulation and supervision and ways to avoid a recurrence of the financial crisis. What are the implications for Africa, the challenges ahead and the role of the African Development Bank (AfDB)?

The impact of the financial crisis on Africa

The financial crisis significantly undermined growth and set back efforts to reduce poverty. Following a decade of sustained growth in Africa, the average rate dropped from 5.4 per cent in 2008 to 2 per cent in 2009 (1.1 per cent for sub-Saharan Africa). Despite some signs of a global recovery, the economic outlook remains weak, with 2010 growth rates estimated at 4.1 per cent for Africa as a whole – well below pre-crisis levels.

For global growth to be sustained, it must be balanced and shared. The task is to make sure Africa is not left behind, that Africa can participate fully in international discussions and that its interests are taken into account. Africa can make a significant contribution to global growth and recovery as an additional pole of growth. The crisis has shown that the reforms undertaken, and the sound macroeconomic policies now in place in many African countries, have provided a degree of resilience.

Key challenges facing Africa

Several African countries have made major progress. However, the continent still faces considerable development challenges. Areas of key concern include inadequate infrastructure at national and regional levels constraining competitiveness and investment, fragmented economies, weak governance systems and institutions, insufficient health services and low skills base, unemployment (due to a growing young population), gender inequality, food insecurity and the effects of climate change.

> “Africa can make a significant contribution to global growth and recovery as an additional pole of growth”

These challenges have retarded growth and poverty reduction efforts. Poor infrastructure in sub-Saharan Africa cuts national economic growth by 2 percentage points each year and reduces business productivity by as much as 40 per cent. Africa's small and fragmented economies limit economic growth, private sector development and economic diversification. Africa makes a minimal contribution to global warming yet climate change is already imposing a heavy burden on African countries. In the short term, the cost of adapting to warmer climates and unpredictable weather, according to the Grantham Research Institute and the International Institute for Environment and Development, is estimated to reach approximately $19 billion per year by 2015 and rise thereafter.

The role of the African Development Bank

The AfDB massively stepped up its work in response to changed demands from its members during the financial crisis. It is increasingly a lender of choice. It has frontloaded its commitments, introduced new instruments and restructured its portfolio. It has thus provided the countercyclical response demanded by the G20. As a result it consumed its resources more quickly than planned, and these must now be replenished. At the same time the AfDB has maintained its focus on selected

Above: Donald Kaberuka, president, African Development Bank, speaks during the session 'Rethinking Africa's Growth Strategy' at the Congress Centre at the Annual Meeting 2010 of the World Economic Forum in Davos, Switzerland

strategic priorities, consistent with Africa's needs. These are infrastructure, economic governance, higher and technical education, private sector development, fragile states and regional integration. In so doing the AfDB contributes to broader objectives, for instance providing clinics, clean water and sanitation, which contribute to improved health outcomes. Supporting the construction of rural roads that link farmers to markets, providing rural energy and irrigation and improving access to credit help the private sector, improve agricultural productivity and food security. Throughout the AfDB's work, attention is paid to gender equality and improving the position of women.

Africa faces a massive infrastructure deficit. Therefore, infrastructure, which is vital to Africa's competitiveness, is at the heart of the AfDB's operations. In 2008, infrastructure (energy, transport, and water and sanitation) constituted 44.5 per cent of AfDB financing. Infrastructure is also intricately linked to private sector development — the key driver for growth.

The AfDB has tripled its private sector lending from less than $310 million in 2004 to $1.6 billion in 2008-09. Of all the AfDB's private sector operations 60 per cent are in low-income countries. AfDB funding leverages co-financing from the private sector and from other institutions; demand massively exceeds the resources available to the AfDB.

A $164 million road project, which runs between Arusha and Namanga in northern Tanzania, and Namanga to Athi River in Kenya. The AfDB provided $93 million for part of the road in Kenya

Regional economic integration is central to expanding African markets, promoting intra-African trade and linking to global markets. The AfDB is uniquely well placed to facilitate crossborder dialogue and has been mandated by the African Union to lead regional economic integration. The AfDB has invested about $9 billion since the beginning of this decade in regional integration efforts, making it the largest financier on the continent in this domain.

Africa has a number of fragile states, many post-conflict. Fragile states have spillover effects on their neighbourhood. The AfDB's regional integration and fragile state strategies are thus intricately interwoven. They work to stabilise economies and to contribute to poverty reduction through rebuilding fractured institutions and infrastructure, capacity building and arrears clearance.

Climate change represents a growing challenge. Substantial and sustained additional funding is required. However, this funding should not come at the expense of development. For Africa, adaptation is inextricably linked to development, to combating the effects of changes and to building climate resilience. Africa's lakes and forests represent a regional and global public good, second only to the Amazon. They require investment in them in order to preserve them and prevent deforestation and degradation. Africa has an opportunity to purse a low-carbon growth path, particularly as it provides greater access to energy. African countries have asked that the bulk of new resources for this purpose be channelled through the AfDB – which is ready to take on this role.

Providing knowledge management and advice is an increasing component of the AfDB's work. That includes working with the Committee of African Finance Ministers and Central Bank Governors mandated to assess the impact of the recent financial crisis, to provide advice to

heads of government and to ensure African perspectives are included in G20 discussions.

The AfDB has been implementing a comprehensive institutional reform programme in order to improve institutional efficiency, enhance the quality of operations and increase focus on results. These reforms have enhanced its capacity to deliver, as evidenced by the speed and volume of the response to the economic crisis in 2009. The AfDB has also enhanced its integration of public and private institutions through its work in infrastructure and fragile states. Furthermore, it continues to work in partnership with other institutions to ensure that key development challenges in Africa are addressed, and to maximise the comparative advantage of each institution.

Africa's call to the G20 and G8

Africa has to be part of a global solution. It has a positive contribution to make. The momentum of growth can be recaptured. Africa is becoming more self-reliant but still faces structural impediments. With sustained investments and partnerships these can be overcome. Africa is not looking for a new round of donor commitments. Rather, it wants to see full implementation of previous G20 and G8 commitments, as well as those made most recently at the United Nations climate change convention in Copenhagen. It also wants secure and predictable flows to supplement domestic resources and to allow forward planning with confidence. For the African Development Bank itself that means adequate replenishment of the African Development Fund, which lends to poorer countries, and a general capital increase that provides a sustainable level of sovereign and non-sovereign lending more commensurate with the level of demand. In short, the AfDB calls for investment in an African institution to help promote African opportunities. ◆

Toward a G20 agenda for global development

A more representative group of leaders than the G8, the G20 reflects the new, global economic balance. But it must work fairly to effectively achieve its global goals

By James D. Wolfensohn, chair and CEO, Wolfensohn & Company, former president, World Bank

As the leaders of the world's major economies prepare to meet in Toronto, I am reminded of my own travels to such summits in years past. As president of the World Bank, I joined the 1996 G7 meeting in Lyon, France, when French president Jacques Chirac began the tradition of inviting the heads of international organisations to participate. Through my annual trips to these meetings over the following nine years, I watched this group become more inclusive – expanding to become the G8 in 1997, and extending invitations to an ever-growing number of developing countries from 2000 onward – and using its position to advance progress on global poverty reduction. As an advocate for the developing world, eager to raise the profile of international development in global discussions, I welcomed this engagement and, in my own modest capacity, assisted in bringing it about.

The 2005 G8 summit marked the apogee of the group's efforts on development. There, in Gleneagles, Scotland, ambitious goals were agreed to increase levels of foreign aid, secure broader and deeper debt relief, and finalise the Doha round of trade negotiations. While progress on these objectives has not been uniform and some targets

Leaders of the G20 gather around the meeting table for the first plenary session of the summit in Pittsburgh, 2009

will be missed, significant achievements have been made. Traditional aid flows are expected to have risen 36 per cent between 2004 and 2010, representing the largest ever increase over such a period.

Despite this progress, it was already clear in 2005 that the G8 was in need of reform. The rise of emerging economies, led by Brazil, India and China, demonstrated that the G8 no longer held the reins to the global economy as securely as it had throughout the second half of the 20th century. The G8's desire to build a global compact with the developing world was undermined by the reality that its own organisation failed to reflect the new global economic balance. The invitation of select developing countries to attend G8 meetings was a step in the right direction, but only highlighted the need for more permanent and far-reaching reform.

The global financial crisis served as a catalyst for precisely such a change by forcing the elevation of the G20. The G20 is, by definition, a more representative and inclusive group than its older and smaller cousin, the G8. While initially the G20 was preoccupied with addressing the financial crisis, more recently it has expressed interest in broadening its mandate to incorporate international development.

Given the breadth of issues encapsulated under the development umbrella, where should the G20 direct its focus?

First, the G20 must continue to prioritise restoring global growth and ensuring global macroeconomic stability. Global growth is integral to development: the world's developing countries need a robust and stable global economy in order to sell their exports abroad, attract foreign direct investment and ensure predictable prices in key commodity markets. While a focus on consolidating the global recovery may appear an act of self-interest on behalf of the world's leading economies, a strong international economy is truly a global public good, benefiting all countries, rich and poor alike.

> “The G20 must continue to prioritise restoring global growth and ensuring global macroeconomic stability”

Second, the G20 must look beyond foreign assistance and embrace a broader development policy toolset. While aid is perhaps the most visible policy used to advance development, it is hardly the only one, nor is it even the most important. The trade, investment, migration, environment, security and regulatory policies of the world's major economies all influence poor countries, and can either help or hinder development. While recognising that all countries face competing priorities and domestic political constraints, G20 members should work to align these various policies in support of economic development in the world's poorest countries.

Third, the G20 should narrow its efforts on development to issues where it, and only it, can make a difference, which is to say on challenges that demand effective global collective action. The G20 is a unique body bringing together all of the world's systemically significant economies. Its comparative advantage rests on its ability to muster political support at the highest level from all of the world's major powers. Issues of importance to development that require collective action include maintaining an open environment for trade, reducing global greenhouse gas emissions, preventing international money laundering and increasing the international mobility of labour. Some of the previous priorities of the G8's development agenda – such as securing pledges to contribute greater foreign aid – will likely be best left to other forums.

While these three principles point the way toward a favourable new approach for the global development agenda, it remains to be seen whether the G20 will succeed in delivering on development. As with any new institution, the G20's performance in its first few years will play a large part in shaping its long-term standing. Establishing its reputation and credibility, not only among the development community and the developing world, but also among its very members, will enable it to fulfil its role more effectively in the future. This means setting realistic objectives, demonstrating commitment in achieving those goals, and being honest and disciplined in monitoring its own performance.

An early test of the G20's credibility will be whether it succeeds in leading a push for substantive governance reforms at international financial institutions (IFIs), notably the World Bank and the International Monetary Fund. For a body that emerged in direct response to the new global economic balance, it is inconceivable that the G20 could continue to work in close connection with the IFIs – a partnership necessary to achieve tangible results – so long as the organisational structures of the latter remain woefully out of date. Moreover, G20 members cannot be expected to take a serious stake in the development of other countries until they are each represented fairly in these development-focused institutions.

Just as important, the G20 must learn to approach development issues with humility and respect, searching out ways to enfranchise the world's poorest and most vulnerable people, and ensuring its development efforts respond to recipients' needs.

In the 14 years since I first attended a G7 meeting, the number of people living in extreme poverty in the world has fallen by more than 300 million. Yet many more remain. As the G20 takes over as the premier forum for international economic policy making, it is my sincere hope that it can build not only a more stable global economy, but also a world that is more equitable, balanced and free of poverty. ◆

Reducing greenhouse gas emissions in the supply, use and treatment of water and wastewater in England and Wales

Balancing hydropower generation with environmental, social and economic needs

Carbon reduction policies in Australia: implications for the stationary energy and water sectors

Energy for water, water for energy – a step towards integrated energy and water policies

Is my region currently energy and water secure? Will it be in the future? How much water do we need to generate energy? How much energy do we need to supply populations with fresh water? Since 2008, these questions have been the focus of the Energy-Water Links initiative supported by COST (European Cooperation in Science and Technology); an international network of scientists, policy-makers, and representatives of public and private sectors that explores the interdependency of energy and water and identifies solutions for how they can be better integrated into policy and investment decisions.

We all know that to tackle climate change we must fundamentally change how we generate energy and how we use it. We also know that millions of people are dealing with water scarcity, and that in future years that situation is likely to worsen. But what we do not know, and what we need to know, is how to deal with climate change, energy supply and water scarcity without making things worse.

Looking at the big picture

The objective of the COST initiative is to develop a comprehensive understanding of the links between water and energy, the potential trade-offs between energy and water security, and, crucially, how policy-makers and government decision-makers can best manage these links in future policies. From heat waves, we learn that peaks of energy demand – for air conditioning systems – and of water demand – for irrigation and river ecosystems – necessitate an integrated management of water and energy use and supply in order to limit economic and environmental losses and to ensure the secure exploitation of nuclear power.

This case illustrates that the proper management of both resources requires a comprehensive understanding of what's known as the 'energy-water nexus'. However, 'energy-water nexus' means different things to different people; for one person it may be the water used in the production of biofuels; for another, it may be far less quantifiable and exist in the impacts of hydropower production on biodiversity and ecosystem health; for someone else again, it might trigger thoughts of long, hot showers and big energy bills.

When we make energy policy, we have to consider the impacts that those decisions will have on the availability and quality of our water. Similarly, when we make water policy, we have to consider how best to optimise the energy used in supplying and cleaning water, while fighting to minimise associated greenhouse gas emissions. To avoid mismanagement of water and energy we need to look at the bigger picture: water, energy and climate are linked, and policy should therefore be made using an integrated, holistic approach.

The real costs of cultivating energy crops: water use and net energy generation in Tuscany, Italy

Tackling food, energy and water trade-offs in Spain

If you wish to learn more about these case studies and the Energy-Water Links initiative, please contact:

Dr Karen Hussey
Research Fellow, Crawford School of Economics and Government
The Australian National University
Karen.hussey@anu.edu.au

Dr Carine Petit
Senior Science Officer Natural Sciences, Earth System Science and Environmental Management
COST Office
Avenue Louise 149
1050 Brussels, Belgium

Getting over barriers

To develop policies that successfully integrate the energy-water nexus, we will have to get over cultural, technical, institutional, and geo-political barriers. Too often, we implement new technologies in one sector without knowing the consequences in the other sector. There are also significant discrepancies in the way different national legislation defines the criteria for the sustainable exploitation of water and energy resources. Similarly, the energy-water nexus exists at various geo-economical and geo-political scales, from households to governments, making it difficult to integrate our policy decisions.

So before we disappear into the sunset clutching our climate mitigation targets, comprehensive adaptation plans and the blueprints for fundamental change in our energy sectors, let us figure out how to set off on the right track.

Towards integrated energy and water policies

At the heart of the problem is a lack of policy integration: the energy and water sectors are highly developed within themselves but only limited effort is made to account for, and manage, the links between them.

So the challenge for governments, regulators and industry is to develop effective policies, processes, standards and analytical tools which integrate the energy-water nexus into policy and investment decisions. Of course, in some cases the negative trade-offs are unavoidable, but decisions and policies should at least be made on sound evidence, with the benefit of a comprehensive risk assessment, and a considered approach.

Ultimately, we need to be able to answer four key questions. If we answer 'no' to any of these questions then we've got homework to do:

1. Do we know what the impacts are of our energy policies and regulations on water availability and consumption?
2. Do we know what the impacts are of our water supply and sanitation policies on energy consumption and greenhouse gas emissions?
3. Do we know how our climate mitigation and adaptation policies affect policies developed in the energy and water sectors?
4. Do we know what kind of regulatory reform we will need to undertake to minimise the negative trade-offs in the energy-water nexus in public-sector planning and private enterprise?

We can help you to answer those questions.

Finding solutions

Through the COST Energy-Water Links initiative, the Brussels-based COST Office has brought together international experts from science, social-science, government and industry to tackle this important issue. Twelve complementary and international case studies, which, together, highlight the complexity of energy-water interactions and which identify where better integrated policy and management strategies and solutions are needed or available, will be published in a Special Issue of Ecology and Society (June 2010). From these case studies, we have developed a comprehensive list of policy recommendations and research projects which will help you understand where you might have a problem, and provide you with solutions to solve it. We look forward to hearing from you.

EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

www.cost.eu

Trade for the global economic recovery

Food security, reforming world trade and fighting poverty are just some of the challenges that need to be addressed by the Doha Development Agenda

By Pascal Lamy, director general, World Trade Organization

The global trading system has just passed probably its biggest challenge yet: overall, World Trade Organization (WTO) members kept markets open amid the worst economic crisis in living memory.

The WTO system of multilateral trade rules has proven its worth as a solid line of defence against protectionist pressures. Trade contraction would have been catastrophic if the world had slipped into the kind of protectionism that was witnessed in the 1930s.

Anchoring the economic recovery through trade, strengthening the WTO against future 'stress' tests, and meeting old and new challenges are the reasons why it is to move toward the end game in the Doha Development Agenda. If concluding the Doha round made eminent sense before the crisis, it is now an imperative to contribute to exiting the crisis.

New challenges have appeared on the world stage since the last trade round was completed some 17 years ago. One of them is food security. The Food and Agriculture Organization tells of the unacceptable fact that there are more hungry people today than there have ever been before. Trade is the transmission belt that allows food to move from the land of the plenty to the land of the few. We must oil that transmission belt, and improve the foundation on which it has been built through the Doha round. The round will reduce rich world trade-distorting subsidies, and would lower tariff walls in developed and developing countries alike, bringing food closer to the poor.

Another challenge is protecting the environment. The Doha round is the first multilateral trade negotiation which has explicitly placed environment on its agenda and the overarching objective is to enhance the mutual supportiveness of trade and environment. Members are discussing ways to maintain a harmonious co-existence between WTO rules and the specific trade obligations in various multilateral agreements on the environment. Also on the agenda is opening trade in clean technologies that would contribute to dealing with climate change. The WTO also has a mandate to negotiate disciplines on certain subsidies that contribute to over-capacity and over-fishing. Scientists have found that more than 80 per cent of fish stocks are over-exploited. It is high time trade rules make a contribution to preserving life in the world's oceans.

There is also the challenge of the changing makeup of world trade. The unsung hero in the economic recession has been the service sector, which has been comparatively resilient to crisis. Re-energising the service sector will be key to stimulating economic recovery. The Information Technology Agreement of 1996 was an ad hoc initiative of some WTO members, which helped promote innovation and lower cost for the consumers of computer and communications products. The completion of the Doha round would help ensure the future growth of new trade sectors such as energy, environment or professional services.

Another challenge is the proliferation of regional trade agreements, and ensuring that they become building blocks, not stumbling blocks, of world trade. An early result of the Doha round would include a new transparency mechanism for these type of agreements, which is now being implemented provisionally in the WTO. I cannot help but point out that in terms of efficiency, the Doha round represents sealing a trade deal with 152 governments in one fell swoop.

But on top of all these challenges is an old one: fighting poverty through trade. Front and centre on the agenda of

> "When the Doha Round is completed, the least developed countries would get almost entirely duty-free, quota-free access to developed world markets"

the Doha Development Agenda are issues close to the heart of developing countries, such as ending tariff escalation, addressing trade distorting subsidies, promoting trade facilitation and expanding trade-related assistance.

When the Doha Round is completed, the least-developed countries (LDCs) would get almost entirely duty-free, quota-free, access to developed world markets. They will also have this access for many of their products exported to other developing countries. Unlike rich countries, LDCs have not been able to provide huge bailout packages to their ailing industries and expand social safety nets to those who lost their jobs.

But providing trading opportunities is not enough. Opportunities must be translated into realities. This is why in parallel with the Doha round negotiations, the WTO is leading the Aid for Trade initiative. It aims at helping developing countries, especially the poorest ones, build trade capacity in the form of modern ports, new production and marketing technologies, and up-to-date trade information. Aid for Trade has been significantly scaled up in the last five years. There is a risk that these efforts are stalled as the crisis will have a severe impact on the treasuries of many donor countries. But it is worth remembering that Aid for Trade is not charity; it is an investment empowering poor countries to exit poverty in a sustainable manner.

Many are very familiar with David Ricardo's key contribution to trade theory, which showed how all countries can benefit from trade even if some countries seemed to be so much stronger and better at everything than others. The reason that all countries could benefit was because the gains from trade were determined by relative and not absolute advantage. Countries would specialise in what they were relatively more efficient at doing, and all would benefit.

One proof that trade opening is a win-win game was the recent announcement by Canada – the host of Muskoka G8 and the Toronto G20 summits in June 2010 – on eliminating tariffs on manufacturing inputs and machinery. In presenting this initiative to the WTO, Canada said it was committed to maintaining open markets to help the global economy recover, adding that this unilateral action would help raise the competitiveness of Canadian companies, especially the small- and medium-sized enterprises.

We are 80 per cent of the way to a successful conclusion in the Doha round. A lot has been achieved – if you look back from where we started, there is a fairly long list of issues where views have converged.

The hard fact is that concluding the Doha round is difficult precisely because its results will be meaningful: this round is two or three times greater than previous ones, in terms of cuts and commitments. Also, this is a round focused on benefits for developing countries – this is a true development round. If measured in terms of duties foregone, two-thirds of the potential benefits of tariff and subsidies cuts resulting from this round will accrue to developing countries' exports.

If I may repeat one tale in a book written by Lewis Carroll for children – who will be the beneficiaries of the new trading system we are building: "One day Alice came to a fork in the road and saw a Cheshire cat in a tree. Which road do I take? She asked. Where do you want to go? Was his response. I don't know, Alice answered. Then, said the cat, it doesn't matter."

We have come to a crucial fork in the road in Doha, and it is located very close to where we want to go. I urge the G8 and the G20 leaders to take us to the good road that will lead to the successful conclusion of the round. ◆

Pascal Lamy, director general of the World Trade Organization

G20 trade protectionism: a continuing threat?

Despite efforts to prevent the increase of trade barriers, there is evidence of a new mix of protectionism that has developed in the wake of the global economic crisis

By Alan S. Alexandroff, co-director, G20 Research Group, Munk School of Global Affairs, and senior fellow, Centre for International Governance Innovation

The commitments made by the G20 leaders since they began meeting in Washington DC in November 2008 have produced a 'half empty, half full' outcome for the global economy. Since the global financial crisis began, they have appeared determined to implement a standstill that would bar G20 countries from raising trade barriers and threatening the openness of the global economy – as happened in the 1930s. Not only did the leaders repeatedly call on their colleagues to avoid beggar-thy-neighbour policies in the face of a growing economic crisis, but they also expressed a determination to conclude the Doha round of trade negotiations at the World Trade Organization (WTO). Furthermore, at their London Summit in April 2009 and subsequently, the G20 leaders called for the conclusion of those negotiations by the end of 2010.

The picture, with regard to Doha, is clear, but not encouraging. Although no country has admitted it publicly, there appears to be a quiet consensus that trade negotiators have lost any chance to conclude the round successfully by the end of the calendar year. The deadlock on Doha continues, and the explanation remains contentious. Many WTO members blame the United States for failing to make serious offers and insisting on continuing bilateral discussions with countries such as China, Brazil and India. Indeed, these countries suggest that they, and some others, are reluctant to provide additional market access until the United States signals that it is serious about engaging in 'end game' discussions.

US negotiators, on the other hand, insist that major emerging market economies are unwilling to open their markets. Carol Guthrie, the assistant US trade representative, recently said that the market access offers in agriculture and industrial goods and services currently on the table fall short, particularly regarding key emerging markets such as China, which need "to make contributions commensurate with their position in the global economy". Progress has, in fact, been all but absent at the WTO.

A glimmer of hope has emerged, however. As a result of a recent stocktaking in Geneva, US officials have obtained agreement from the United States, European Union, India, China and Brazil to examine how procedural progress might be made. Notwithstanding this small sign of commitment on the part of several major trading partners, the successful completion of the Doha negotiations by the end of 2010 remains elusive. The G20 leaders' commitment will likely remain unfulfilled in 2010, possibly even longer.

Yet the question of the standstill provision – the commitment that the G20 countries will refrain from raising barriers to trade and investment – raises the greater questions, creating the 'half empty, half full' situation. Notwithstanding fears of a new 21st-century great depression, the news here is much brighter.

> "Uneven growth and persistent unemployment remain a continuing source of concern"

Uneven growth and persistent unemployment remain a continuing source of concern for trade officials and experts assessing current pressures for protectionist policies. Trade assessments of the current state of global trade relations differ significantly. At the request of G20 leaders at the Pittsburgh Summit in September 2009, the WTO, along with the Organisation for Economic Co-operation and Development (OECD) and the United Nations Conference on Trade and Development (UNCTAD), were tasked to provide quarterly reports that monitored trade and exposed any rise in protectionism. Much to the relief of officials and experts, the report issued by these organisations declared in March 2010 that the "trade and investment policy response to the global recession has so far been relatively muted." While the second report called on G20 leaders to remain vigilant in the face of strong unemployment and uneven recovery, the review from 2009 identified that since Pittsburgh, recourse to new trade restrictions by G20 members has been "less pronounced". Some members continue to implement new restrictive policies, "in apparent contradiction to their pledges at London and Pittsburgh", but the extent of those policies is limited and "an escalation of protectionism has continued to be avoided".

This relatively sanguine trade assessment is not reflected in an independent examination by the Global Trade Alert (GTA) Project (available at globaltradealert.org), which was launched early in the global financial crisis. Its recent conclusions note that in the fourth quarter of 2009, a substantial number (63) of beggar-thy-neighbour measures have been implemented. While 70 per cent of such measures had originated with the G20 countries since stabilisation efforts began, the percentage has now climbed closer to 80 per cent. This resort to protectionism was much larger than estimates suggested in 2009. For the trading countries examined by the GTA Project, these countries initiated approximately 100 measures per quarter. Since the G20 finance ministers and central bank governors met in 2008, the ten trading countries most affected by protectionist measures have endured more than 100 discriminatory measures.

Notwithstanding the caution expressed in the second report by the WTO, the OECD and UNCTAD, the two documents provide a stark contrast in tone and interpretation of the current state of protectionism and global trade. The most evident reason for this contrast is that they examine different measures that may raise protectionist barriers. The G20 report by the WTO,

the OECD and UNCTAD reviews (new) measures that restrict trade as understood by these international organisations, especially the WTO. Thus it focuses on increases in tariffs, newly initiated trade remedy actions (anti-dumping, countervailing duties and safeguards), restrictive application of the agreements on sanitary and phytosanitary measures and on technical barriers to trade, restrictive non-tariff measures and restrictive government procurement practices. In other words the G20 report looks at measures covered by WTO agreements. Examining the new measures that arose from September 2009 through February 2010, the G20 report found that they covered only 0.4 per cent of total world imports (0.7 per cent of G20 imports) – a decline from the period of October 2008 to October 2009.

A bank clerk in central China counts US dollars. Despite evidence of protectionism in economic powerhouses such as China and the US, there has not been a significant increase in trade barriers

In contrast, the GTA Project examines a much wider range of public measures beyond those that reflect WTO legality. The project identified 600 measures, including those that almost certainly or certainly "introduce or change asymmetries of treatment to the detriment of some foreign commercial interest". Those measures do not comply with the standstill provision expressed by the G20 leaders in all their summit statements. Thus, while the GTA Project reports on trade remedy actions (initiated or renewed – again a contrast), it examines a set of measures that appear to have become the preference of leaders during the global financial crisis – state aid including subsidies, bailouts and measures that encourage national manufacture. The GTA Project also includes intellectual property rights and migrant workers measures.

"The GTA Project thus examines distinct protectionist approaches by major trading countries"

The GTA Project thus examines distinct protectionist approaches by major trading countries. It is not that WTO members are breaching their obligations but that they are finding new measures that discriminate against foreign commercial interests. Thus, for instance, the United States included in its major economic stimulus package 'Buy American' provisions under the American Recovery and Reinvestment Act of 2009. As a result, the act required that the iron, steel and other manufactured goods used in the programme (including in transportation projects) had to be made in America. The US and Canada consequently negotiated a new liberalised procurement agreement that mitigated the consequences of this discriminatory approach. China equally has resorted to China-favoured provisions. In November 2009 it declared it would favour "indigenous innovation" solely developed in China when purchasing computers, software, energy and communication products. These provisions requiring local intellectual property, local brands and independence from foreign influence made it virtually impossible for foreign companies to bid on government procurement tenders. In response to strong, mostly foreign opposition, China eased its buy-local requirements.

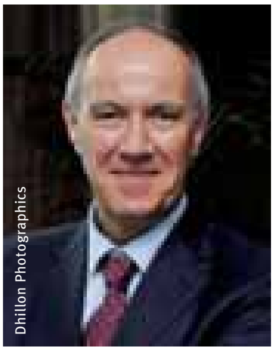
The evidence of this new mix of protectionism is clear. The GTA Project found that in the period covered through February 2010, 150 bailout or subsidy measures are discriminatory, as opposed to only 90 trade remedy measures and 51 tariff measures.

Thus, the trade glass is half full, given that there has not been a generalised and significant increase in trade barriers as in the Great Depression of the 1930s. If the benchmark remains that period and recent comparisons that include earlier discriminatory measures and trends, global discrimination appears to be contained. But the trade glass is also half empty, thanks to the new mix of protectionism that focuses on state subsidies and bailouts where discrimination against foreign commercial interests is evident.

And whether half empty or half full, the standstill provision is selectively ignored by the G20. ◆

Making ideas work in the global economy

World Intellectual Property Organization (WIPO)



Francis Gurry
Director General
World Intellectual Property Organization (WIPO)

More than $1 trillion is spent every year around the world in research and development (R&D). We are dependent on this investment, and on the new knowledge that it produces, for economic growth, for improvements in our quality of life and for providing solutions to the many challenges that humanity faces, from food scarcity to epidemics and climate change.

The distance between idea and marketplace, however, is long and fraught with risk. Intellectual property (IP) helps the entrepreneur to travel that distance. It translates ideas into commercial assets and it provides a framework for working and trading those assets in the global marketplace.

The World Intellectual Property Organization (WIPO), a specialized agency of the United Nations, provides a range of indispensable services to the global economy in support of innovation and creativity:

– We manage **global IP systems** that make it easier and more cost-effective to obtain protection internationally for new inventions, brands and designs. Every year, WIPO manages over 160,000 international patent applications, 40,000 international trademark registrations, a growing number of international design registrations, and provides arbitration and mediation services in over 2,000 Internet domain name and other IP disputes.
– We develop and coordinate **global infrastructure** for the knowledge economy. This includes free databases of brands, designs, and technology disclosed in patent documents; as well as platforms to facilitate work-sharing amongst IP Offices and to add transparency to the functioning of technology markets.
– We administer a **Development Agenda** to increase the participation of the least developed, developing and transition

The WIPO Development Agenda

The WIPO Development Agenda derives from recognition of the importance of enabling developing and least developed countries to participate fully in the benefits of the knowledge economy. Adopted by WIPO's member states in October 2007, it is based on 45 recommendations to enhance the development dimension of all key areas of WIPO's activities.

The recommendations are divided into six clusters. These cover technical assistance and capacity-building; norm-setting, flexibilities, public policy and the public domain; technology transfer, Information and Communication Technologies (ICT) and access to knowledge; assessment, evaluation and impact studies; institutional matters including mandate and governance; and other issues.

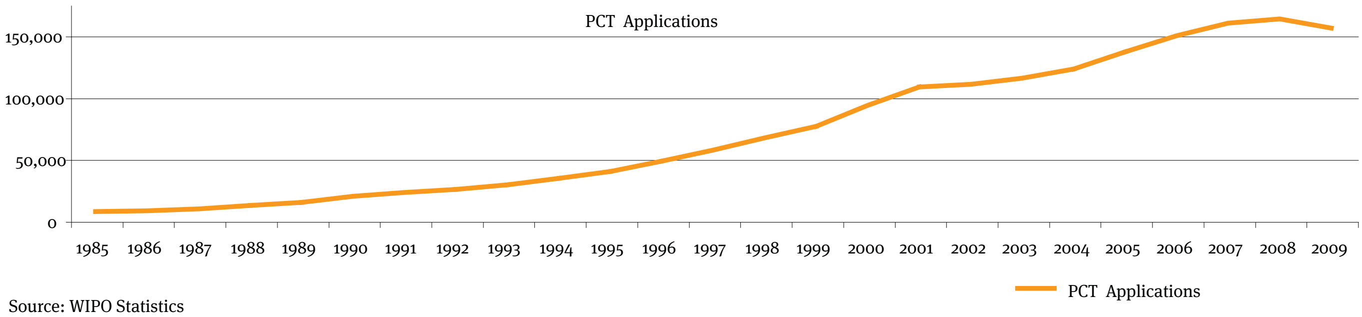
WIPO is working to translate the aspirations of the Development Agenda into reality through a series of projects with concrete deliverables and timelines. Seventeen projects, with a total budget of about CHF 19 million have been approved by the member states and are now at different stages of implementation.

One of the first projects to deliver results was the Access to Research for Development and Innovation (aRDi) program. This is a public-private partnership which provides IP offices, universities and research institutes in least developed countries with free access to the knowledge contained in a collection of online scientific and technical journals.

Patents provide an important stimulus for investment in innovation and contribute to rapid diffusion of new technologies

PCT – international patent filing trends

- 155,900 international patent applications were filed in 2009 through the WIPO-administered Patent Cooperation Treaty (PCT).
- The impact of the global economic downturn was reflected in a 4.9% drop in filings compared to 2008. This is the first time in the PCT's history that international patent applications have decreased.
- Countries such as Germany, Israel and the US experienced sharper than average declines in PCT filings, while China, Japan and the Republic of Korea continued to see positive growth. Filings from China increased by over 29%.
- Despite the downturn, the US maintained its ranking as top PCT filing country in 2009, followed by Japan, Germany, the Republic of Korea and China.



Source: WIPO Statistics

countries in the benefits of the knowledge economy. WIPO's extensive development cooperation program assists governments to establish national innovation and IP strategies, appropriate regulatory frameworks, infrastructure and human-resource capacity in their countries.

- We administer 24 multilateral treaties and facilitate multilateral discussions amongst our 184 Member States for the balanced evolution of the **international legal architecture** for IP, for example with respect to audiovisual performances; broadcasters' rights; access to published works for visually impaired persons; traditional knowledge, folklore and genetic resources.

As the knowledge economy continues to expand and technology cycles continue to shorten, much remains to be done to provide a balanced and efficient international framework for promoting innovation and creativity. There is a need to improve the functionality of our global IP systems and capacity throughout the world to cope with the growing demand for IP rights. An untenable backlog of over three million unprocessed patent applications worldwide mars the performance of the patent system. The structural change in the production, distribution and consumption of music, film, literature, journalism and other creative works, resulting from digital technology and the Internet, poses profound questions for copyright and the financing of culture in the 21st century. Counterfeiting on a massive scale is not only causing significant economic loss - international trade in counterfeit and pirated physical goods was estimated by the OECD to have reached $ 250 billion in 2007 - but is also creating risks to public health and safety. Concentrated efforts are needed to make a positive impact on the reduction of the knowledge gap and the digital divide and, in consequence, on the reduction of poverty.

WIPO is at the service of the world in addressing these and the other issues that are emerging from our transition to the knowledge economy.

www.wipo.int

WIPO
WORLD INTELLECTUAL PROPERTY ORGANIZATION

Stabilising India's fast growth: Doha matters

India's high level of economic growth is leading to food inflation and placing huge demands on the country's agricultural and rural communities

By Yoginder K. Alagh, chancellor, Central University of Nagaland, and former minister, power, planning and science and technology of India

As India plans for the G20 meetings after the 'perfect storm', it is concerned with stabilising its growth process. Doha is a part of that concern. India is one of the two global economies growing at 7 per cent plus in 2009/10 and expects an 8 per cent growth rate in 2010/11. Given the global economy, it knows that the process is fragile. At the peak of the storm the collapse of two large exports – textile manufactures and gems and jewels – cost the economy a million jobs. In addition vertical integration by acquisitions was in difficulty. For example, the diamantaires had acquired retail distribution channels in Europe and the United States, which had initial debt servicing charges. The labour and skill intensity involved in exports work both ways. India's strategy is to develop measured and flexible responses to global shocks with a substantial emphasis on factor productivity and investment in infrastructure, to aim for a 9 per cent rate of growth. Strategic perspectives are being emphasised, such as Rajiv Gandhi's Eighth Plan introduced in 1989, which used measurable, rising capital productivity targets as the instrument to achieve a higher growth rate. It is within this broad context of growth and productivity that the Doha Development Agenda should be considered, particularly with regard to India's current concerns about agriculture and its global footprint.

The government of Manmohan Singh reversed the decline in the agricultural growth rate in the 1990s, but the current agricultural growth rate of a little more than 3 per cent cannot sustain India's high level of economic growth. The problem has become more urgent, thanks to the spurt in food demand that accompanies income levels that now exceed $3,000 per capita in terms of purchasing power parity, the limited success of India's water management programmes, the opposition of globally networked non-governmental organisations to the new seeds and pesticides, and the shortage of land now confronting the country. India is facing food inflation. India increasingly demands both grain and non-grain food and agriculture. Its agricultural demands are growing faster than any agricultural growth rate measured anywhere over a similar period of time. Like China, India is a net importer of food and agricultural products.

> "India's strategy is to develop measured and flexible responses to global shocks with a substantial emphasis on factor productivity and investment in infrastructure"

India's edible oil imports went up by 77.7 per cent and pulse imports by 34.6 per cent in 2009/10. It is not only importing food but also subsidising imports to protect food baskets in the vulnerable section of its population in real terms. Sonia Gandhi's sociopolitical contribution is to insist that, in a fast growing economy, the national scheme to guarantee rural employment, which has already been implemented, and a food security programme currently underway are the social underpinnings of the politics of commitment to the common person.

While most countries are mildly protectionist in the current stimulus period to protect domestic jobs and output, India has slashed tariffs and subsidised agricultural imports. It is clearly in its interest that the rich countries and others from which it imports do not follow distortionary policies. Economists interested in agriculture have argued for low tariffs on agricultural imports to protect agricultural incomes and to provide incentives for domestic production, but the government's concerns about food inflation in the country's roaring economy do not permit such nuanced policies.

With regard to the G8's security discussions at the Muskoka Summit in Canada, India's concerns on the subcontinent will be its main preoccupation. It will make every effort to consolidate its position, for example, in Afghanistan, where it has invested substantially in developing physical and human capital in extremely trying situations, as it has elsewhere in the subcontinent. It will also carry forward the main thrust of its new stance on nuclear power and the more aggressive intellectual contribution it made at the Copenhagen conference on climate change in December 2009. On agriculture India can be expected to pitch for reform of the global system. Prime Minister Singh's emphasis on energy and food security at the meeting of the leaders of Brazil, Russia, India and China – the BRICS – in Brazil was not just rhetoric.

However, permanent interests do not change radically. India will push the stand it has developed since the ministerial meetings of the World Trade Organization (WTO) at Cancun in 2003 and Doha before that in 2001. It will increasingly agree to place non-tariff interventions in the negotiation basket, such as limits

on the interventions of its large parastatal institutions in domestic agricultural markets, as it was willing to do at the Special Committee on Agriculture. Nonetheless, it will probably not give up its public support for infrastructure development, including markets, communication and agro-processing investments, or for development of agricultural technology. India is going through a renaissance of new systems of organisation for its agriculture, agro-processing and rural infrastructure, including self-help groups, producer companies of farmers and cooperatives. Many develop strategic alliances with corporate and public agencies. These new strategies, which have been developed by agricultural policy makers, are largely in the mould of public-private partnerships but require hand holding by the state. Global negotiations will have to support these initiatives, which are considered important for widespread agricultural and rural development.

India is expected to pitch for reform of the global organisation of agriculture, reflecting its own new strategies for agricultural and rural development

India's stand on tariff negotiations and the WTO's Agreement on the Application of Sanitary and Phytosanitary Measures is clear. There may be some flexibility on the tariff component but the distance to be covered on these issues is large. At some stage, the world will need political initiatives to cover the last mile. Thoughtful Indians hope that the G20 will no longer postpone the Doha deadline, as it has at its last few meetings, 'until next year'.◆

From right: Zhou Xiaochuan, governor of the People's Bank of China; Xie Xuren, Chinese finance minister; Zhang Ping, director of the National Development and Reform Commission; and Chen Deming, commerce minister, attend a press conference at the National People's Congress inside the Great Hall of the People in Beijing on 6 March 2010

China's role in a world in crisis

With impressive growth rates and as the only country to record positive growth imports in 2009, China has contributed much to the global economic recovery

By Tu Xinquan, China Institute for WTO Studies, University of International Business and Economics

A trade surplus arises whenever trade happens. But now, continued criticism from developed countries in deficit have turned a trade surplus into something shameful. China, which has the biggest surplus in the world, certainly receives the bulk of that pressure. This is at least one reason why the Chinese government hurried to forecast a monthly trade deficit in March 2010. Premier Wen Jiabao and Chen Deming, minister of commerce, declared this forecast one month before the final statistics were released. Fortunately, of all Chinese statistics, trade data are considered the most trustworthy. Otherwise, some cynics might suspect the Chinese statistical agencies of manipulating the findings to support the government's previously announced conclusion.

Global trade imbalance is a problem that must be addressed. No matter whether it is economically significant, it has resulted in political disruptions in many countries, especially in developed ones, with the decline in public support for globalisation. But global trade balance is not a goal. Trade is only an approach to economic growth. Rather than emphasise rebalancing world trade, there should be a focus on boosting the global economy, particularly in less developed countries. The gap in the level of development between rich and poor countries is the most significant imbalance in the world. As income inequality in the domestic economy often diminishes demand, a large gap between developed and developing countries also creates excess supply, squeezing redundant money into a virtual economy. This, in fact, is one cause of the recent housing bubble in the United States. So supporting development is the best way to rebalance the world economy.

In turn, developing countries should recognise their role in stabilising the world economy. However, they need to deal with priority issues in their own economies, such as economic growth and social stability. It is not appropriate for developed countries to pressure developing countries on how to develop their own economies. There is no consensus on how a country should develop.

China has always continued to gain knowledge and use resources from the West throughout the process of opening up and reform. China has been successful because it finds an approach appropriate to its own situation and conditions. With regard to global imbalances, China has also been managing it in its own way, by stimulating domestic investment and consumption through fiscal, social and monetary policies. China believes that the increase in domestic demand rather than a sharp appreciation of renminbi is the best way to contribute to the global economic recovery. As a result, it is the only country recording a positive growth in imports (2.8 per cent) among major economies in 2009, although its exports decreased by 10.5 per cent. Just as Chinese leaders often state, the biggest contribution China can make to the world is to develop itself well. It turns out that the Chinese approach has worked.

In the first quarter of 2010, China's growth rate accelerated to 11.9 per cent, which is impressive even in boom years. At the same time, Chinese trade saw a rapid recovery at the rate of 44.1 per cent, including a surge in imports of 64.6 per cent. It seems that the world should appreciate China's generous contribution to the recovery. However, the headlines are still occupied by the endless debate over the appropriate level of the exchange rate. Some governments and experts assert that rebalancing the global economy depends on the readjustment of the Chinese currency, no matter what China has done already for the world. Fortunately, the US government lately reduced its criticism of Chinese currency policy, claiming that it should be decided by the Chinese government. Moderate foreign pressure helps because it can be used by the Chinese government to confront domestic opposition. But if it goes too far, the Chinese government must respond antagonistically in order to show its toughness.

With the rebound of domestic production and consumption and foreign trade, the Chinese government is considering an adjustment of its exchange rate policy. At the same time, it has finally started to cool down the overheated real estate market, releasing a rigid control policy in April 2010. If fully implemented, this policy will help inject money from the housing market into normal consumption and investment and will promote more balanced and sustainable economic growth. Such growth will, in turn, stimulate China's imports and help the world economy.

Nonetheless, trade protectionism remains a concern for China. In 2009, 116 trade remedy cases were initiated against Chinese products, affecting $12.7 billion in exports. The situation in 2010 seems even worse. In the first quarter, there were 19 cases related to $1.2 billion of exports, for a growth rate of 93.5 per cent. Some countries are using low carbon emissions as an excuse to restrict Chinese exports. While Chinese imports represent a higher share of the world market, this kind of protectionist action will diminish China's willingness to import. Trade liberalisation must be kept alive and moving forward. Unfortunately, the Doha round of trade negotiations at the World Trade Organization is still stagnating, due to inadequate political support from some major members.

> “China has been successful because it finds an approach appropriate to its own situation and conditions”

The G20 is appreciated because of the diversity of its membership. It should allow its members, which are at various stages of development, to adopt diversified models and economic policy. Coordination does not necessarily mean rendering everything the same, but should make policies compatible. In fact, it is difficult to harm others while benefiting oneself in a globalised world, where each depends on the other. China has no such ability either. China has been sharing the benefits reaped from its own development with the rest of the world. A case in point is the recent Beijing Auto Show. All the major automakers from around the world came to Beijing because they know that China represents the biggest and fastest growing market.

The G20 Toronto Summit in June 2010 will face some hot issues. The Greek debt crisis may overtake the issue of Chinese currency policy. The summit shows the relevance of international policy coordination in a globalised world. A crisis in one country, even a small country, could produce a butterfly effect across the world. The G20 should take prompt action to deal with the crisis before it hurts other countries. China will feel lucky if it is not paid much attention – which means China could concentrate on its own issues. ◆

Trade protectionism is a cause for concern. Trade remedy cases against Chinese products in the first quarter of 2010 affected $1.2 billion of China's exports

On the road to a new energy future

A key strength of the G8 and G20 summits is their mandate to look beyond the economics of the day and to help influence a stable, financial future for the world. Another is their capacity to draw on the resources of a group of countries to address issues no single nation can take on alone.

Shell looks at the global energy picture in a similar holistic way – and sees important roles for companies, governments and consumers in shaping a new lower-carbon energy future.

Global economics and global energy are, in fact, inseparable. It is impossible to imagine a world without secure energy supplies both for developed economies and emerging ones.

The challenge facing society is how to maintain secure supplies while moving toward an energy system that features cleaner fossil fuels and low-carbon alternatives. This is a challenge that no single company, industry or country can tackle alone. But at Shell we're doing our part.

We are increasing production of cleaner-burning natural gas, developing renewable energy, working to improve efficiency in our own operations and finding methods to lower carbon dioxide (CO_2) emissions.

Oil and gas are our core businesses and Shell is increasingly focusing on natural gas. By 2012, gas is expected to make up about half of our production.

Why natural gas? It is an abundant resource and the cleanest-burning fossil fuel. When used to generate electricity, it emits on average only half the CO_2 of coal-fired plants, which represent the fastest-growing source of greenhouse emissions.

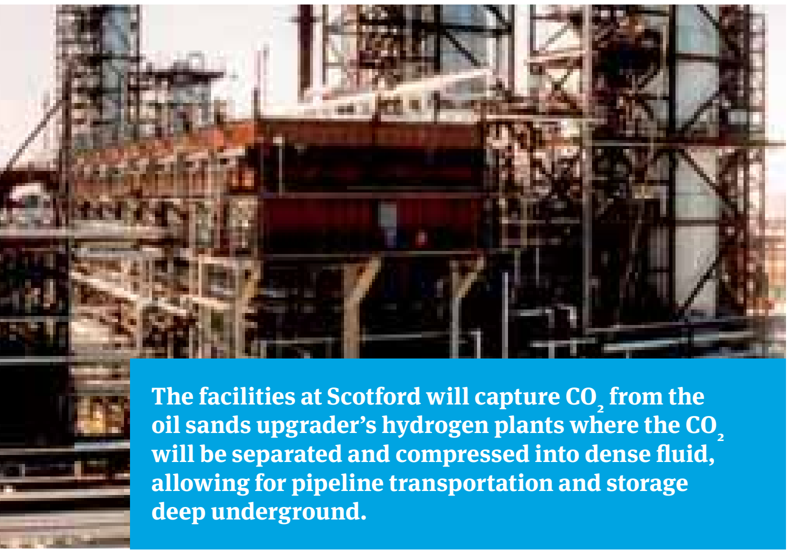
In Canada, most of the country's natural gas comes from the foothills of the Rocky Mountains, but Shell's investment in technology is opening up more production of unconventional gas in this country and elsewhere. In addition, Shell was a pioneer in the development of liquefied natural gas and is now the global leader in that market among international oil companies.

Shell is also focusing a great deal on biofuels, of which we are already the world's largest distributor. Shell recently announced a joint venture with Cosan in Brazil to produce and distribute ethanol from sugar cane, which can lower CO_2 emissions by 70 per cent compared with conventional fuel. We also continue to develop advanced biofuels from non-food sources, with other partners.

But investment is not just about finding and producing more energy resources. It is also about doing it in a responsible and sustainable way. A particularly promising technology is capturing CO_2 emissions and storing them permanently underground. Carbon capture and storage (CCS) is key to lower emissions from coal-fired power plants, refineries and other large industrial installations. According to the Intergovernmental Panel on Climate Change, CCS could contribute 55 per cent of the emission reductions needed this century to avoid the worst effects of climate change.

The proposed Quest Project at the Scotford upgrader near Edmonton, Alberta, Canada is one application of Shell's CCS work. Others include the Montezuma Hills Northern California CO_2 Reduction Project, and Australia's CRC Otway Project, the largest research and development CO_2 project anywhere in the world.

Quest, which is still in the planning stage, would capture, transport, inject and store more than one million tonnes of CO_2 per year from oil sands production beginning around 2015. That is equivalent to taking 175,000 vehicles off the road. The CO_2's



The facilities at Scotford will capture CO_2 from the oil sands upgrader's hydrogen plants where the CO_2 will be separated and compressed into dense fluid, allowing for pipeline transportation and storage deep underground.

permanent home would be more than two kilometres deep and sealed under thick layers of rock within 100 km of the Scotford facility.

CCS projects require significant capital investment and are currently uneconomic for the industry because they provide no revenue or income. It will take years for energy companies to gain experience and expertise using this technology – time needed to bring down costs while increasing efficiency. As greenhouse-gas regulations are implemented over time, the price of emitting CO_2 should increase so that eventually CCS will make economic sense. In the meantime, governments are providing support to kick-start the technology's development.

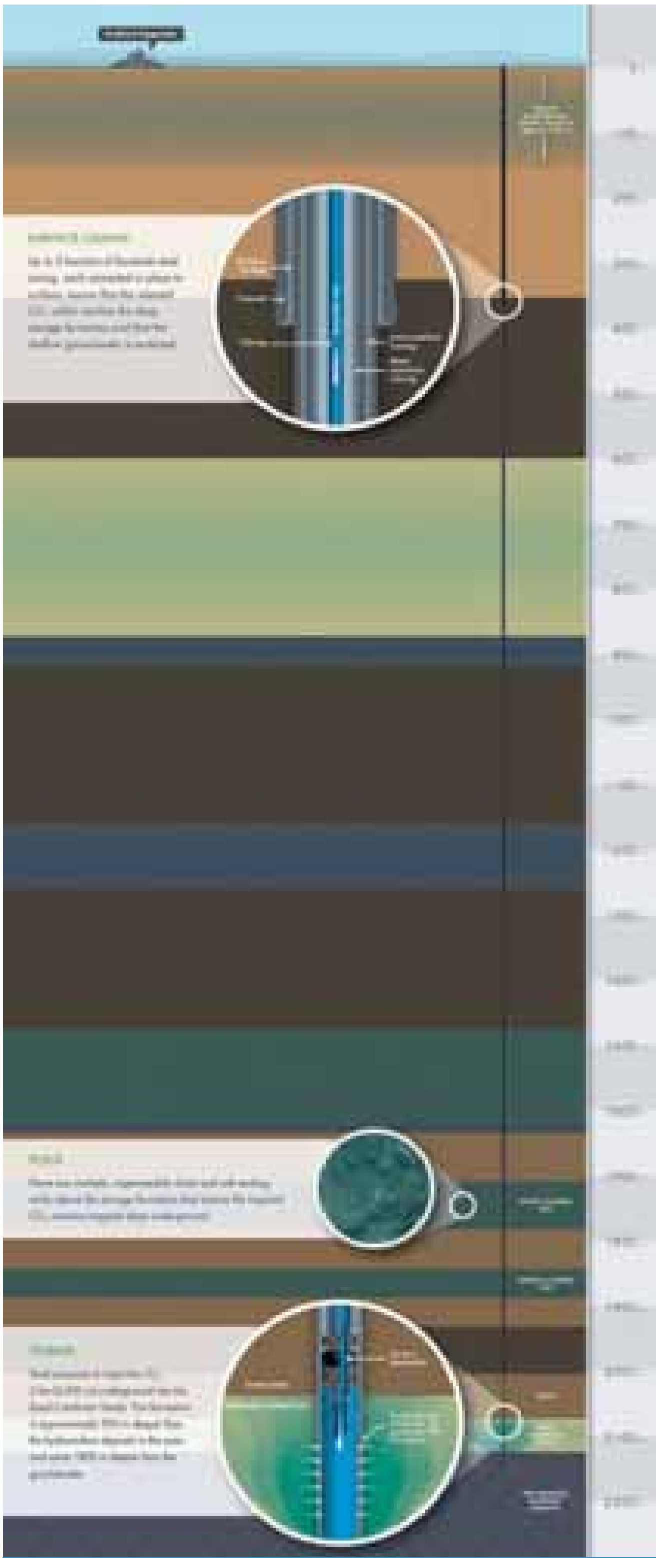
Last October, the government of Canada and the government of Alberta signed a letter of intent for $865 million in funding towards the Quest Project. The money will be dispensed over 15 years as Quest reaches certain development milestones.

Shell commends the governments in Canada for their financial and policy support for CCS, which will help industry gain experience and spur development of a promising means to reduce global CO_2 emissions.

Quest could be the next big step in reducing CO_2 emissions from Shell oil sands operations in northern Alberta. Success hinges on numerous factors, such as discussions with Scotford's neighbours and other stakeholders; outcome of the pipeline and test well program; regulatory processes; ability to meet sustainable development criteria; and economic feasibility. Work on these aspects will continue into 2011. Once they have been addressed, Shell and joint venture partners Chevron and Marathon will evaluate whether to push ahead and to allow construction to begin.

In the longer term, an important incentive for industry's investment in carbon-reduction technology will be a price on emitting CO_2. Shell believes the most effective pricing mechanism is one that caps carbon emissions and permits companies to trade emission allowances, as the European Trading Scheme already does, although government policies can increase the success of such programs. That leaves it up to companies and entrepreneurs to find the most innovative and cost-effective means to reduce emissions.

One of the world's biggest challenges this century will be producing more energy to support economic development and modern lifestyles while at the same time reducing environmental costs. The stakes are high – but so are the rewards for society on the path to a new energy future. Shell's people around the globe are strongly motivated to do their part.



This graphic shows injection and geological storage of carbon dioxide more than two kilometres underground

Copenhagen's accomplishments

With plans to decrease deforestation and reduce carbon emissions worldwide, the Copenhagen climate summit has made some valuable steps forward

By Achim Steiner, under-secretary general, United Nations, and executive director, United Nations Environment Programme

The Copenhagen climate summit was neither the breakthrough so many had hoped for, or the breakdown that seemed possible in the late hours of that final day in December 2009.

Despite the pessimism in the press, forward steps were taken. If fully implemented they could go a long way toward keeping a global temperature rise to 2°C or less by 2050.

Much credit must go to rapidly developing countries including Brazil, China, Indonesia and South Africa. They produced plans to tackle their emissions and have had these plans internationally monitored and verified.

For the first time in the history of international cooperation on climate change, there is a voluntary partnership between North and South backed by emission targets and intentions. Indeed, more than 100 countries associated themselves with the Copenhagen Accord.

Developed countries pledged $30 billion of climate support to developing economies and said those funds would lead to perhaps $100 billion in annual funding by 2020. The $30 billion, over three years, will assist developing economies adapt to climate change. It will also catalyse a transition to a low carbon economy based on cleaner energy systems.

Perhaps the brightest outcome of Copenhagen relates to forestry. Up to 20 per cent of global greenhouse gas emissions are linked to deforestation. Paying developing economies to conserve rather than chop down their forests could curb these emissions and generate important benefits to local and national economies. Such benefits include enhanced water supplies, soil stability, employment in natural resources management and reversing the rate of biodiversity loss – an elusive target that was to have been met during this year's United Nations International Year of Biodiversity.

Indonesia could earn up to $1 billion annually if it halved its rate of deforestation under current, relatively low prices for carbon; it could earn more if greater efforts to curb emissions drive the price of carbon higher.

The United Nations Environment Programme (UNEP), the UN's Food and Agriculture Organization and the UN Development Programme are spearheading the UN Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation. Recognising the value of natural systems in combating climate change is an extremely promising path, because of the mitigation as well as adaptation services provided by such systems.

One area is sustainable agriculture, including organic agriculture. Organic agriculture triggers sharply polarised views: some consider it the luxury of the rich; others suggest it can play a far wider role. Research by UNEP and the UN Conference on Trade and Development on projects in Africa where small holders had switched to organic or near organic practices found that yields more than doubled after the switch. That increase was 128 per cent in East Africa.

Organic agriculture also locks carbon into soil. In collaboration with the World Agroforestry Centre and a group of scientists, UNEP recently launched the Carbon Benefits Project to assess how much carbon is sequestered in soils and vegetation under different land management regimes. The goal is to establish a standard so an investor in Frankfurt or London or Singapore or New York will know how much to pay a farmer or landowner for the carbon removed from the atmosphere.

While the adaptation potential of mangrove forests as natural coastal defences may be known, the carbon-removing services are not. Experts estimate that carbon

> "Recognising the value of natural systems in combating climate change is an extremely promising path"

emissions – equal to half the annual emissions of the global transport sector – are captured and stored by marine ecosystems such as mangroves, salt marshes and seagrasses.

But according to UNEP's *Blue Carbon* report released before Copenhagen, far from maintaining and enhancing these natural carbon sinks, humanity is damaging and degrading them at an accelerating rate. It estimates that up to 7 per cent of these 'blue carbon sinks' are lost annually, or seven times the rate of loss of 50 years ago. There is now a proposal for a Blue Carbon fund like the one for forests that could tip the economic balance in favour of conservation.

Earlier this year UNEP, in collaboration with Indonesia and other UN agencies, launched a science assessment project to bring even greater precision to the carbon sequestration potential of marine ecosystems. Additional scientific support from G8 and G20 countries is welcome.

All eyes are now on the next climate convention meeting in Cancun in November and December 2010. The

A wind power plant in Donggang, Liaoning province. China is keen to reduce its carbon emissions and is spending much of its stimulus package on energy efficiency projects

G8 and the G20 can – along with other forums – play an important part in the chances for success there.

Despite some significant moves forward in terms of emissions, Copenhagen has left a gap between where science says emissions need to be in 2020 – to limit the temperature rise to 2°C or less in 2050 – and where they stand today.

This is the conclusion of a new greenhouse gas modelling study based on the estimates of researchers at nine leading centres, compiled by UNEP and launched in February. The experts suggest that annual global greenhouse gas emissions should not be larger than 48.3 gigatonnes (Gt) of equivalent carbon dioxide in 2020 and should peak sometime between 2015 and 2021.

They also estimate that global emissions need to fall between 2020 and 2050 by between 48 per cent and 72 per cent. Consequently, greenhouse gases must be cut by 3 per cent annually over that 30-year period. Yet the researchers found that even with the best intentions there is a gap of between 0.5 Gt and 8.8 Gt of carbon dioxide equivalent per year, amounting to an average shortfall in emission cuts of 4.7 Gt. If the low end of the emission reduction pledges are fulfilled, the gap is even bigger: 2.9 Gt to 11.2 Gt of carbon dioxide equivalent per year, with an average gap of 7.1 Gt.

Many assumptions lie behind these figures, not least about actual growth rates of rapidly developing economies over the next decade and the consequent emissions. Nevertheless, higher ambition, especially among developed economies, is needed – fast. Contributions could also come from including emissions from aviation and shipping in pledges and plans.

The good intentions of countries such as Brazil and Indonesia are also linked to financing. This underlines the urgency of turning the $30 billion pledged into investments on the ground. That transformation could go a long way toward building the practical and political confidence and cooperation that took a blow at Copenhagen.

Many developing countries will need clear, transparent reassurance that developed economies are providing new money, rather than repackaged pledges or funds diverted from aid or other existing budgets. Investment in renewable energies and forestry can also support the carbon markets in advance of an international agreement on climate change.

Some countries are not prepared to wait for a new international treaty to shift to a low carbon, resource-efficient 21st-century green economy. More than 30 per cent of China's stimulus package is being spent on high-speed rail, renewables and energy efficiency projects. In Korea, 90 per cent of stimulus is similarly earmarked for green investments. About 30 developing countries and economies in transition have requested UNEP's assistance in transforming their economies and development strategies to a green economy. Some countries are moving forward because it makes economic sense as well as social and environmental sense.

Meanwhile, some of the old geopolitical structures are being stood on their head. In April 2010 General Electric of the United States announced that it and the State of California had signed a broad cooperative agreement with China's Ministry of Railways. Chinese labourers played a crucial role in the construction of America's railroads 150 years ago; today China supplies not workers but high-tech know-how.

The challenge for the G8 and the G20 is to be part of that change while recognising that only through a global, fair and equitable agreement can climate change be addressed fairly and equitably in all 193 countries, all at different points in development and some acutely vulnerable to climatic impacts.

The high-speed train is leaving for some, but others – including small islands and countries on continents such as Africa, Asia and Latin America – may be left behind if a multilateral solution under either the UN Framework Convention, its Kyoto Protocol or an inclusive and fully supported Copenhagen Accord cannot be found. ◆

ONTARIO IS A LEADER IN FIGHTING CLIMATE CHANGE

It is eliminating coal-fired electricity generation even as it fosters a culture of energy conservation and embarks on North America's most ambitious program of bringing green, renewable energy to the province's homes and businesses.

The change in circumstances for Canada's most-populous province has been dramatic. Just a few years ago, fingers were crossed every summer that there would be enough electricity on hot, steamy days.

But billions of dollars of new investment have turned this around. The province's energy future looks secure for the next few years, and that time is being used to usher in a dramatic transformation of the electricity sector.

"Ontario has a very good story to tell and I'm not exaggerating when I say the world is watching us very closely," said Colin Andersen, CEO of the Ontario Power Authority.

"Often when I meet others in the electricity sector from other parts of the world, they're astonished at all that we're doing in Ontario. They might be involved in one aspect of renewing their electricity system – building transmission, or developing renewable energy – but not a transformation of the whole system, involving every part, at the same time. Aggressive conservation targets, getting out of coal generation, a landmark renewable energy plan, smart grid and transmission expansion – we're doing it all in a big way."

This move will be the single biggest contributor to reducing Ontario's greenhouse gas emissions. The net result to the atmosphere: a potential reduction of up to 30 megatonnes of GHG emissions annually.

The transition to greener power is well under way. In 2009, output from Ontario coal-fired generation plants was the lowest in 45 years, and we're on our way to reducing the carbon footprint of the electricity sector by 75 percent.

Al Gore has called Ontario's plan "the single best green energy program on the North American continent."

The Power Authority, which was established five years ago to provide a long-term plan for the electricity sector, has ensured there is a reliable supply of electricity despite the phase-out of more than 6,000 megawatts of coal-fired electricity by the end of 2014.

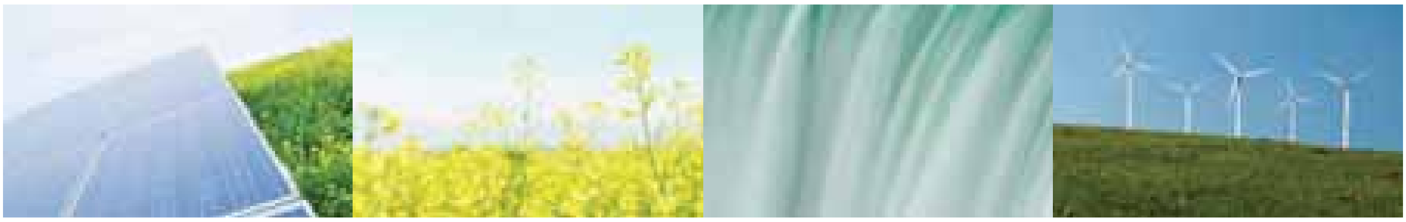
It has reinforced Ontario's diversified supply of power – including natural gas, hydro-electric, nuclear and renewable energy – by contracting for about 13,000 megawatts of new and replacement supply. This represents an investment of about $15.3 billion. By 2012, contracts under the Power Authority's management are expected to double in megawatts, representing an additional $30 billion, or tripling, in investment in the sector.

That's a lot of change for a 35,000-megawatt system that is becoming increasingly clean.

BY THE END OF 2014, DIRTY COAL-FIRED GENERATION WILL BE ELIMINATED FROM ONTARIO'S SUPPLY MIX AS PART OF A COMPREHENSIVE PLAN TO MODERNIZE AND "GREEN" THE ELECTRICITY SYSTEM. THIS IS THE SINGLE LARGEST CLIMATE CHANGE INITIATIVE IN CANADA.

It is believed that Ontario will be the first jurisdiction in the world to rid itself entirely of coal-fired electricity generation.

Ontario has been aggressive in pursuing new sources of renewable supply. In 2009, more than 80 percent of Ontario's electricity came from non-emitting sources of power such as nuclear, water, wind, solar and biomass.



Since 2003, Ontario has increased its online wind capacity 80-fold, going from 15 megawatts of wind power to more than 1,200 megawatts to become Canada's wind power leader. Last year, wind generation rose by more than 60 percent over the previous year. Canada's three largest solar farms launched in Ontario in 2009. And Ontario's largest photo-voltaic solar farm is currently under construction in the province's southwestern region.

At the same time, the Power Authority has also launched a number of programs for businesses and individuals to find cost savings through conservation efforts. More programs are being launched all the time. The first goal, to reduce peak demand by 1,350 megawatts, was realized by the end of 2007. Our long-term objective is to reduce Ontario's peak-use demand by 6,300 megawatts by 2025. That's the equivalent of removing one in five households from the grid. It is Canada's most ambitious demand-reduction plan and it is anticipated that the goal will be achieved ahead of schedule.

The Green Energy Act was passed into law by the Ontario legislature last year. One of the cornerstones of this act is the establishment of North America's most comprehensive feed-in tariff program.

This program offers guaranteed, long-term prices for renewable energy producers with reasonable rates of return to increase investor confidence and make it easier to finance projects. These provisions cover a broad spectrum of project sizes and renewable energies – from homeowners who want to put solar panels on their roofs as well as commercial operators establishing large wind farms. Biomass, biogas, hydro and landfill gas are also included in the program.

So far, the FIT program has been a resounding success. In its first six months, there were more than 9,800 applications, representing about 9,700 megawatts of potential new renewable capacity, and the OPA began announcing this spring the first 2,500 megawatts of contracts.

The applications keep rolling in. That's one reason why the government is planning for a $2.3 billion expansion of the province's transmission system so it can capture as much of the wind, solar and biomass energy that Ontarians can offer.

The FIT program and other measures in the Green Energy Act are expected to support the creation of 50,000 direct and indirect jobs in the first three years of implementation.

ONTARIO IS PROVING THAT IT'S POSSIBLE TO BE A LEADER IN FIGHTING CLIMATE CHANGE WHILE ENSURING THE FUTURE IS SUSTAINABLE AND PROSPEROUS.

FOR MORE INFORMATION ON ONTARIO'S EFFORT TO COMBAT CLIMATE CHANGE, PLEASE VISIT:

Ontario Power Authority
www.powerauthority.on.ca

Ontario Ministry of Energy and Infrastructure
www.mei.gov.on.ca/english/energy/gea

Ontario Ministry of the Environment climate change information
www.ontario.ca/climatechange

ONTARIO POWER AUTHORITY


2009
ONTARIO'S GREEN ENERGY ACT ENABLES NORTH AMERICA'S FIRST FEED-IN TARIFF
2010
SOME OF NORTH AMERICA'S LARGEST SOLAR FARMS OPERATING IN ONTARIO
2012
POTENTIAL FOR NEARLY 1,000 WIND TURBINES FROM CURRENT CONTRACTS
2014
UP TO 30 MEGATONNES OF GHG EMISSIONS REDUCED BY ELIMINATING COAL
2025
AT LEAST 6,300 MW CONSERVED IN ONTARIO
SERIOUS NUMBERS.
SERIOUS COMMITMENT.
ONTARIO POWER AUTHORITY
OM Official Mark of the Ontario Power Authority.

The challenge of catalytic leadership for long-term change

The response to climate change demands effective and creative leadership to implement a comprehensive global climate treaty

By Steven Bernstein and Matthew Hoffmann, co-directors, Global Environmental Governance Program, Centre for International Studies, Munk School of Global Affairs, University of Toronto

Governments can react quickly in the face of acute crises. The abrupt shutdown of airspace over much of Europe after the eruption of the Eyjafjallajökull volcano is but the latest example. In that case, the precautionary principle was the default rule: better to err on the side of caution than risk planes falling out of the sky. The financial and climate crises show just how difficult it is to apply the same rule when events unfold in slow motion, or, as in the case of climate change, when the problem has no 'solution', but rather is better understood as an enduring feature of modern life. Under such conditions, the apparent urgency for grand multilateral political action in Copenhagen, in hindsight, may have undermined an opportunity to take advantage of currents in climate policy development that recognise the difficult road ahead to generate an adequate global response.

To be fair, the artificial deadline of 2010 in the Bali Action Plan from 2007 could not have anticipated the intervention of a global financial crisis. Less charitably, neither did it sufficiently acknowledge the enormous complexity of global climate policy – much of it in parallel to or outside the United Nations framework – especially as it evolves toward a post-Kyoto era. In a post-Copenhagen environment, the challenge is catalytic leadership that will reinforce linkages and results along the multiple policy trajectories that characterise global climate policy in 2010.

What happened in Copenhagen?

The Copenhagen Accord is a three-page political document that affirms a goal of limiting warming to 2°C above pre-industrial levels. It establishes a bottom-up process for industrialised countries to set their own, non-binding, emissions reduction targets and developing countries to list proposed emissions reduction activities, which could also include emission reduction targets. And it calls for the mobilisation of $100 billion per year by 2020 to support adaptation and mitigation measures in developing countries.

Carbon markets demonstrate enormous potential to capitalise on and scale up policy innovation

In its favour, the accord appears to overcome the North-South stalemate that blocked US ratification of the Kyoto Protocol, because it opens the door to commitments from all major economies. The institutionalisation of concrete benchmarks for stabilisation and finance is also a major step forward. But the apparent breakthroughs came at a significant political cost. The consequence of bypassing the relatively transparent and inclusive two-track negotiating processes of the UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol was that the conference of the parties only 'took note' of the accord. In April in Bonn, parties opposed tentative support not only because many found the Copenhagen process illegitimate, but also because they worried that the accord's lack of binding commitments for developed countries and retreat from 'common but differentiated responsibilities' reflected a step backward from the Kyoto Protocol. As a result, a new track of negotiations is now superimposed on the UNFCCC and Kyoto tracks, complicating an already fraught and complex negotiating agenda, with decreasing expectations for an agreement in December in Mexico. Three important lessons can be drawn for moving forward.

1. Don't underestimate the importance of legitimacy in multilateral climate negotiation.
Attempts to accelerate climate negotiations, or bypass them altogether, through forums ranging from the Major Economies Forum to G8/G20 summits have consistently concluded with the message that ultimately agreement requires the legitimacy of the wider UN processes. That does not mean negotiations should only be undertaken through the UN process, but that the G8/G20 meetings and other key forums are best viewed as opportunities to forge leadership coalitions, break political bottlenecks and catalyse domestic action, not as replacements for detailed negotiations or legitimisation. Here's where, for example, the United States and China can sort out differences over monitoring and peer pressure can inspire new bargains. But reproducing the same groupings in formal negotiations is unlikely to forge a broader consensus required for global agreement.

2. Don't let the politics of multilateral climate negotiations undermine progress elsewhere.
This lesson may seem to contradict the first, but it does not. Even when UN negotiations have floundered, the parallel growth of carbon markets and other experiments in climate policy development demonstrate enormous potential to capitalise on and scale up policy innovation. Bringing the coherence and resources that only states can mobilise to these multiple trajectories should be a priority.

There are several components, beginning with carbon markets. In terms of allowance, several cap-and-trade systems at the sub-national level (e.g., Regional Greenhouse Gas Initiative), national level (e.g., New Zealand) and international level (e.g., European Union) are already operating and more are being designed. While cap-and-trade has recently come under siege in the US and Australia, it is still a preferred tool for addressing climate change across levels of political organisation.

With regard to carbon markets and credit, in addition to the Clean Development Mechanism, voluntary offset markets are growing. A number of crucial standard-setting enterprises have sought to bring integrity to the offset markets. With costs of climate action being a key concern, demand for offsets will continue to grow.

Another component is municipal networks, as perhaps the most momentum for climate action comes from cities. Organisations such as the C40 group of large cities, Cities for Climate Protection, Eurocities and The Climate Group's Cities, States and Regions programmes are coordinating thousands of cities as they look to garner economic development benefits from climate action.

Public-private partnerships, including government, non-governmental organisations (NGOs) and corporations, are increasingly visible, especially with regard to technology development and deployment. Cisco's Connected Urban Development programme and The Climate Group's SMART 2020 initiative are seeking to transform markets with large-scale pilot projects.

Yet another component is adaptation, which has moved up the political agenda as the world appears resigned to some climatic change. Addressing the effects of climate change, whether by the insurance industry, investment community, development initiatives, municipal networks or UN negotiations, will be increasingly important to the global response to climate change.

Finally, the Asia-Pacific Partnership for Clean Development and Climate Change, the Major Economies Process for Energy Security and Climate Change and the G20, as relatively new multilateral initiatives, have the potential for catalytic, voluntary action and for generating peer pressure. They can foster partnerships, technological innovation and be a basis on which to build sectoral agreements or specific policy initiatives. For example, they could be forums to end, or at least to make transparent, fossil fuel subsidies, which, according to a recent report by the International Institute for Sustainable Development, equal $500 billion per year.

3. Success on both fronts is inexorably linked.
This last lesson is perhaps the most important. Multilateral success and scaled-up policy innovation are inextricable. To take one key case, while emissions trading is poised to become the central piece of the global response to climate change, cap-and-trade initiatives need a policy commitment to create demand for carbon as a commodity and they must have enforcement.

With uncertainty over the global regulatory environment and targets, maintaining a market and price for carbon becomes extremely difficult. Such uncertainty has contributed to an estimated halving of the expected 1.952 billion tonnes of carbon offsets available under the Clean Development Mechanism from projections just three years ago. Similarly, national and regional carbon market initiatives are facing uncertain futures, with climate change legislation in the US stalled, put on hold in Australia and dealing with threatened pull-outs in the Western Climate Initiative in the US and Canada. In the absence of multilateral progress, further development of carbon markets will remain a significant challenge.

Enforcement ensures the integrity of carbon markets. It requires effective monitoring and compatibility of internal and regional regulation and markets. The integration of private, regional and national markets under a multilateral framework would go a long way to encourage the enforcement, transparency and accountability required for effective markets. It could also address the serious problem of carbon leakage and avoid the need for punitive trade action.

Leadership in Copenhagen's aftermath

The new context of climate action demands a reconsideration of climate leadership. A comprehensive global climate treaty that drives the global response to climate change, setting the boundaries for and motivating domestic action must no longer be the single benchmark for an effective response. Leadership means seeking new roles for multilateral treaties that foster synergistic links among diverse trajectories. This is no mean feat. But recognising the multiple trajectories of climate action and the opportunities that they present for effective and creative leadership is a crucial step toward building the effective global response to climate change that is urgently needed. ◆

a GREEN ENERGY future

What is Saskatchewan?

Home to the most advanced deployment of carbon capture, storage and risk assessment technologies in the world.

The location of the world's largest carbon storage project – the IEA Weyburn-Midale CO_2 Monitoring & Storage Project **– with 17 million tonnes of carbon dioxide underground.**

A leader in research innovation through the International Performance Assessment Centre for Geologic Storage of CO_2, the Petroleum Technology Research Centre's Aquistore Project, and the University of Regina's International Test Centre for CO_2 Capture.

What is Saskatchewan? Home to the most advanced climate change research and development on the planet.

Researchers at the International Test Centre for CO_2 Capture work on climate change solutions.

A CO_2 injection well in Weyburn, Saskatchewan, home of the largest carbon storage project in the World.

Measurement, monitoring and verification of CO_2 is essential to safe storage.

ptrc Petroleum Technology Research Centre

University of Regina

ITC

IPAC CO2

Contact or visit us

www.ptrc.ca

www.uregina.ca/oee

www.co2-research.ca

www.ipac-co2.com


30K

Governing global climate change: from Copenhagen to Cancun

Although some deemed the conference of the parties a failure, the Copenhagen Accord left a legacy of fast-start actions that must be met on the road to Cancun

By Isabel Studer, Centre for Dialogue and Analysis on North America

Based on the lessons learned from the last conference of the parties (COP) in Copenhagen in December 2009, the global climate change negotiations leading to the COP-16 in Cancun this coming December face three key challenges. The first is to structure a complex negotiation process to move the 193 asymmetrical parties of the United Nations Framework Convention on Climate Change (UNFCCC) in a direction that restores trust and builds on the frail political consensus constructed at Copenhagen. The second challenge is to strike a balance between the technical discussions under the UN framework on the one hand and, on the other, the political and diplomatic efforts at informal meetings and forums outside of the process that are deemed necessary to engage the political leadership and build a global consensus without jeopardising the trust that most parties attach to the negotiations under the UN framework. And the third challenge is to nurture reasonable expectations of Cancun, to produce an outcome that is perceived as positive, even if a final binding agreement is not at hand.

Copenhagen

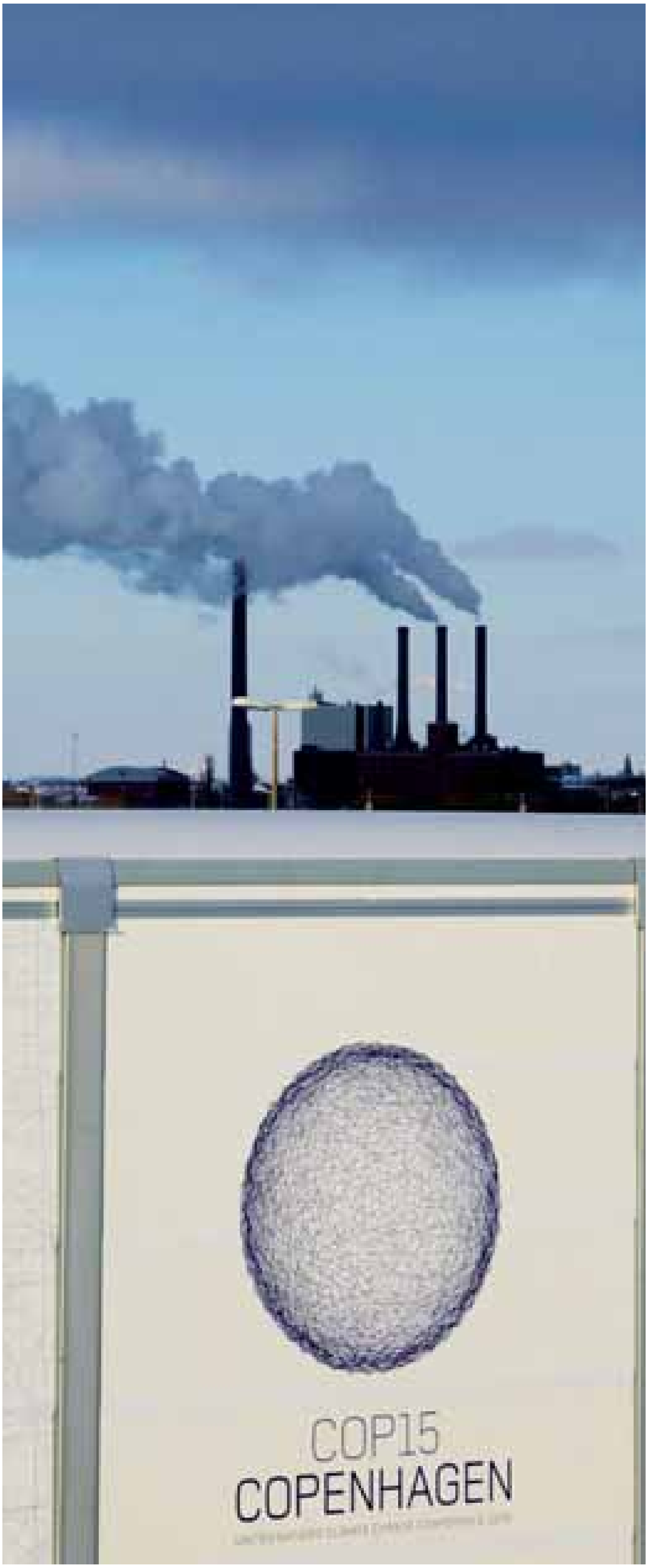
By fixing 2009 as the due date for crafting an international instrument to succeed the Kyoto Protocol, the Bali Action Plan engendered disproportionate expectations for Copenhagen. Those towering expectations were exposed by the unprecedented attendance of 119 heads of state and government and about 45,000 participants, making the Copenhagen climate conference the largest conference in the history of the United Nations. This outlook contrasted sharply with the stark failure of the UN negotiation processes to deliver substantive progress as defined in the Bali roadmap. While the stalemate amply justified the opening of a parallel, informal negotiation track under the Friends of the Chair umbrella, the chair's procedural mistakes in the last-minute high-level diplomatic manoeuvring undermined trust, particularly among developing countries' representatives who repudiated the political accord that was frantically put together on the last day of the meeting by a small group of leaders. Many developing countries rallied around the cry for transparency and demanded an immediate return to the UN processes that had framed the negotiations through the Bali Action Plan since 2007. They were quick to declare Copenhagen a dire failure.

> “The G20 is well positioned to help distribute the resources committed by developed countries through the Copenhagen Accord”

The predominant view that Copenhagen was a total failure must be revisited, however, particularly in light of the 123 countries that, by the end of April 2010, had officially expressed their support for the Copenhagen Accord through written submissions. In fact, 78 countries, accounting for more than 80 per cent of global emissions, have declared commitments to limit such emissions. The Copenhagen Accord may lack legal standing under the UNFCCC, but it nonetheless contains a basic agreement among major emitters on the main elements of any future climate agreement. By providing overarching political guidance on the emission targets of developed countries, finance, technology and capacity building, the accord broke the fundamental deadlock that had for so long prevented the technical negotiations of the two tracks defined by the Bali roadmap from moving forward.

The road to Cancun

Together with the draft text under the UNFCCC, particularly regarding the principles and priority actions for each key area, the Copenhagen Accord already serves as a guide for the implementation of fast-start actions in developing countries on mitigation, adaptation and technology development and transfer, even before a comprehensive agreement is reached. Enabling such actions is the pledge by developed countries to provide up to $30 billion for mitigation and adaptation between 2010 and 2012, to prioritise funding for adaptation for the most vulnerable developing countries and to mobilise financial resources through the immediate establishment of REDD-Plus, an enhancement of the UN's programme for Reducing Emissions from Deforestation and Forest Degradation aimed at promoting forest conservation. There is a political agreement to make national appropriate mitigation actions (NAMAs) for developing countries subject to domestic procedures that are measurable and verifiable and that must be reported every two years through national communications; that same agreement removed the hesitation of many countries to move ahead with their self-financed NAMAs. It is essential that developed countries follow through on their financial commitments to support fast-start action in developing countries quickly and effectively in order to build trust and create positive momentum where negotiators see real progress at hand.



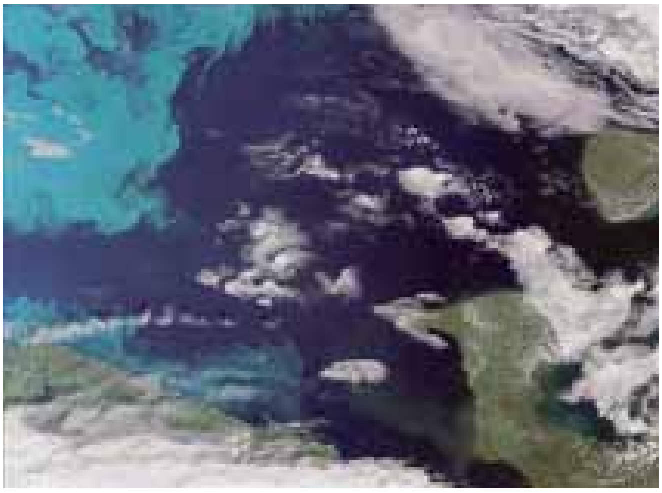
Success at Cancun will also require that the political leadership that materialised in the Copenhagen Accord remains constant and sustained until the next COP in December 2010. Copenhagen came up with broad figures on finance and mitigation targets that broke an important deadlock in the climate negotiations – up to $100 billion annually from 2020 onward for long-term financing and substantial cuts in greenhouse gas emissions through individually or jointly qualified economy-wide emission targets for 2020 in order to maintain global temperature rise below 2°C from pre-industrial levels. But the details to put these broad commitments into operation still need to be fleshed out and agreed to. It is necessary to keep political leaders actively engaged in the discussions in order to strengthen Copenhagen's tenuous political consensus. Several ways may allow a move away from the complex, ineffectual, path-dependent processes entrenched in the UNFCCC, such as searching for innovative and flexible ways to frame the discussions, focusing on specific areas of climate change action, breaking down climate change mitigation and adaptation commitments, and deliberating process in alternative forums that involve key actors and countries on each topic. Such steps could enhance participation and restore some of the COP's credibility.

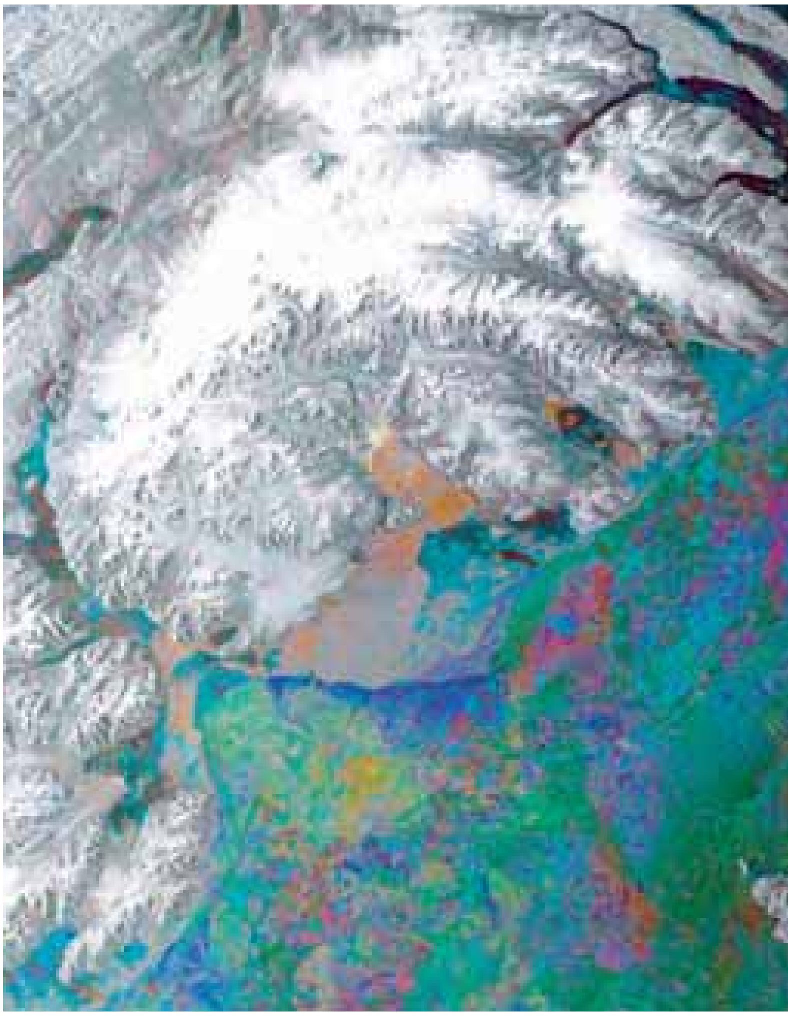
> "Copenhagen came up with broad figures on finance that broke an important deadlock in the climate negotiations"

G20

The G20 can take on a critical global governance role in the lead-up to Cancun. Accounting for two-thirds of the world's population, 90 per cent of global economic activities and at least three-quarters of global greenhouse gas emissions, the G20 is well positioned to help construct the financial architecture to distribute the resources committed by developed countries through the Copenhagen Accord. It could also provide a full range of options on innovative sources of finance, including revenue from measures to tackle aviation and shipping emissions, auctioning allowances in cap-and-trade systems, special drawing rights, financial transaction taxes and other financial instruments that could be a significant source of income for climate change action.

Following on the commitments made at the G20 Pittsburgh Summit in September 2009 to intensify efforts to remove fossil fuel subsidies, the G20 countries could further agree to redirect those subsidies, as well as stimulus resources, toward a long-term commitment to invest in clean energy, energy efficiency, adaptation and reduced deforestation. The G20 can also decide to adopt environmental pricing policies, through taxes or cap-and-trade systems that ensure that carbon, pollutants and scarce ecological resources are no longer free. Taking these steps could facilitate commitments regarding emission reduction targets in a post-Kyoto global climate change framework. The G20 summits in Toronto and Seoul on the way to Cancun will be critical to achieving these ends. ◆





Using satellites to tackle the challenges of climate change

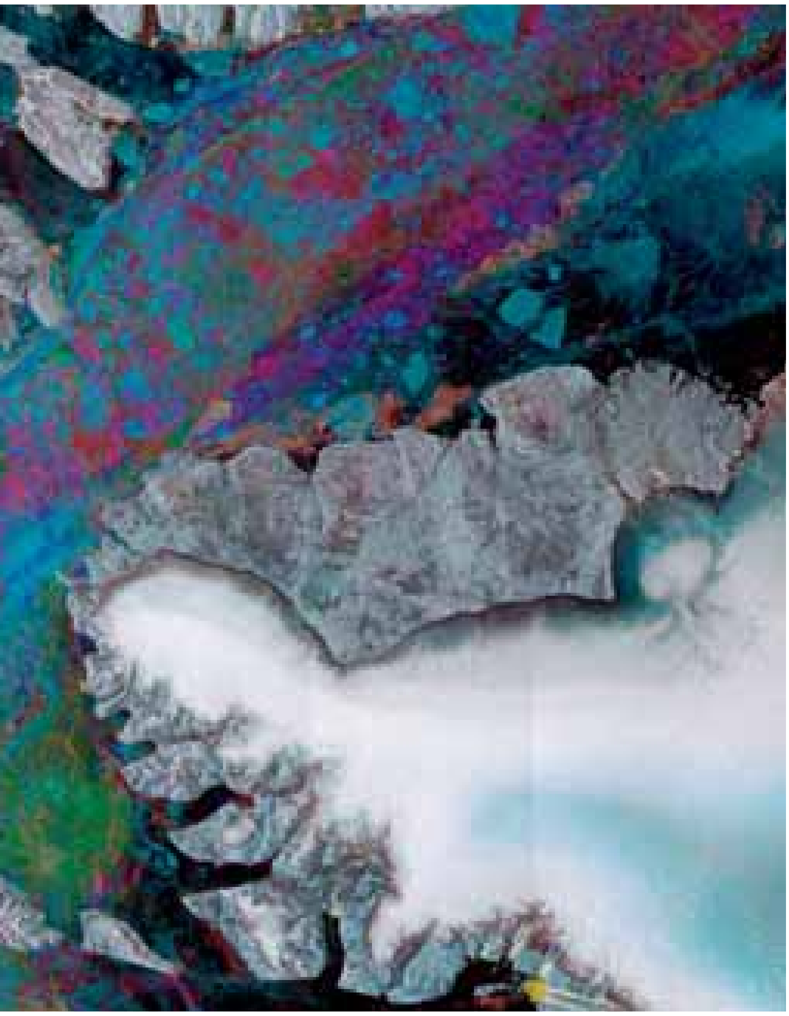
The efforts of the European Space Agency

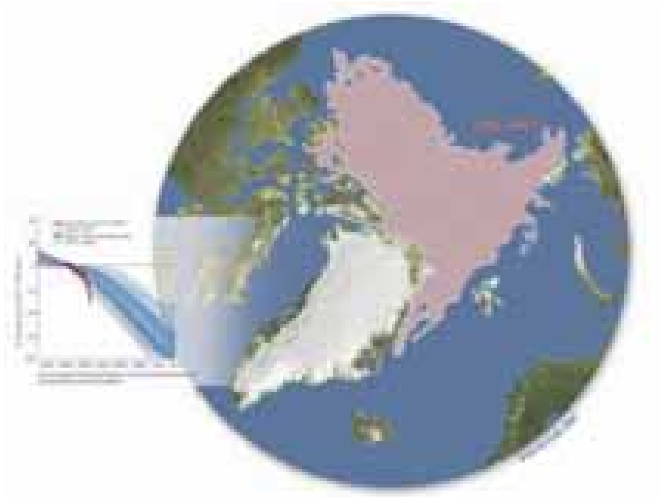
Monitoring and understanding climate change processes is complex, as is its political and scientific setting. The impact of observed or forecasted variations of our environment is far reaching, and false or imperfect observations can cause confusion and misunderstanding. It is imperative therefore to provide a basis of factual evidence, scientific models, social debate and political action for climate related issues. Satellites deliver the data necessary to underpin our knowledge of climate reliably, objectively, repeatably and without prejudice across the entire globe.

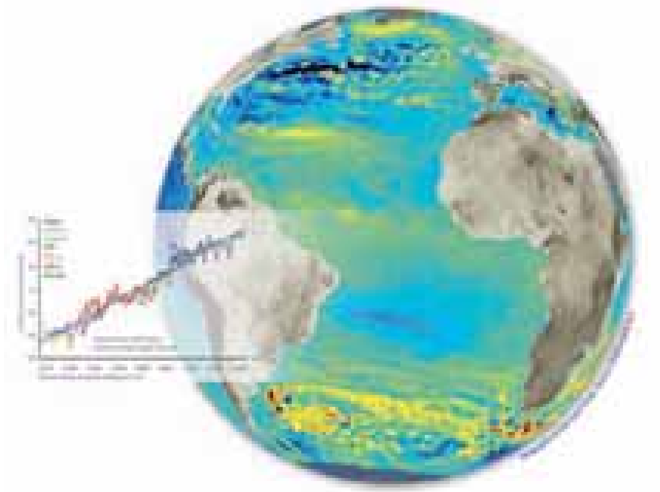
A better understanding of the function and interactions of all aspects of the Earth system, as well as the role humans play therein, has always been a central goal of space-based Earth Observation. The European Space Agency has been developing space-based systems for over 30 years in support of operational weather monitoring and forecasting. With the advent of multi-purpose missions (ERS-1 in 1991, ERS-2 in 1995 and Envisat in 2002), climate related data have been increasingly obtained and analysed for scientific purposes. These missions have also fed an impressive archive of dozens of terabytes of climate-relevant data. Some three thousand scientific projects around the world are using these data for a wide variety of research topics.

The ESA Earth Explorer missions – specialised satellites focusing on themes of scientific urgency – complement this observation portfolio. GOCE, a mission to map the Earth's gravity field with unprecedented accuracy, was launched in March 2009 and SMOS, the ESA Soil Moisture and Ocean Salinity mission, followed in November 2009. Only five months later, the third Earth Explorer – ESA's Ice mission, Cryosat – was delivered into orbit in April 2010. Another four Explorers are under development, each devoted to investigating particular aspects of the Earth system and, together, giving us a complete picture of the Earth and its behaviour. Earth Explorer missions use the most modern technology, often never flown before, to close observation gaps and deliver accurate and reliable data for measuring important parameters of our Earth and climate system.

The importance of global observation for understanding







climate change has also triggered action on the international scene. The "Global Climate Observing System" (GCOS), a body set up by the UNFCCC to provide the necessary observations for understanding the Earth's climate, defined a set of "Essential Climate Variables" (ECVs) which, systematically monitored, quantify the state of our climate in an objective and effective way. In response to this challenge, the ESA "Climate Change Initiative" aims to "systematically generate, preserve and give access to long-term data sets of the ECVs derived from satellite missions developed and operated by ESA. The systematic generation of relevant ECVs includes recalibration, periodic reprocessing, algorithm development, product generation and validation, and quality assessment of climate records in the context of climate models.

But the Climate Change Initiative even goes beyond that, introducing a "feedback loop" mechanism, whereby new user feedback and the latest scientific knowledge can be easily integrated within each re-processing phase. A scientific advisory board, involving world-leading scientists representing key stakeholder organisations, provides guidance on the conduct of the programme ensuring its effective implementation and integration in the wider context of climate data measurement worldwide.

Recent years have shown more than ever the human dependence on our environment – natural resources, climate, space for living and developing. Climate models predict drastic impacts on the Earth as a consequence of the behaviour of mankind. It is critically important to ensure that these models are robust and based on the best possible data as the political and financial consequences of taking action to mitigate climate change are very significant. Adaptation to change and attribution of the causes of change also require a reliable and agreed basis for action. Observations from space are critical to a consensus of understanding and response - science has long left the infamous ivory tower and has become a pre-requisite for coherent political action.

Through its Earth observation missions, ESA is developing and operating climate-quality observing systems, providing free access to the worldwide science community, and working with its partners to ensure long-term observations of fundamental climate data records. In order to ensure the continuity of high quality, accessible data for climate and environmental monitoring ESA has developed a suite of missions, known as the Sentinels, in the context of the European Global Monitoring of the Environment and Security initiative (GMES). Five series of Sentinel missions, devoted to monitoring different aspects of the Earth's oceans, atmosphere, cryosphere and land surface, will provide society with the objective basis to allow informed decisions on the future of mankind in the context of changing climate to be taken. The basis for political action must be a sound understanding of the Earth system, derived from reliable measurements from space.

The road from Rio

As more and more industries recognise both the financial benefits and the importance of taking the environment into consideration, emissions trading is emerging as a strong, global market

By Richard L. Sandor, chair and founder, Chicago Climate Exchange

When the members of the United Nations gathered 17 years ago in Rio for what was the first Earth Summit, climate change was a concern for a small number of scientists and environmentalists. Even fewer at that time believed that 'trading air' would result in a global market in the coming years.

Today, emissions markets are paving the way for innovative solutions and cost-effective greenhouse gas reductions. The pace at which the change has occurred has been remarkable.

Emission trading has become widely adopted as greenhouse gas management has moved from the confines of corporate environmental compliance departments into the heart of corporate financial planning.

Cooling towers emit fumes at a coal-fired power station

This has been in response to both strategic need and public scrutiny. Environmental issues are increasingly understood to be part of necessary risk management as investors and analysts pay closer attention to climate liability and as customer expectations make it a critical part of a good business model.

The road from Rio to today started with the success of an acid rain cap-and-trade programme in the United States. The premise was simple: use market innovations to help achieve environmental and economic goals. The US Environmental Protection Agency (EPA) established a programme under the Clean Air Act that today has resulted in sulphur dioxide emission reductions of 50 per cent below 1990 levels. The EPA estimates that the public health benefits of the programme alone are more than $120 billion annually, exceeding the programme costs by a margin of more than 40 to one.

As chair of the Chicago Board of Trade's Clean Air Committee at the time, I was involved in the development of the first spot and futures markets for sulphur dioxide emission allowances. This later led to applying the same concept to greenhouse gas emissions. Building a market from scratch that trades something that cannot be held in a hand meant facing a lot of resistance. Initially, the idea was received with scepticism.

But forward-looking businesses recognised the benefits. Today the US has a voluntary pollution reduction and trading programme, the Chicago Climate Exchange, with more than 400 members and an annual baseline of nearly 700 million tons. Local efforts such as the Regional Greenhouse Gas Initiative and renewable energy programmes are gaining traction at the state level. And on the federal front, the House of Representatives passed a bill last year and the Senate continues to push forward on comprehensive climate legislation this summer. While these things do not always move at the most desirable pace, they are at least moving in the right direction.

In Europe, under the European Union Emissions Trading Scheme, carbon markets have matured with strong growth in volumes, liquidity and the critical creation of new products.

And in a very exciting development, China continues steadily to build the architecture to implement environmental markets. In 2008 the Chicago Climate Exchange helped to establish the first emissions exchange in China, the Tianjin Climate Exchange (TCX). Through a joint venture with the City of Tianjin and the China National Petroleum Corporation Asset Management Company, a platform was established to develop electronic emissions trading and auction facilities for financial

> "Pollution reduction markets will continue to emerge in developed and developing countries around the world"

products to reduce various pollutants and promote energy efficiency. The TCX has begun to implement pilot initiatives that can help pave the way for strong market-based infrastructure that facilitates the environmental and policy goals of the People's Republic of China.

In the coming years pollution reduction markets will continue to emerge in developed and developing countries and financial centres around the world. Global development to date has taken place in a 'bottom up' manner that follows patterns in other internationally traded markets. This is also consistent with the history of international political cooperation. International agreements tend to grow from small beginnings: the European Coal and Steel Community evolved over many years into what eventually became the European Monetary Union.

Today's markets in the US and Europe will be joined by other blocs of countries to form markets that are linked by similar contracts – much like one might see with crude oil today or like with cotton in the 19th and 20th centuries. Past experience shows that integration of markets can succeed even if the individual markets exhibit fundamentally different characteristics.

Applying market innovation is a critical tool for achieving economic and environmental goals. One of the value propositions of carbon markets is the ability to provide cost-effective emissions management tools for businesses, as well as a disclosure mechanism for the market and a transparent path to price discovery. Carbon markets and the price signals they send help change behaviour, spur innovation and identify internal efficiencies.

As world policymakers discuss the next steps and the important transformative role that markets can play, the efforts by G8 and G20 members will continue to shape and drive the international momentum that is needed to confront climate risks that know no borders. ◆

SPONSORED FEATURE

Energy security and climate change – the role of carbon capture and storage

By Terje Riis-Johansen, Minister of Petroleum and Energy, Norway

Energy is a key driver of economic development and poverty reduction. Energy security is a prerequisite for life as we know it. Today, fossil fuels account for 80 percent of our primary energy use, and all projections show that the world's dependence on fossil fuels may not change substantially for decades to come.

At the same time the world faces the threat of climate change. A threat that is incomparable to anything humans have experienced before. If we are to reach the 2 degree target and prevent the dramatic effects of climate change, we must cut global greenhouse gas emissions by as much as 85 percent by 2050.

Energy-related CO_2 emissions account for 84 percent of total global emissions. According to the Intergovernmental Panel on Climate Change CCS has, after energy efficiency, the second largest potential for global emission reductions. Massive investments in renewables and energy efficiency must be made. Yet, an enforced effort to stimulate development, deployment and dissemination of CCS technology at a global scale will in our view be vital to keep the increase in global average temperature within 2 degrees.

In light of the vast potential for CO_2 reductions offered by CCS technology, Norway, like several other countries, sees CCS as an indispensable part of an effective portfolio of greenhouse gas mitigation tools. With national CCS projects, the Norwegian Government is taking concrete action to further develop and advance this technology.

We find ourselves in a phase where initial project funding is crucial. There are five large-scale CCS facilities in the world today, and all over the world projects are being planned. I believe governments have a responsibility to bridge the funding gap during this phase. Without public financing, the number of projects being realised may be marginal.

Therefore, the Norwegian Government is investing heavily in national CCS projects. In 2006, the Government and Statoil agreed on developing CCS technology at Mongstad. The first stage is a CO_2 Capture Technology Centre (TCM). Construction started in June 2009, and it is scheduled to be operational in late 2011. The purpose of the technology centre is to develop, test and qualify CCS technologies, and thereby reduce the costs and risks related to full-scale CO_2 capture. It is our ambition that the TCM shall generate knowledge that exceeds well beyond Norwegian borders. The second stage is a full scale CCS plant capturing up to 1.2 million tonnes of CO_2 annually. The government will finance the costs of investment and operation of the CCS facilities, while Statoil covers costs equal to their alternative CO_2 costs. Captured CO_2 will be transported by pipeline for storage under the seabed in the North Sea.

Norway has unique experience in the field of environmentally sound geological storage of CO_2. Since 1996, 1 million tonnes of CO_2 has been injected and stored annually at the Sleipner field in the North Sea. The project is unique in that it is so far the only facility in the world where large quantities of CO_2 are stored in a geological formation below the seabed and for emission mitigation purposes. Multinational and multidisciplinary research projects have monitored the stored CO_2. The data shows no unexpected movement in the storage reservoir and no sign of leakage of the stored CO_2.

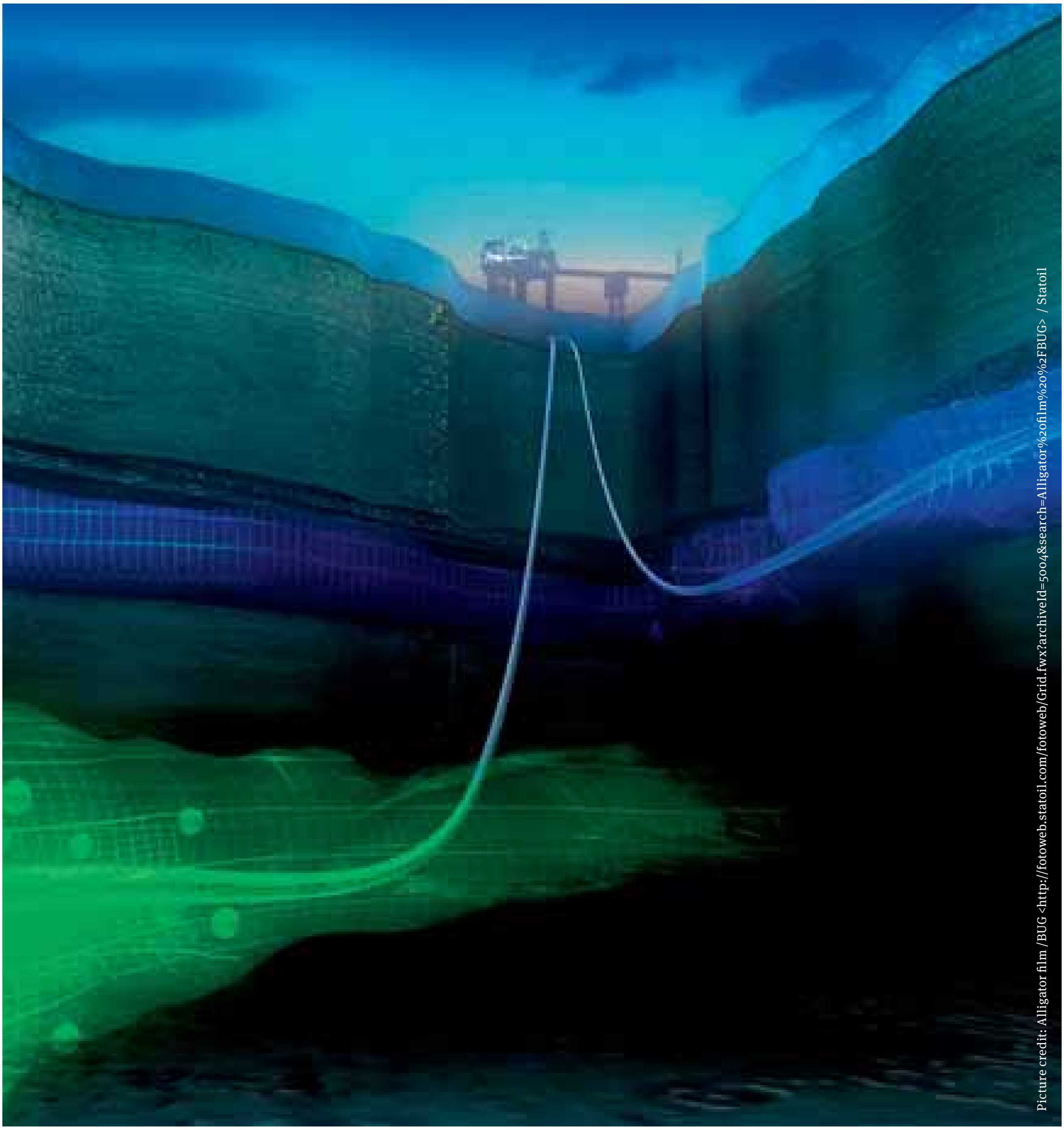
We can better address challenges arising in the initial deployment phase if we share knowledge and experiences. This is crucial for the acceleration of CCS deployment. Moreover, the sharing of experiences from early projects will also play an important role in building confidence in the technology. Here, stakeholders in industry and civil society have a particular role to play. We have a collective responsibility in communicating to the public the potential for emission reductions offered by CCS.

For moving to a commercial phase, we need to create business opportunities and a commercially attractive framework for private investment. This is why the Norwegian government in 1991 introduced a CO_2 tax for offshore petroleum installations. The tax resulted in the CO_2 injection project at the Sleipner field in the North Sea.

Yet, financial incentives must be established at a global scale, in order for CCS to be deployed rapidly enough to meet the enormous challenge of climate change. Norway believes that global action under the United Nations Framework Convention on Climate Change and its Kyoto Protocol is necessary to move the global implementation of CCS forward. CCS must be included in an appropriate financial mechanism that covers actions in developing countries, and by that stimulate CCS-related investments in these countries. This is important in order to promote sustainable economic development as well as enhance energy security.

The inclusion of CCS in an appropriate international mechanism will also contribute to speeding up the transfer of technology and expertise to developing countries. Capacity building activities are imperative in making both countries and industry capable of employing CCS technologies.

Making CCS commercially attractive also requires the establishment of predictable legal and regulatory frameworks



Picture credit: Alligator film /BUG <http://fotoweb.statoil.com/fotoweb/Grid.fwx?archiveId=5004&search=Alligator%20film%20%2FBUG> / Statoil

for environmentally sound transport and storage. It is the governments' responsibility to establish such frameworks, and we are making significant progress in this area.

Addressing the challenges we meet on the way to global CCS deployment, requires increased international cooperation. New initiatives have been made in the last few years, and there is an increased political attention ascribed to the acceleration of CCS. Institutions such as the Carbon Sequestration Leadership Forum and the Global CCS Institute enable us to increase our collaboration further. From my point of view, it seems crucial that the G8 and G20 put CCS high on the agenda and set goals for the acceleration of this climate change mitigation measure.

CCS is part of the answer to how we meet energy demands and the call for CO_2 reductions at the same time. Investments in renewables and energy efficiency are imperative. Yet, when current analysis predict that fossil fuels will continue to dominate our energy-mix in 2030 and beyond, we must reduce emissions from the production and use of fossil fuels. CCS is the only option in this respect.

NORWEGIAN MINISTRY
OF PETROLEUM AND ENERGY

www.government.no/mpe
www.government.no/ccs
info@oed.dep.no

A scientist stands beside a carbon capture test unit at Longanet power station, Scotland. The new technology being tested at the coal-fired power station removes carbon dioxide using chemicals and turns it into a liquid which is stored underground

Pushing ahead with carbon capture and storage

Carbon capture and storage offers the global community time to develop renewable energy alternatives. However, inconsistent regulation, lack of funding, logistical setbacks and an ill-informed public remain challenges to overcome

By Keith Forward, editor, Carbon Capture Journal

Carbon capture and storage (CCS) is the only current technology that can give the global community breathing space to develop renewable energy alternatives while fulfilling the necessary carbon dioxide reduction targets.

CCS is an essential technology to help the world mitigate climate change. It accounts for 19 per cent of the reductions needed to meet the Blue Map scenario produced by the International Energy Agency (IEA), which assessed strategies for reducing greenhouse gas emissions by 50 per cent by 2050.

It is a technology for realists – coal use in power generation is set to rise and CCS is the only technically sound and cost-effective technology currently available that can mitigate carbon dioxide emissions from this dirtiest of fossil fuels.

CCS is also a viable solution for a wide range of industrial processes, such as the production of cement, steel and chemicals. The IEA estimates that without including CCS in the technological mix the global cost of meeting the 2050 climate change target would increase by 70 per cent.

Industry is ready to move ahead with implementing CCS on a significant scale; it is political will that has impeded progress.

At the 2008 G8 Hokkaido-Toyako Summit in Japan, the G8 committed to launching 20 large-scale CCS demonstration projects globally by 2010. The IEA's CCS Roadmap calls for 100 commercial projects by 2020, requiring an additional $54 billion investment.

These are no doubt ambitious targets, requiring "comprehensive, coordinated and disciplined leadership involving governments, industry and the community at national and international levels," according to a 2009 report by the Global Carbon Capture and Storage Institute.

And this is where the G20 can take a leading role, not only by strengthening political will, but also by innovating sources of finance for private sector investment and ensuring a predictable future market in which to recoup those investments.

Challenges

There are some remaining technological challenges to be overcome, particularly the quantification and qualification of storage sites and the efficient integration of the full CCS chain – capture, transport and storage.

Legal and regulatory hurdles are also significant and have caused delays in implementing pilot and demonstration projects. Private sector investment is hampered by an uncertain regulatory environment. The G20 should seek to ensure a consistent implementation of laws across national boundaries.

> "Information needs to be available to the public in order to increase acceptance that CCS is the right approach to tackling climate change"

It is important not to forget the importance and challenge of public communication of CCS. Widespread public support, understanding and acceptance are essential and will put pressure on governments to act. Individual projects that have failed to engage with the legitimate concerns of the local community have often faced significant delays or cancellation due to public opposition.

As consumers will most likely be expected to pay more for electricity as a result of CCS, there needs to be more information available to the public in order to increase acceptance that this is the right approach to tackling climate change.

Industry is not trusted to put across an unbiased representation of the facts. International governments have so far been woefully inadequate at getting across a consistent message to the public, while non-governmental organisations such as Greenpeace have focused on opposing new coal-fired power stations in any form.

Time to act

Environmental pressure groups advocate a comprehensive move to renewable sources of energy. Of course, eventually, as fossil fuels are exhausted, this is the inevitable outcome whatever steps are taken to reduce carbon dioxide emissions in the short term. CCS has only ever been seen as an interim solution.

But crucially it gives the world time to develop alternatives while dealing with the immediate situation of rising energy demand, particularly in developing

Our clean energy plan.

Saskatchewan has long been dedicated to advancing the development of clean energy and is now recognized as a leader in carbon capture and storage (CCS) research and development. This exciting new option will change the way the world produces and uses energy and help fight climate change by reducing greenhouse gas (GHG) emissions.

CCS technology allows coal-fired power stations and other large industrial emitters to virtually eliminate GHG emissions by capturing and storing carbon dioxide (CO_2) underground. The CO_2 can also be sold for enhanced oil recovery.

Saskatchewan has developed a substantial lead in CCS experience and signalled its commitment to finding a responsible use for carbon by investing and participating in numerous CCS projects:

- Boundary Dam Integrated Carbon Capture and Sequestration Demonstration Project
- International Test Centre for CO_2 Capture (ITC)
- Weyburn-Midale CO_2 Project
- Aquistore
- Petroleum Technology Research Centre (PTRC)
- International Performance Assessment Centre for Geologic Storage of CO_2 (IPAC - CO_2)

Powering the future

Today, SaskPower – Saskatchewan's provincial electrical utility – is leading the development of one of the largest integrated CCS projects in the world.

The **Boundary Dam Integrated Carbon Capture and Sequestration Demonstration Project** would rebuild and then repower an aging coal-fired power generation unit at the Boundary Dam Power Station near Estevan, Saskatchewan, Canada.

By 2013, the new unit would produce 115 megawatts of clean, baseload power while reducing Saskatchewan's annual GHG emissions by about 1 million tonnes.

Innovation

Building on the innovative sulphur dioxide and carbon capture technology developed by Cansolv and the project management expertise of SNC Lavalin, SaskPower is completing the work to define this leading edge project at Boundary Dam. With final approval anticipated in 2010, a reliable, affordable and clean supply of electricity could soon be available for many years to come.

SaskPower, the Government of Saskatchewan, the Government of Canada and private industry partners are working together on this project to help move our world closer to a more environmentally and economically sustainable future.

clean co_2al™

SaskPower
Powering the future

countries, and the resultant increase in emissions from fossil fuel use.

At a time of deep economic recession, there is even more need to emphasise that climate change will not wait for the world to sort out the global banking system. Delays just mean potentially greater financial burdens for future generations.

Paradoxically, there is a unique opportunity here, as leaders look for ways to stimulate the economy and invest in growth and new jobs. This is exactly the time to invest in a green industrial economic recovery – and the G20 should take a leading role.

Sources of finance are desperately needed, particularly during the early phases of CCS deployment. Building first-of-a-kind technology is inevitably too expensive to be viable on a purely commercial level.

Costs will come down with more research and the experience gained from demonstration projects. But in the near run only public finance will make up for the shortfall.

While government investment has been remarkable given that CCS was only a pipe dream a few years ago, it is not enough. The IEA's CCS roadmap estimates that the members of the Organisation for Economic Co-operation and Development will need to increase funding for CCS demonstration projects to an average annual level of between $3.5 billion and $4 billion from 2010 to 2020.

> "This is exactly the time to invest in a green industrial economic recovery – and the G20 should take a leading role"

Carbon capture and storage technology: boiler assembly for pilot plant at Schwarze Pumpe, Germany

The World Bank and the European and Asian development banks can play a large role by increasing the amount of funding available for green technology. The G20 should look at establishing a green investment bank specifically to coordinate the distribution of funds for carbon reduction projects.

It is also important to promote market-based schemes that assign a value to carbon and to ensure that the proceeds of emissions trading from such schemes go back into green projects.

G8 countries can lead by example. A report by the Atlantic Task Force Global Green Recovery recommends that the proportion of auctioning revenues from emission trading that must be reinvested in green projects should be increased to 50 per cent by 2015 and 100 per cent by 2020 in Germany, the United Kingdom and the United States.

Knowledge transfer

Much more needs to be done to promote transfer of CCS technology to developing countries. A significant number of new coal-fired power stations are being built in the developing world. There is a risk that older, dirtier technology without the potential for CCS will lock in emissions for many years to come.

Progress could be made through the immediate inclusion of CCS in the Clean Development Mechanism, which allows countries with an emissions reduction commitment to receive credits for investing in a project in a developing country. Unfortunately this was rejected at the Copenhagen climate change meeting in December 2009. It will probably not be revisited until 2011.

The G20 can foster international cooperation and technology transfer by developing more collaborative projects such as the Near-Zero Emissions Coal project, a joint initiative of the United Kingdom, the European Union and China. It can also help by providing a forum for the exchange of information, both on technical progress and sources of international finance.

Ultimately, it will be the successful deployment of CCS in countries such as China and India that will make the biggest contribution to mitigating climate change. ◆

SIDS climate change dilemma: keeping average temperature increase below 1.5°C to stay alive

As changing climate and rising sea levels negatively affect Small Island Developing States (SIDS), an uncertain future lies ahead for the millions of people who inhabit these island nations. In the absence of urgent concerted action, what is certain is the continuing destruction of SIDS' livelihoods, coasts and countries, and the probability that large human populations will be displaced. Much of this is already occurring as a silent escalation on our shores and on our lands.

What could interrupt the trajectory of this looming global climate catastrophe for twenty percent of the world's population, emitting less than one percent of greenhouse gases (GHG)? The Alliance of Small Island States (AOSIS) argues that urgent, collective, scaled-up and ambitious action can make the difference. Many others must join SIDS who are engaged in actions ranging from improving disaster management, movement to low carbon economies and enormous efforts in the climate change negotiations. We cannot do this alone.

G8 and G20 exert strong influence on the global policy landscape. Within the context of UNFCCC climate negotiations, SIDS can benefit from this influence in three basic areas if G8 and G20 would:

- Recognize the stark vulnerability of SIDS and deliberately take this on board as a central part of all proposals and responses in climate negotiations. This means taking

ambitious positions. Mainly industrialized economies have already increased the average temperature by 0.8°C above pre-industrial levels, and with current atmospheric concentrations of GHG in excess of 387 parts per million. The world has to de-escalate from this. AOSIS calls for average global temperature increases to be no more than 1.5°C. This is commensurate with a limit of 350 parts per million of carbon in the atmosphere, and an aggregate reductions of 45% over 1990 levels by 2020 and 95% by 2050. Is this affordable? Yes. And the cost of continuing at higher levels only increases over time.

- Provide adequate support that will strengthen the ability of countries and communities to adapt to impacts already being felt. This must include support for a comprehensive loss and damage insurance and a risk management facility to ensure that socio-economic gains are not lost to climate change.

- Provide adequate finance and financial mechanisms for Implementation of actions which range from energy efficiency and renewable energy to public safety and security, coastal protection and more.

Increases in carbon emissions are changing the global climate, triggering dangerous rises in sea levels, changes in rainfall patterns, bleaching of corals, eroding shorelines, and reducing fish stocks among others. All this is already changing the intricate ecological balance between islanders and their environment which has been their support base for thousands of years.

The children of AOSIS countries and the children of G8 and G20 countries will both inherit this planet – damaged or protected. We decide which it will be; you know our choice and we hope it is yours too.

www.aosis.info
email: aosis.grenada@gmail.com

Building biodiversity

As worldwide demand for energy and food increases, the Earth's biodiversity declines. How can we ensure future generations do not suffer as a result?

Wildlife and traditional livelihoods are being threatened in Kenya's Tana River Delta by the upstream large-scale sugarcane plantations

Michel Laplace-Toulouse (www.africanlatitude.com)

By Wangari Maathai, Green Belt Movement

In my childhood, I remember I would visit a stream next to our home to fetch water for my mother. I would drink water straight from the stream. Playing among the arrowroot leaves I tried in vain to pick up the strands of frogs' eggs, believing they were beads. But every time I put my little fingers under them they would break. Later, I saw thousands of tadpoles: black, energetic and wriggling through the clear water against the background of the brown earth. This is the world I inherited from my parents.

Today, more than 60 years later, the stream has dried up and women have to walk long distances for water. Will our children know what we have lost? As I grew up I witnessed large sections of indigenous forests being cleared and replaced by commercial plantations, with devastating destruction of the local biodiversity and the capacity of the forests to recycle and conserve water, regulate microclimates and contribute to the agriculture, livestock and wildlife sectors. Loss of biodiversity is a slow process. The negative impact is not always felt immediately and is easily passed on to future generations. The challenge is to restore the home of the tadpoles and give back to our children a world of beauty and wonder.

The world has been discussing environmental issues since the first United Nations meeting on the human environment in Stockholm, Sweden, in 1972. Since then much scientific knowledge has been added – including

The Green Belt Movement's tree-planting activities follow a 10-step programme that engages communities in forming tree nurseries and planting seedlings on public lands, degraded forest areas, and private farms

how the climate is changing, and what we can do to make biodiversity less vulnerable.

In Kenya, where I work, there is plenty of evidence of how the continuous loss of biodiversity is making life difficult for the present generation. Kenya has five forested mountains, which are water catchment areas for both the country and the broader region. One is snow-capped Mount Kenya, on the Equator, designated a biodiversity hot spot by UNESCO. Another is the Aberdare range, on the eastern side of the Great Rift Valley. Hundreds of tributaries from both mountains pour their waters into the Tana river, which is Kenya's largest river and the source of drinking water for millions of Kenyans. These two mountains are therefore very important ecosystems for Kenyans, their livestock and wildlife, affecting many economic sectors including agriculture, tourism, energy and household needs.

Yet as long ago as the early 20th century, large sections of these mountains were deemed suitable for pines from the Northern Hemisphere and eucalyptus from the Southern Hemisphere. Although these exotic plantations were intended to provide timber for the emerging building industry and firewood for the steam engine, they came at the expense of local flora and fauna, which were considered less valuable than the imported species.

The government also introduced a system where the forestry department allowed nearby communities to cultivate food crops while nurturing commercial seedlings. This way, they formed a symbiotic relationship with foresters, so that as they tended their food crops they assisted the foresters to nurture the exotic trees at no extra cost. I remember, as a child, seeing huge bonfires in the forests as the indigenous biodiversity was burned to make way for commercial plantations.

Unfortunately, with increased population, demand for agricultural land and corruption, more forest was converted into farmland. Demand for timber grew and even more indigenous forests were cut down. These plantations are harvested every 30 years and the cycle is repeated. The continuous planting, harvesting and replanting of the same commercial monocultures, accompanied by the long-term cultivation of food crops ensures that the local biodiversity of flora and fauna gradually disappears. After years of such a routine, even when the land was left fallow for almost 10 years, much of the original flora and fauna failed to return. Former forestlands are now grasslands.

The Tana river runs through some of the most populated parts of the country, with high potential agricultural land. Farming in this area depends on the health of the forested mountains. With the continuous destruction of their biodiversity, rain patterns will continue to falter. Even the cash crop production will be negatively affected.

When farmers fail to practise good techniques to stop soil erosion, land becomes degraded and unable to produce adequate food for household consumption. Hunger becomes a common phenomenon. Many small-scale farmers practising subsistence agriculture on such lands are among the poorest. They are unlikely to realise environmental sustainability. Such farmers are desperate to enter forests and expand agricultural land.

Plantations of exotic monocultures of trees are not forests, but rather tree farms. There is little of the original flora and fauna in such forests. Indeed, such plantations cannot provide the environmental services received from indigenous forests. When rain falls in commercial plantations, much of the rainwater runs downstream, carrying with it the top soil. It may cause floods. Eventually rivers either dry up or their water levels greatly diminish. This undermines both environmental sustainability and the eradication of poverty and hunger.

Massive deposits of soil in hydroelectric dams built across the Tana reduce the lifespan of the dams and their capacity to produce adequate energy. Coupled with reduced water in rivers, this makes it difficult for the government to generate enough hydropower. Kenya faces a shortage of electricity, so poorer people in both rural and urban areas continue to use charcoal and paraffin as their main sources of energy, contributing to deforestation as well as greenhouse gas emissions.

In this International Year of Biodiversity, with ever more pressing demands on resources including food, water, land and clean air, the world cannot afford to repeat the mistakes of the past.

Throughout Africa, women are the primary caretakers, holding significant responsibility for tilling the land and feeding their families. They are often the first to become aware of environmental damage as resources become scarce and incapable of sustaining their families. Tree planting is a natural choice to address some of the initial basic needs identified by women. In many communities, tree planting is also simple and attainable. It guarantees quick, successful results. This supports the commitment of the participants and supporters.

Over the last three decades the Green Belt Movement has planted more than 45 million trees that provide

> With increased population, demand for agricultural land and corruption, more forest was converted into farmland

fuel, food, shelter and income to support children's education and household needs. The activity also creates employment and improves soils and watersheds. Through their involvement, women gain power over their lives, especially their social and economic position and relevance in the family. But these are not problems restricted to poor, developing countries, or that only need to be addressed by local communities.

Many countries in the world that have their own land covered with forests and vegetation do conserve their biodiversity and enjoy a healthy and clean environment. However, some are able to do so because they engage in destructive logging and deforestation far away. That is why it is necessary to see the world as one planet – and protect not only the local but also the global environment. While some resources such as the huge forests' ecosystems in the tropics may be very far from temperate regions, their services have a positive impact on many other countries and regions. Their destruction will eventually be felt within borders far away from the forests themselves.

As the G8 and G20 meet to talk about our world and the problems we face, we must remember that whatever options we choose, it is always better to be guided by the common good, not only of today's generation, but also of generations to come. It is more expedient to sacrifice the long-term common good and the intergenerational responsibility for the convenience and opportunities of today. But we are morally required to take the better options for the common good of all. We have a responsibility to protect the rights of generations which cannot speak for themselves today. ◆

Biochemicals and biomaterials: an opportunity to accelerate economic growth while addressing environmental challenges

At the 2009 G8 Conference, Nobuo Tanaka, Executive Director of the International Energy Agency called on global policymakers to "take a holistic approach when they consider investments in new technologies. They should consider the impact of their investment on the whole energy system and choose to invest first in technologies that are compatible with the existing system or will enable the development or deployment of other technologies."

Mr. Tanaka's approach to supporting new technologies can help policymakers make important choices, but will it be enough? Over the past ten years governments have focused on transportation fuels, neglecting biochemicals and biomaterials. At first glance, this is understandable; petroleum is used primarily to produce transportation fuels, while only 8% of every barrel of oil goes towards making chemicals and plastics. Yet the economic value created by chemicals and plastics is disproportionately higher than that of transportation fuels. In the US, chemicals and plastics generate US$255 billion of GDP, while commercial transportation and transportation related manufacturing generate US$350 billion.

Industrial biotechnology represents an opportunity for G20 economies to address several challenges. By harnessing industrial biotechnology to produce biochemicals and biomaterials, countries can produce safer, environmentally friendly products that have a meaningful impact on climate change, create green jobs, support their agricultural and forestry sectors and reduce their overall dependence on fossil fuels. Consumers across the G20 are seeking biobased products made from renewable resources that are compostable or biodegradable and reduce landfill accumulation, have better carbon footprints and are less harmful to both people and the environment. As a result of this growing demand, biobased product sales are projected to grow to $390 billion by 2030.

In recent years, policymakers have focused on lignocellulosic and algae-based fuels. Government support has been largely oriented towards research and development because these technologies are still unproven and at a relatively early stage in their lifecycle. Support for biochemicals and biomaterials has been very limited by comparison, despite the fact that they are more advanced (in many cases at, or close to, the commercialization stage) and offer the prospect of greater economic benefit per dollar of investment (profitability, spin-off industries, jobs created).

Organic acids illustrate the benefits of biochemicals. Organic acids such as lactic acid and succinic acid that are produced via fermentation, rather than being derived from petrochemical feedstocks, can be used as building blocks in making a variety of polymers used in plastics and textiles. However, to be competitive biochemical production plants need to be situated near agricultural raw materials. Most G20 economies have arable land and thriving agricultural and/or forestry sectors that can be leveraged. Once these organic acids are produced, it is more efficient to immediately transform them into value added products, rather than shipping them halfway around the world. By using industrial biotechnology to produce basic organic acids, G20 economies can build a renewable chemical sector that draws on their agricultural strengths and creates a number of spin off industries that produce value added, biobased plastics, resins, polyesters and other products.

Several technologies have been developed that can produce organic acids cleanly and more cost effectively than the corresponding petrochemical processes. Many of these technologies sequester CO_2 in producing the organic acids, resulting in a negative carbon footprint. These technologies are ready for commercialization, but face a substantially slowed capital investment market, making it difficult to raise the money needed to build large-scale plants. While policymakers continue to promote "next generation" fuels that are a number of years from market, they offer little support to biochemical and biomaterial plants that will reduce dependence on fossil fuels, benefit local agriculture, reduce CO_2 emissions, generate green jobs and stimulate the economy.

Green technologies that have reached the commercialization stage do not require government grants, because they carry low risk relative to R&D stage technologies. What these technologies need are government loans and loan guarantees that can be used to secure the financing required for large-scale plants. By putting loan programs in place for commercially ready technologies, governments will accelerate the growth of biochemicals and biomaterials and facilitate the creation of bio-economy clusters.

Nobuo Tanaka may have had biochemicals and biomaterials in mind when he spoke about technologies that policymakers should champion. G20 countries can make meaningful progress towards their energy, environment and economic policy objectives by putting in place loans that facilitate the deployment of biochemical and biomaterial production plants.

Fossil fuel subsidies and the G20

Phasing out fossil fuel subsidies will take clear leadership and strong political reform. The G20 has a key role to play in implementing such strategies

By David Runnalls, president, International Institute for Sustainable Development

Eliminating subsidies for fossil fuels is imperative for achieving climate change, energy security and poverty alleviation goals. Removing these subsidies has the potential to reduce carbon dioxide emissions dramatically, open investment pathways for cleaner sources of energy and free vast sums of money – for both developed and developing countries – to reduce fiscal debt or spend on healthcare or education.

Although the benefits are apparent, overcoming the political and practical challenges of subsidy reform is not easy. The leadership and collaboration demonstrated by the G20 leaders at their Pittsburgh Summit in September 2009 must be strengthened in Toronto and Seoul to support domestic reform efforts to overcome those challenges and progress on their medium-term commitment to phase out fossil-fuel subsidies.

What did leaders commit to in Pittsburgh?

At Pittsburgh, G20 leaders recognised that "inefficient fossil fuel subsidies encourage wasteful consumption, distort markets, impede investment in clean energy sources and undermine efforts to deal with climate change". They pledged to "rationalise and phase out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption".

They also acknowledged the challenges ahead, notably the need to prevent adverse impacts on the poorest by providing targeted cash transfers and other poverty-alleviation mechanisms.

To advance the initiative, G20 leaders made a number of requests. They asked their energy and finance ministers to prepare implementation strategies and timeframes, based on national circumstances, and report to the Toronto Summit in June. They called on the International Energy Agency, the Organisation for Economic Co-operation and Development, the Organization of Petroleum Exporting Countries and the World Bank to report to Toronto on the scope of energy subsidies with suggestions for implementation. They requested that the international financial institutions offer support to countries for this initiative, and they called on all countries to adopt policies that will eliminate inefficient fossil fuel subsidies worldwide.

> Champions are needed to maintain the political momentum necessary to keep reform of fossil fuel subsidies on the G20 agenda

What has the G20 done since?

Since the Pittsburgh Summit, G20 finance ministers have reaffirmed their leaders' commitment at St. Andrews, Scotland, in November and then in April 2010 at Washington DC.

Foreign affairs, finance and energy officials in G20 capitals have engaged in an informal dialogue, through teleconferences and meetings (in Paris in February 2010 and Washington in April 2010). Officials agreed to develop implementation strategies in two phases. First they should list all their fossil fuel subsidies. Then they should list their national implementations plans to reform those subsidies. They drafted a template for preparing the plans. They also agreed on a timeline of meetings and submission deadlines prior to the Toronto Summit.

Officials also discussed the scope of the initiative as well as the definition of a subsidy and terminology such as 'inefficient fossil fuel subsidies' and 'wasteful consumption' in the leaders' statement. They agreed not to adopt a commonly agreed definition of a fossil fuel subsidy, but that producer subsidies should be included in the initiative. Officials have reviewed early drafts of the report by the four international organisations and also country-specific issues such as the draft subsidy lists.

In preparing their report, the four intergovernmental organisations undertook an extensive consultative process, including meeting with G20 officials and civil society representatives in Paris in February 2010. Their report covers identifying and measuring the impacts of energy subsidies, some of the key challenges of subsidy reform and lessons learned from country experience, in addition to a roadmap for policymakers. The draft was presented to finance ministers at their meeting in Washington in April 2010.

What more needs to be done?

Much remains to be done. The implementation plans must be finalised and put into effect. According to the timeline set by officials, national subsidy lists and implementation plans were submitted to the finance meetings in Busan, Korea, on 4-5 June. There may be more negotiations prior to the Toronto Summit on 26-27 June, at which the final lists and plans should be reported. Not all members will be able to report finalised implementation plans by then; the remainder will report to the Seoul Summit in November 2010.

Although the intergovernmental organisations' report reviews the challenges of fossil fuel subsidy reform, more detailed research and analysis are needed, particularly at the country level, to identify subsidies, their scale, their impacts and the measures necessary to overcome challenges to reform. In order to facilitate data collection and reporting, more work is required to overcome methodological gaps and difficulties in estimating fossil fuel subsidies.

The G20 must monitor national implementation plans to ensure the G20's goals are met. Members must periodically review their subsidy lists as more information is gathered and analysed and new policies are developed.

The 2,000-megawatt coal-fired Eggborough electricity power station, UK: inefficient fossil fuel subsidies need to be reduced dramatically

Options for doing so could include national reporting to G20 summits with peer review, improving compliance with notification requirements under the World Trade Organization's Agreement on Subsidies and Countervailing Measures, establishing a secretariat to share information and reports, or delegating functions to existing organisations – membership-based intergovernmental organisations or independent non-governmental organisations.

Champions are needed to maintain the political momentum necessary to keep reform of fossil fuel subsidies on the G20 agenda beyond June 2010. This leadership needs to come from the so-called troika of the United Kingdom, Korea and France as chairs of the G20 to ensure that G20 members comply with their commitments. The difficult challenges of subsidy reform arise during implementation. The political commitment needs to be strong in order to see reform succeed.

For the long term, the goals should be to expand the initiative to other countries, negotiate an agreement with subsidies reduction commitments and establish a formal secretariat. The International Institute for Sustainable Development has prepared a roadmap, *Homing In on Fossil Fuel Subsidy Reform: A Roadmap for International Cooperation*, of how this could be achieved.The G20 process is the vital first step.

> "The G20 should issue a statement on the G20's long-term commitment to keep reform of fossil fuel subsidies on their agenda"

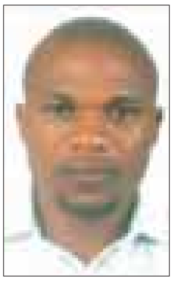
Recommendations for the G20 Toronto and Seoul Summits

At their summit in June, G20 leaders should review the subsidy lists and national implementation plans, and agree to put them into action. They should agree to review and finalise the remaining subsidy lists and plans at their next summit in Seoul. They should issue a statement on the G20's long-term commitment to keep reform of fossil fuel subsidies on their agenda, and they should request their ministers to prepare options for monitoring and review and report back at Seoul.

They should also request that international organisations conduct further research and analysis, including country-specific data collection, assessments of impacts and key issues, requests for technical assistance and best practices.

When they meet in Seoul on 11-12 November, the G20 leaders should finalise the remaining subsidy lists and national implementation plans. They should agree to make them publicly available. They should review options for a monitoring and review mechanism, agree on a preferred option and delegate functions accordingly. They should also ensure that reform of fossil fuel subsidies remains on the G20 agenda for the next 12 months. And, finally, they should continue to seek support and technical assistance from organisations and delegate long-term roles. ◆

Biodiversity and human wellbeing



Dr. Aminu Zakari
Director, Centre for Climate Change and Environmental Studies

Human actions are fundamentally, and to a significant extent irreversibly, changing the diversity of life on Earth, and most of these changes represent a loss of biodiversity. Changes in important components of biological diversity were more rapid in the past 50 years than at any time in human history. Projections and scenarios indicate that these rates will continue, or accelerate, in the future.

Virtually all of Earth's ecosystems have now been dramatically transformed through human actions. Over the past few hundred years, humans have increased species' extinction rates by as much as 1,000 times background rates that were typical over Earth's history.

Why is biodiversity loss a concern?

Biodiversity contributes directly through provisioning, regulating, and cultural ecosystem services, and indirectly through supporting ecosystem services to many constituents of human wellbeing, including security, basic material for a good life, health, good social relations, and freedom of choice and action. Many people have benefited over the last century from the conversion of natural ecosystems to human-dominated ecosystems and the exploitation of biodiversity. At the same time, however, these losses in biodiversity and changes in ecosystem services have caused some people to experience declining well-being, with poverty in some social groups being exacerbated.

Managing Africa's water in a changing climate

Throughout history, African societies have experienced various climate-related events and pressures. But over the past 30 years, both drought and floods have increased in frequency and severity. The continent is now burdened with nearly one-third of all water-related disasters that occur worldwide every year.

A warmer Earth may lead to many projected changes over the coming decades, including more extreme weather events, widespread drought and flooding, sea level rise and retreating glaciers. Africa has already experienced these, especially changes in rainfall patterns and rising sea levels. It will most likely experience each in greater intensity in the future; the Intergovernmental Panel on Climate Change states that Africa is the most vulnerable continent to projected climate changes.

Widespread water scarcity on the African continent is expected to be further aggravated by a number of emerging threats. These include climate change, as well as an increasing population and the subsequent increasing demands for water. Around 25 African countries are expected to experience water scarcity or water stress.

Impact of water scarcity

Climate change has the potential to impose severe pressures on water availability and accessibility. Currently, 300 million Africans (more than 35 percent of the population) have no access to safe drinking water, and 313 million lack basic sanitation. According to the United Nations, sub-Saharan Africa (with the exception of Uganda and South Africa) is failing to meet the Millenium Development Goal targets to halve the number of people without access to clean water or sanitation by 2015. Climate change is expected to make it even harder to achieve these targets.

Africa has the highest population growth rate in the developing world, and food production is not keeping pace. Two of the most limiting factors to improve food production are the quality and quantity of available water resources. Rainfall variability in many regions of Africa directly affects agricultural productivity – rainfall is the most relevant climatic variable of food production in Africa. As rainfall becomes more variable, feeding Africa's rising population will become an even greater challenge.

Disputes and conflicts over water in Africa

Since food scarcity is directly linked to water availability and accessibility, increasing water scarcity will increase the potential for conflict within and between countries. The Darfur dispute in western Sudan stems in part from competition over water, mainly between different resource users; nomads and farmers share water and land in the region, but these are both getting increasingly meager due to climate variability and expanding desertification.

The increasing severity and scale of impacts resulting from climate change is likely to exceed the coping capacity of many communities and countries in Africa. This situation could lead to severe socio-economic and environmental impacts and will require additional adaptation efforts.

Climate change and its impact

Whilst land degradation has already taken and continues to take its toll, climate change poses another real challenge to Nigerian agriculture.

Nigeria is expected to be hard hit by climate change. The most vulnerable sectors are agriculture, water resources and human health. It is predicted that climate change could lead to increased water stress, overall reduction in agricultural productivity and yields, and expansion of habitats of vectors of diseases such as Malaria.

Over the last five decades frequency of occurrence of extreme weather events such as drought and flood show an increasing trend. Particularly since the 1980s, droughts of various intensity have occurred every four or five years and the recurrence seems to be more frequent since 1997. Seasonal and inter-annual rainfall variability has increased and temperatures continue to rise.

Community based rehabilitation of degraded lands: an effective response to climate change in Nigeria by the Centre for Climate Change and Environmental Studies

Agriculture is the mainstay of the national economy, the major driver of the economic growth before the discovery of crude oil in Nigeria and employs close to 65 percent of the total population. Performance of the sector over the past three to four decades has been characterized by large fluctuations. Despite steady agricultural growth, it has failed to keep up with the increasing demands of the growing population. Agricultural productivity is poor due to many factors such as erratic rainfall and frequent drought, soil fertility exhaustion, and land degradation.

The Centre For Climate Change has recognized that addressing the root causes and reversing the problem of land degradation is a development priority. The Centre has developed community-based approaches to effectively rehabilitate degraded lands and improved livelihoods.

Land degradation and its impacts

Land degradation, which can be broadly defined as reduction in the biological productive capacity of land under a specified form of use and management, is a problem of catastrophic proportion in Nigeria. It is a major immediate cause of the country's low and declining agricultural productivity (4-5 percent annually), persistent food insecurity, and prevalent rural poverty. Land degradation in Nigeria is a result of complex and interacting degradation processes including adverse changes in soil, water, vegetation, biodiversity, and local climatic resources. Loss of vegetation cover and soil erosion by water are the two most important forms of land degradation in Nigeria.

Enhancing community resilience towards climate change through integrated watershed management – lessons from the Centre's Project

Communities participated in the different stages of watershed management planning and monitoring: mapping of village resources and development plans, problem identification, and evaluation of their achievements. Active participation of women has been one of the strengths of the Centre for Climate Change in carrying out village and community projects.

Trees provide many things: food, shade, wood-energy, building and fencing materials. They regulate micro-climates and rainfall patterns, hold soil to the ground, serve as habitats for other life forms and help to harvest and retain rainwater. They sequester carbon and thereby clean the air.

Among the lessons learnt in the past few years by the Centre for Climate Change and Environmental Studies is that tree planting continues to bring communities together, builds a common purpose, more sustainable livelihoods, and over time, builds resilience. Successful tree planting also requires capacity, commitment, proper financing, political will and good governance. It demands ownership by communities involved, respect for rights and, most importantly, that local people remain united behind a common vision.

Preventing deforestation and increasing tree cover is challenging but the rewards to communities and countries are manifold and provide benefits far beyond simply absorbing carbon.

Trees and forests have a significant role to play in a global climate deal when the trees are planted in the right places and their survival is ensured. They must also simultaneously improve the livelihoods of local communities. The Centre for Climate Change's integrated and holistic approach to climate change addresses livelihoods of community's adaptation, mitigation and sustainable development.

As we continue, we thank our partners for joining us on the journey to reduce the vulnerability of communities to climate change by not only continuing to plant trees, but by also reducing deforestation and forest degradation.

Centre for Climate Change and Environmental Studies
No. 5 Elbe Close, Minister's Hill, Panama Street, Maitama
P.O.Box 19081, Abuja, Nigeria

Tel: +234 803 821 3028
Tel: +234 805 068 3373
Tel: +234 (0) 9 874 9778
email: info@center4climatechange.com
aminu.zakari@center4climatechange.com
website: www.center4climatechange.com

Office Annex:
Centre for Climate Change and
Environmental Studies
Suite A56. Bannex Plaza
Aminu Kano Crescent, Wuse 11
Abuja, Nigeria
email: info@center4climatechange.com
website: www.center4climatechange.com

The contribution of business to sustainable development

New partnerships and stronger collaboration between the private and public sectors are being established to promote an efficient global economy that is also ecologically efficient

By Björn Stigson, president, World Business Council for Sustainable Development

> A green race has started among governments and companies to become the leading suppliers of resource- and carbon-efficient solutions

The weak outcome of the United Nations Climate Change Conference in Copenhagen last December has left many people shaken by the fact that the world could not agree on how to address an obvious and very serious risk for global society.

It was also a wake-up call signalling a new phase in global relations that will be led by national and sectoral actors – in other words, smaller 'clubs' of countries helping to resolve specific issues with companies partnering alongside governments to deliver national plans and targets.

A new world order is arising

There is today a power shift from West to East and from the old G8 to the newer, bolder G20, a shift that reflects the growing importance of the leading developing countries. Even the earlier unrivalled position of the United States is now being challenged, and China is appearing as an ally of the United States. The global governance system via intergovernmental bodies has proven its limits in managing significant challenges and defining common positions on sensitive issues such as equity and burden sharing. All of this is happening against the backdrop of a financial crisis and economic recession that has swept away century-old multinational corporations.

Yet, amid the doom and gloom, there is a glimpse that the world is going green. A green race has started among governments and companies to become the leading suppliers – and ultimate winners – of resource- and carbon-efficient solutions. China is aggressively moving in this direction, and the European Union and Japan have already embarked on a green path.

New ways are clearly needed to manage global issues. But from where will global leadership emerge? Does the world have the right institutions to get there? These are key questions that the Muskoka G8 and Toronto G20 summits could help frame answers to.

A case in point: energy and climate

In many ways, the discussions on energy and climate change illustrate the need for a new governance model. The failure

The largest solar boat in the world, *PlanetSolar*, was built in Kiel, Germany. The 30 metre by 16 metre catamaran, topped with about 500 square metres of photovoltaic solar panels, will start its maiden voyage around the world in 2011

so far to agree on a new climate treaty raises questions about the structure and functioning of global governance and how to make this governance more effective.

No one would argue against the global nature of climate change and the need for everyone to take action. It is becoming increasingly clear, however, that these actions must be based on a common but differentiated responsibility. This is particularly timely given the current discussion about the distribution of economic benefits and costs among countries related to the climate issue. Who has got the right to what resources? Who is responsible for what pollution? Who is going to pay for it all?

National and local actions are already happening and several countries have presented mid- and long-term voluntary targets. The key driver for companies to go forward in addressing climate change will be competitive advantage – that is, generating green growth, investments, jobs and shareholder value. It may even be possible that by 2030, up to 20 million jobs worldwide could be created in renewable energy alone, far more than would be achieved with fossil fuel-based energy.

> "By necessity and default, the world is in a transition to sustainability"

Sustainable development requires systems thinking

By necessity and default, the world is in a transition to sustainability – but the scale of the transition is huge. Over the next 40 years the global population will nearly double,

An engineer inspects membranes used in the treatment of recycled water, in the newly opened Sembcorp NEWater plant in Singapore

with the vast majority of the growth in the cities of what is now the developing world. Simply put, the future is one of growth: of populations, cities and economic activity.

There will also be a massive surge in energy, transport, infrastructure, food and water needs, and a revolution needed in the solutions to meet them. Because of the overlap of agendas – energy, climate, development, trade and urbanisation – systems solutions are needed to coordinate them. This goes beyond creating more efficient products to redesigning supply and consumption, including how financial and human capital is mobilised and rewarded.

It also calls for new partnerships and stronger collaboration between the private and public sectors. In particular, a new model needs to be found for better cooperation between governments and business that can facilitate enabling regulation. Furthermore, as the main source of technology and funding for developing countries, business needs to step into political and diplomatic arenas where it was previously absent.

The transition to sustainability will undoubtedly foster commercial opportunities and a greater demand for green products and services from companies. Clearly, the world cannot become sustainable without business as a committed solutions provider.

Eco-efficiency is the way forward

The road to sustainability will be long and winding. However, business has a clear reason to contribute

> “The transition to sustainability will undoubtedly foster a greater demand for green products and services”

because there can be no success in a society that fails. The world needs thriving, successful societies that are good places for doing business. Business wants to fulfill its role – to deliver goods and services that improve people's lives – and achieve this with minimum pollution and resource use.

There is no conflict between being economically efficient and ecologically efficient – we can be eco-efficient. And we must be.

The last decade ended in confusion and uncertainty. Let the new one begin with renewed commitment and actions that will put the world onto a sustainable trajectory. This is the prerequisite to fulfilling the vision of everybody living well, within the limits of the planet. ◆

DJSI – the reference point for sustainable investors

The Dow Jones Sustainability Indexes are the world's longest-running sustainability benchmarks. Today they are used by global investors and asset managers seeking exposure to sustainable companies

By Dr. Rodrigo Amandi, Managing Director SAM Indexes

Sustainability issues such as climate change and resource scarcity shape today's hyper-competitive and fast-changing global business environment. SAM, the investment boutique focused on Sustainability Investing, is convinced that companies which implement sustainability practices can better anticipate and manage key economic, environmental and social opportunities and risks – and thereby create more shareholder value over the long term. That is why SAM and Dow Jones Indexes created the Dow Jones Sustainability Indexes (DJSI). Investors with exposure to DJSI based products will dually benefit – from superior long-term financial returns and from their ability to contribute to global sustainable development.

Sustainability pays off

Sustainability investing has become a mainstream investment discipline for good reason: empirical evidence shows that a forward-looking approach to environmental, social and governance issues is fruitful. Companies with longer-term strategies have emerged stronger from the recent crisis than peers focused solely on next quarter's profits. Moreover, sustainability portfolios are generating compelling investment returns. Since its launch in 1999, the world's leading sustainability benchmark, the DJSI World, has outperformed the broad-market MSCI World by 2.5 percentage points, returning 19% overall (USD, as of end of March 2010). Worldwide, investors have put more than USD 8 billion in financial products based on the DJSI, including: mutual funds, certificates, futures and exchange-traded funds (ETFs).

Strong platform for long-term returns

Launched in response to the need for reliable and objective benchmarks to manage sustainability portfolios, the DJSI family currently comprises a variety of global and regional benchmarks, with subsets enabling investors to apply filters against certain sectors or create customized indexes to suit their particular investment objective.

Reflecting SAM's extensive research expertise and the know-how of one of the world's leading index providers, Dow Jones Indexes, the DJSI monitor the performance of the leading sustainability-driven companies worldwide following a best-in-class approach. Index selection is based on SAM's annual Corporate Sustainability Assessments, which rate companies' financial strength as well as their relative performance in such areas as corporate governance, environmental performance, knowledge management, human capital development and stakeholder relations. They also identify the companies that best manage risks and opportunities deriving from sector-specific sustainability trends, such as the impact of climate change on innovation in the automotive industry. Only firms that lead their industries in all of these respects will be included in the sustainability indexes.

Positive incentives for better business

Being named to the DJSI is recognized as a badge of honor. As companies that do not progress as fast as their peers risk falling out of the indexes, the DJSI creates a strong incentive for companies to improve their sustainability credentials. Many companies use the feedback they receive from SAM's Corporate Sustainability Assessments as a trigger for change. An increasing number of them also now link their internal appraisals and performance-based payments to index inclusion.

Strong dynamics at play

Demand for sustainable investment approaches is bound to grow as investors seek companies with superior business models and long-term return potential amid increasingly acute global sustainability challenges. And while firms have come a long way during the last ten years, room for corporate sustainability improvements remains significant across all sectors. Investors will be watching companies' progress ever more closely – and the DJSI will continue to help them identify the leaders and the pioneers.

SAM is a global investment boutique focused exclusively on Sustainability Investing. The firm's offering comprises asset management, indexes and clean tech private equity. SAM partners with Dow Jones Indexes and STOXX Ltd. in the publication and development of the Dow Jones Sustainability Indexes (DJSI). As of December 31, 2009, SAM's total assets amount to USD 14.8 billion.

Dow Jones Sustainability Indexes

www.sustainability-indexes.com
www.sam-group.com
indexes@sam-group.com

Today we care more and more about sustainability and yet we seem to know less and less about the materials that contribute to a sustainable future

New ideas for the 21st century

British Columbia has embraced the modern mindset that acknowledges that economic and environmental policies need to be tackled together, on national and provincial levels, in order to build a prosperous and healthy world for all

By The Honourable Gordon Campbell, premier, British Columbia

Each time the G8 or G20 meet, there is reason for hope. The leaders who gather represent about 90 per cent of global gross national product, 80 per cent of world trade and two thirds of the world's population. Each time they come together there is an opportunity to focus the human family on shared goals.

The seismic shifts that have rocked the world recently have created great challenges, but they bear the unprecedented twin fruits of opportunity and obligation.

Having just hosted the 2010 Winter Olympic and Paralympic Games, we in British Columbia, Canada, are acutely aware of the power of the human imagination, the strength of commitment and the relentless pursuit of a focused objective. The world witnessed incredible performances that broke through the old barriers of excellence to new levels of accomplishment. The world also witnessed the greenest Olympics in history. The Olympic Games inspired generations. Most importantly, the games remind everyone of the power of the human spirit.

Every gold medal athlete in the 2010 Olympic Games required new approaches to reach the top of the podium – from new nutrition to new technology, from sports psychology to dedicated training. Similarly, new mindsets are required to reach our global potential.

The 21st-century mindset recognises that economic and environmental policy cannot be dealt with in isolation. Together, they have enormous impact on the social and cultural development of the world. They can reinforce one another for good or for ill. No one is exempt and no one can escape the potent natural and economic forces that shape today's world.

The low carbon economy is the foundation upon which the world must build the global future. The technologies

American states and Canadian provinces including California, Oregon, Washington, Montana, New Mexico, Utah, Ontario, Quebec and Manitoba. The goal is to develop a cap-and-trade system that harnesses the power of the marketplace to reduce carbon emissions in the western region of North America. By working with other regional systems, as well as the International Carbon Action Partnership, a truly global cap-and-trade system is possible.

> "British Columbia's zero emission strategy is shaping its new clean energy initiative"

British Columbia is also pursuing a new energy strategy to build on its energy portfolio. Currently, 90 per cent of the electricity consumed in the province is clean, with zero or near zero emission sources. BC's zero emission strategy is shaping its new clean energy initiative. It is also establishing new corridors for the expansion of natural gas to replace high carbon coal and to dramatically reduce emissions once again.

The new mindset requires a whole array of actions and allows the pursuit of many new opportunities. For example, BC is a world leader in the production and export of softwood lumber. There is no better environmental building material than wood. The province's Wood First Strategy assures that wood is used as the building material of choice in homes, schools, hospitals and all public buildings. Wood is the best building material in earthquake zones because of its flexibility and resilience. It is the least expensive and lowest carbon building product. A tree is a carbon sink and, when harvested, its wood remains a carbon storage vault. To further enhance this strategy of carbon reduction, British Columbia has introduced a zero net deforestation law.

Each of these efforts will help BC meet its goal of a 33 per cent reduction in carbon emissions for the province by 2020 and 80 per cent by 2050.

This is just one of the imperatives that will be confronted by G8 and G20 leaders. These steps are as important to the world's oceans and fisheries as they are to the land base and agriculture, because the global warming that has been occurring over the last 100 years also affects the world's oceans. Ocean chemistry, in turn, affects the entire global fishery. Again, British Columbia, Oregon, Washington, California and Alaska have recognised that the ocean does not respect national borders. That is why they have formed the Pacific Coast Collaborative: to share information, integrate policy and develop complementary research approaches that will lead to greater understanding and revitalisation of the Pacific Ocean and protection of valuable fishery resources.

While the world looks to the G8 and G20 for leadership, no one can wait for unanimity; nor can anyone wait to assume his or her own responsibilities. With action taken at the provincial or sub-national level, the links can be forged in an impressive chain reaction, where positive step reinforces positive step, where unnecessary barriers and institutional inertia give way to common purpose and positive action.

We live in an amazing time. Let us hope that future generations will look back at the G8 and G20 leadership of 2010 and be amazed by their wisdom and the boldness of their vision to create a better, healthier and richer world for all. ◆

Above: the Peace Canyon Dam and powerhouse, British Columbia. BC Hydro provides energy solutions in an environmentally friendly way

Below: British Columbia is a world leader in the production and export of softwood lumber, an environmentally friendly building material

that powered progress in the past need to be replaced with new technologies that reduce carbon, replenish the water, revitalise oceans and protect the natural diversity that feeds bodies and souls. While no country can do everything, every country, and most people, can do something to help meet these global objectives.

British Columbia has taken a number of steps to integrate economic opportunity with environmental responsibility. The province initiated North America's first revenue-neutral carbon tax in which every cent collected goes toward reducing personal and business income taxes. This allows people and businesses to save money while reducing their carbon footprint. It encourages business productivity and the creation of wealth rather than waste. It allows for no free riders. Critically, in British Columbia the revenue-neutral carbon levy is not designed as a way for government to take more from tax payers. It is a way of encouraging smart economic growth, and complements one of the most competitive tax environments in the world.

British Columbia is also working within the framework of the Western Climate Initiative with a number of

Knowledge to Shape Your Future

Malcolm Unsworth, President & Chief Executive Officer, Itron Inc.

Fresh momentum for tackling global energy challenges

Continued use of current energy trends will have catastrophic consequences. The time for change is now, and the 450 Scenario has a plan to make that change

By Nobuo Tanaka, executive director, International Energy Agency

The 2010 G8 and G20 summits will be the first opportunities since Copenhagen for world leaders to inject fresh momentum into efforts to tackle climate change. Recent analysis from the International Energy Agency (IEA) provides grounds for both caution and optimism for these crucial discussions. It brings caution because if current trends in energy use continue, they could contribute to potentially catastrophic climate change and pose serious threats to global energy security. It brings optimism because there are cost-effective solutions to effect a rapid transformation to a more secure, reliable and environmentally sustainable energy system – and with enough common will, these are within reach.

These are the headline findings of the IEA's *World Energy Outlook 2009* (WEO). It shows that if policies do not change, primary energy demand will grow by 40 per cent by 2030, with a persistent dominance of fossil fuels – oil, gas and coal. Demand will come mainly from developing countries, particularly China, India and the Middle East, where economic and social development will require more transport, cooling and heating. At the same time, growing fossil fuel consumption will drive up global carbon dioxide emissions, pushing up the average global temperature by as much as 6°C. In such a scenario, 1.3 billion people will still live without electricity in 2030 – an unacceptable level of energy poverty.

But these trends are not set in stone. The WEO demonstrates that containing climate change will require a profound transformation of the energy sector. The '450 Scenario' contains an aggressive timetable of actions to limit the long-term concentration of greenhouse gases to 450 parts per million of carbon dioxide equivalent and keep the average global temperature rise to around 2°C above pre-industrial levels. To achieve this scenario, fossil fuel demand would need to peak by 2020, causing energy-related carbon dioxide emissions to peak and then decline to below today's level by 2030.

The bulk of the emissions reduction in the 450 Scenario is delivered by energy efficiency, accounting for more than half of total abatement by 2030. The social, economic, environmental and energy security benefits of energy efficiency are too large to be missed. Yet, experience shows that proper policy frameworks are needed to reap these benefits. Sharing best policy practices in energy efficiency must therefore remain a priority for international policy cooperation.

> Energy transformation will require unprecedented deployment of the technologies of today and tomorrow

Low-carbon energy technologies also play a crucial role in the 450 Scenario. Around 60 per cent of global electricity production comes from low-carbon sources in 2030: renewables (37 per cent), nuclear (18 per cent) and carbon capture and storage (CCS) (5 per cent). Furthermore, a dramatic shift in car sales would be needed, with hybrids, plug-in hybrids and electric vehicles representing almost 60 per cent of sales in 2030, from just 1 per cent today. To jumpstart the wider deployment of these crucial technologies, the IEA is developing a series of low-carbon energy technology roadmaps that identify priority actions to guide environmental and energy decision makers.

This energy transformation will require unprecedented deployment of the technologies of today and tomorrow. The costs are not trivial – $10.5 trillion between today and 2030, with the annual cost reaching 1.1 per cent of global gross domestic product (GDP) by 2030. However, these clean energy investments more than pay for themselves through fuel savings. In industry, buildings and transport, $8.3 trillion of investment would save $8.6 trillion by 2030.

The energy security benefits of this lower demand could be profound. With existing demand trends, the world faces a peak in conventional oil production in about 2020. By contrast, global oil demand in the 450 Scenario is only 4 million barrels a day more in 2030 than today. Oil and gas import bills in the 450 Scenario in member countries of the Organisation for Economic Co-operation and Development in 2030 would be lower than in 2008.

The commitments under the Copenhagen Accord for reducing greenhouse gas emissions are an encouraging step toward turning the 450 Scenario into reality. However, ambitions to reduce emissions must be raised still higher: the IEA's preliminary analysis suggests that the current pledges – if fully implemented – would still be short of what is needed by 2020 to limit the rise in global temperature to 2°C.

To achieve the necessary cuts in greenhouse gas emissions, new technologies will be critical. Among these, CCS plays a crucial role. The IEA, together with the Carbon Sequestration Leadership Forum and the Global CCS Institute, will report to the Muskoka Summit on progress made on G8 recommendations for developing

Beijing: developing countries such as China will see the biggest increase in energy demand in the coming years

From left: South Africa's president Thabo Mbeki, Brazil's president Luiz Inácio Lula da Silva, Mexico's president Felipe Calderón, China's president Hu Jintao and India's prime minister Manmohan Singh during the G8 Hokkaido-Toyako Summit. The leaders back the broad deployment of carbon capture and storage technologies

and commercialising CCS. Since 2008, there has been much progress, particularly with the development of legal and regulatory frameworks, the commissioning of CCS pilot plants and the continued learning from plants already in operation. However, for broad deployment, the construction and operation of large-scale CCS demonstration projects are critical.

Central to the report is an account of progress against the declaration made by the G8 leaders at the 2008 Hokkaido-Toyako Summit that they "strongly support the launching of 20 large-scale CCS demonstration projects globally by 2010, taking into account various national circumstances, with a view to beginning broad deployment of CCS by 2020". The IEA, with others, has developed criteria for qualifying to be one of those projects. Prior to the Hokkaido-Toyako Summit, four large-scale CCS demonstration projects were operating. By April 2010, just one additional large-scale project had fully satisfied the criteria and was proceeding to construction. However, imminent decisions from governments are expected, and would result in several projects meeting the criteria soon, notably in Canada, Norway and the United States. In addition, a significant number of projects will likely meet some, but not all, of the assessment criteria. As well as reporting progress, the IEA report will identify challenges yet to be overcome in achieving the deployment levels required both in 2020 and beyond.

Energy subsidy reform represents another important opportunity to help avoid the most severe consequences of climate change. This was highlighted by the G20 leaders at their Pittsburgh Summit in September 2009, when they committed to "rationalise and phase out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption". The G20 also called upon the IEA, OECD, the Organization of Petroleum Exporting Countries (OPEC) and the World Bank to prepare a joint report on energy subsidies and suggestions for the implementation of the G20 initiative. The IEA's input has underscored the global energy security, environmental and economic benefits of phasing out subsidies. It shows that fossil fuel consumption subsidies – which lower end-use prices, thereby encouraging increased and often inefficient or wasteful energy use – approached 1 per cent of global GDP in 2008. Phasing these subsidies out by 2020 would result in significant reductions in primary energy demand and carbon dioxide emissions, compared with a baseline at which subsidy rates remain unchanged.

To abolish energy subsidies is nonetheless far from straightforward or painless. The short-term costs on some groups of society can induce strong political opposition. Yet the desirability of a general shift toward more open markets and more cost-reflective pricing is no longer in debate. The results of the IEA's analysis support the arguments favouring continued and intensified reform alongside appropriate targeted assistance, safety nets and industrial restructuring packages.

> "Energy subsidy reform represents another important opportunity to help avoid the most severe consequences of climate change"

IEA analyses, such as on the 450 Scenario and on phasing out subsidies, have identified many of the practical measures that need to be taken within the energy sector to achieve ambitious climate goals while improving energy security. The next step is a strong political signal to drive these essential changes. The 2010 G8/G20 summits thus represent an invaluable opportunity to point to the kind of energy future that awaits the world. Whatever the outcomes, implementation of the commitments made at Muskoka and Toronto – or beyond – will remain key. For every year that passes, the window for action on emissions is lowered a little – and the costs of transforming the energy sector increase. ◆

Sowing the seeds of sustainable growth

GBEP gathers developed and developing countries in finding consensus-based paths to bioenergy for sustainable development

Modern bioenergy presents great opportunities for sustainable development and climate change mitigation. But it brings challenges too, some with international relevance. So, international co-operation is essential for building consensus on how to measure success in bioenergy and building capacity to help implement successful solutions. The Global Bioenergy Partnership (GBEP) has proved that a voluntary partnership of developed and developing countries and international organisations, informal enough to allow open discussion yet formal enough to yield meaningful results, is an effective and innovative vehicle for co-ordinated progress towards low-carbon, sustainable development.

In developing countries, switching from traditional to modern bioenergy can reduce death and disease from indoor air pollution, free women and children from collecting fuelwood and reduce deforestation. It can also cut dependence on imported fossil fuels, improving countries' foreign exchange balances and energy security. Furthermore, bioenergy can expand access to modern energy services and bring infrastructure such as roads, telecommunications, schools and health centres to poor rural areas. In such areas, bioenergy can increase the income of small-scale farmers, alleviating poverty and decreasing the gap between rich and poor. In urban centres, using biofuels in transport can improve air quality.

For developed countries, where the focus is on reviving economic growth and mitigating climate change, bioenergy can stimulate a green recovery, generating more jobs and fewer greenhouse gas emissions than fossil fuels. It can breathe life into rural economies and diversify the supply of imported fuels.

However, if not sustainably produced, bioenergy can place extra pressure on biodiversity, scarce water resources and food security. If land use is not well planned and enforced, increased deforestation, loss of peatlands and land degradation can occur and lead to an overall negative impact on climate change. Where land tenure is insecure, communities can be displaced and lose access to land and other natural resources.

Therefore, GBEP has developed an initial set of criteria and indicators for bioenergy to enable governments to determine whether they are seizing these opportunities for sustainable development and managing these challenges adequately. While distinguishing between "good" and "bad" bioenergy depends on a country's situation and priorities, this tool will help countries produce better bioenergy. The criteria and indicators were designed to be implemented in a range of countries, building the capacity of governments to monitor, interpret and respond to the environmental, social and economic impacts of their bioenergy production and use. Furthermore, GBEP will now move on to facilitate access to adequate financing, capacity building and technology co-operation for sustainable bioenergy.

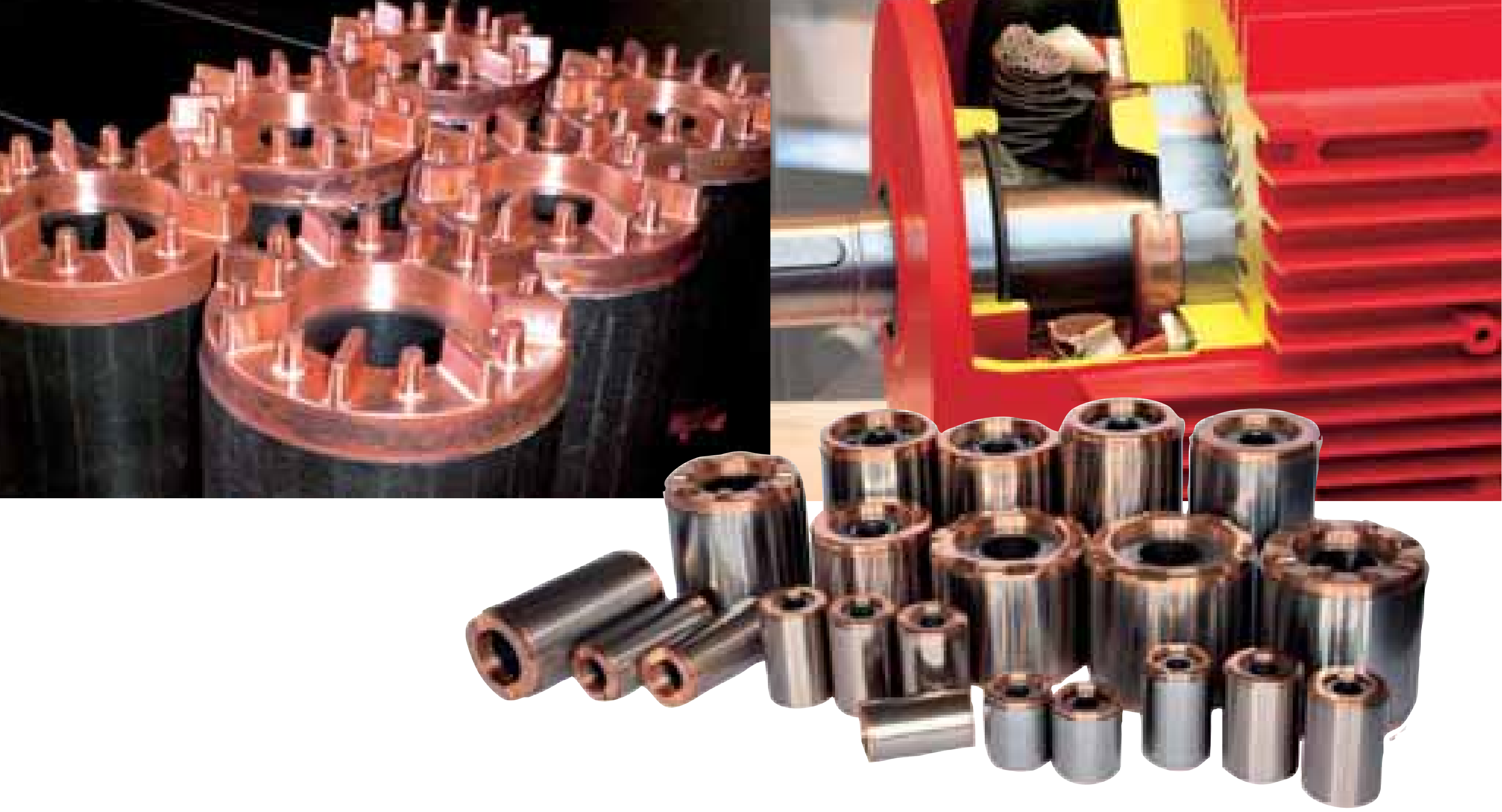
GBEP is an international initiative established to implement the commitment made by the G8 in 2005 to "support wider, cost-effective biomass and biofuels deployment, particularly in developing countries where biomass use is prevalent".

GBEP brings together 29 partners and 30 observers from governments, international and UN organisations as well as private sector and civil society stakeholders to promote bioenergy for sustainable development. The Partnership is chaired by Corrado Clini, Director General of the Italian Ministry for the Environment Land and Sea, and co-chaired by Brazil. FAO hosts the GBEP Secretariat at its Rome headquarters, with the support of Italy.

Read more about GBEP at www.globalbioenergy.org

Working together for sustainable development

GBEP
Global Bioenergy Partnership



Energy-efficient motors: meaningful impact from an unexpected source

The responsible use of energy has become a foremost concern of industrialized and industrializing societies. How the nations of the world use energy today – and the decisions the leaders of these nations make about how it will be used tomorrow – will have profound effects worldwide. Every watt we save and every kilogram of CO_2 we do not emit helps to ensure a better future. The inherent challenges we face in making significant improvements in energy use in the short term are difficult, but certainly not insurmountable.

Meaningful achievements in energy efficiency can be made today. One area in particular – electric motors – offers significant opportunities to save energy and reduce our carbon footprint.

MOTORS (AND MOTOR-DRIVEN SYSTEMS) USE 40% OF ALL ELECTRICITY

Discussions on the efficient use of electricity often are limited to readily visible applications with relatively low impact. The responsible use of electricity needs to be at the core of energy-saving initiatives, and evidence of this abounds: compact fluorescent lights, high-energy-efficiency appliances, such as refrigerators and airconditioning units, etc. Any effort to save energy is a step in the right direction. Remarkably, one of the most significant uses of electricity has not been addressed aggressively by policy-makers globally to achieve maximum potential impact. That use is motors and motor-driven systems. The International Energy Agency (IEA) estimates motors in motor driven systems (e.g, pumps, fans, compressors) use as much as 40% of all electricity[1]. In the industrial sector, electricity consumption by motors account for as much as 60-70% of electricity demand.

SMALL IMPROVEMENTS CAN LEAD TO BIG IMPACTS

If by 2030, all the world's economies were to adopt best practices for motor-driven systems (for example: high-energy- efficiency of the motor itself, right-size motor selection, use of variable motor speed controls, power supply quality, etc.), ***electricity consumption would drop as much as 10% worldwide***. This is equivalent to 2,000 – 3,000 terawatt hours of electricity demand.

In addition, CO_2 emissions would be reduced by 1.3 – 1.8 gigatonnes. These are massive numbers, and some

[1] All statistics related to motors and motor-driven systems have been provided by the International Energy Agency (IEA) and the International Copper Association (ICA). As of this writing, these are preliminary and subject to further refinement.

perspective is in order. Let's start with 1.8 gigatonnes of carbon-dioxide. That is 1.8 billion tonnes.

These savings equate to:

- As much as three times the energy savings from phasing-out incandescent lights in favor of compact fluorescent bulbs, or CFLs.
- About 1.5 times the current emissions from the energy consumed by India, or Japan.
- CO_2 emissions from more than 500 coal-fired plants of 500 megawatts each.
- 75% of current U.S. demand for electricity.
- ***Twice*** the carbon savings of the Kyoto Protocol if ***all*** the signing countries met ***all*** of their targets.

MANDATORY MINIMUM ENERGY PERFORMANCE STANDARDS (MANDATORY MEPS) FOR MOTORS

The International Copper Association (ICA) has been a strong voice globally for the implementation of Mandatory Minimum Energy Performance Standards (Mandatory MEPS) for motors for many years. In 2002, only five countries had Mandatory MEPS. The story is different today. Through the concerted efforts of the International Energy Agency, United Nations, various other organizations, governments, and the ICA, 39 countries will have adopted some level of Mandatory MEPS for three-phase electric motors, by 2011. Motors in these countries account for about 20% of total global electricity demand. If the Mandatory MEPS in these 39 countries were raised to best-practice levels, savings could approach 200 million tonnes of CO_2 annually. If all countries adopted and enforced best practices for motors and for motor-driven systems, savings could reach 1.8 gigatonnes of CO_2.

BUSINESS CONSIDERATIONS

Utilities are promoting premium-efficiency motors as a customer service to help industries improve their competitiveness and to enhance environmental quality. Since most industries spend a significant percent (60-70%) of their electricity bill in powering motor loads, lowering operating and maintenance costs with premium-efficiency motors, coupled with typical payback periods of six months to three years for these products, makes premium-efficiency motors a sound investment. Energy-efficient and premium-efficiency motors have other benefits, too. These motors:

- Run cooler and better withstand voltage variations and harmonics than standard motors.
- Deliver higher power factors on average than their standard counterparts.
- Operate more quietly.
- Often are backed by extended manufacturers' warranties.

CONCLUSION

We encourage governments to adopt Mandatory MEPS in line with international best practices.

Charlie Sartain
Chief Executive, Xstrata Copper
Chairman, International Copper Association

Francis J. Kane
President,
International Copper Association

ABOUT THE ICA

The International Copper Association is the leading organization for the promotion and defense of copper products and markets worldwide. The ICA's 36 member companies represent a majority of the world's copper production, and also include ten of the world's largest copper and copper-alloy fabricators. The ICA global network comprises more than 350 project partners, which include industry, governments, multilaterals, and non-governmental organizations (NGOs). The ICA is headquartered in New York and maintains 31 offices on six continents, with activities in more than 60 countries.

Integrity, innovation, trust, credibility, commitment, empowerment, and passion are core values of the ICA. The ICA is dedicated to advancing copper as the material of choice for current markets and use in new applications based on its superior attributes, such as excellent heat and electrical conductivity. These include technical performance, aesthetic value, sustainable qualities, an essential role in human health and contributions to a higher standard of living. ICA's vision is to inform and inspire a global audience on the intrinsic value and benefits of copper through its role in safeguarding and improving health, developing and commercializing new technologies, and improving the quality of life.

Copper Connects Life.™

COPPER

International Copper Association, Ltd.

www.copperinfo.com

Courtesy of Clean Energy Council

The sources of clean energy

The technology needed to produce clean, renewable energy is out there. Progress has been made. But further investment and government action are needed to develop this technology further and ensure sustainable, clean energy sources for the future

By Matthew Warren, chief executive, Clean Energy Council

In the history of humanity, energy has been the code for growth. Energy has been used to power machines to make human efforts more productive. Finding and exploiting abundant and affordable energy have been the essential ingredients in the miracle of industrial development that has made lives safer, cleaner and better.

The world's fastest growing economy, China, knows this fundamental relationship only too well. New energy is the life blood transforming China's economy. The lives of millions of Chinese people are being changed every day. The scale of this extraordinary act of humanity is still being contemplated. It took the industrial revolution 100 years to lift 25 million Europeans out of poverty. China has done the same to 250 million people in a decade.

With this in mind, climate change and the need to decarbonise global energy poses a significant challenge. It threatens to impede not only the continued wealth and welfare of the world's most developed economies, but also to derail the remarkable progress made in recent times to address one of the world's most difficult problems – the problem of redressing the balance between rich and poor.

The answer to this problem is obvious: find reliable and affordable energy sources at scale that do not contribute to the Earth's oversupply of greenhouse gases. These energy supplies must also be used more efficiently and conventional energy markets must be released from the commercial straitjackets that have been placed on them for the past century. But fundamentally smart ways need to be found to harness the abundance of clean energy that exists today. And soon.

The question of the transformation is only one of convenience. Fossil fuels are serendipity incarnate. Every tank of gas we buy, every street light we see, is the result of millions of years of solar energy packed into the coal, oil and gas that power it. That energy density has made these fuels transportable and affordable. Cheap energy powered the stream trains that linked London to Liverpool and Chicago to Charlotte. It powered the steel mills of Europe, Japan and Korea. It powers the 600 million cars operating in the world today.

So now these carbon fuels need to be used to decarbonise energy, and to exploit the ingenuity and technology developed over the last fossil fuel century to find ways of extracting the plentiful but diffuse sources of clean energy on Earth.

It is entirely achievable, but unlikely to happen simply as a result of either sheer willpower or desperation. This suite of new clean energy technologies will be created from two fundamental policy principles. First, sufficient abundance needs to be created to drive ingenuity. Second, enough competition needs to be imposed on this abundance to drive efficiency. Renewable energy accounts for around 7 per cent of global energy supply not because it cannot deliver more, but rather because that request has not yet been made of it.

What is known already is that energy can be drawn from the rain and the wind with remarkable efficiency and at industrial scale. By the end of 2009 the total installed capacity for wind energy was 158.5 gigawatts (GW), with an annual growth rate of more than 30 per cent a year. Global hydro energy supply exceeds 800 GW. Photovoltaic solar energy has passed 5 GW of installed capacity globally with a 50 per cent per annum growth rate as costs continue to fall behind a massive scale-up of production.

> “In the all-important clean technology space, a generation of innovation is being crammed into a decade”

Sunshine is a rich but diffused source of energy. Large-scale solar technologies are looking at low-cost ways of concentrating this energy source to improve its efficiency at scale. There are 11 GW of large-scale solar projects under development globally in the United States, Spain and North Africa. Sunshine is also trapped in plant matter, which, when extracted as energy, delivers another 260 GW used as energy and heat.

Geothermal heat stores beneath the Earth's surface deliver around 38 GW of energy as electricity and heat, with enormous untapped potential. There are also hundreds of companies around the world working to safely and reliably harness the enormous energy potential in the Earth's ocean currents and tides.

So progress has begun. Investment in new clean energy generation in 2008 outstripped that in conventional

energy for the first time in history. The US-based Pew Charitable Trusts predicts a jump in total clean energy investment to around $200 billion in 2010, led by China, Britain, Germany and Spain.

There is a clear first-mover advantage for governments. Those economies that act early will enjoy the largest benefits. China has invested more than $30 billion in new clean energy generation during 2009 – almost twice as much as the US did.

In turn, those governments need to create the right conditions for investment in clean energy development and deployment to increase exponentially. In the long run, that will be delivered by an agreement on global greenhouse gas emissions. In the short run, that means sufficient regulatory certainty for investors to finance new clean energy projects.

In the all-important clean technology space, a generation of innovation is being crammed into a decade. That means faster cycles of success and failure, trials and errors. Investors ought to back these risky ventures with confidence – and recover their losses in the failures and recycle their capital in other ventures. Governments play a crucial role in installing that confidence and creating that abundance.

Clean energy is just like conventional resource extraction – only in reverse. The technologies to extract conventional resources already exist. The resources just need to be located. With renewables, the location of those resources is already known. It is now just a matter of optimising the technologies. But these new clean energy generation sources are not always conveniently located. Investment rules in grids and networks need to change too.

At the spring summit of the European Union in 2010, leaders officially endorsed the G20 as an alternative forum for reaching an agreement on emissions reduction. Inevitably, the leadership in clean energy innovation and investment will come from these 20 leading economies. ◆

Small-scale versus big-scale renewable energy investments: the path for developed countries versus developing countries*

Developed countries should focus on investments with a large impact, developing countries should focus on small-scale investments

Aad Groenenboom & Paul Nillesen, PricewaterhouseCoopers

The next decade brings us new and difficult challenges. But it also offers real opportunities to change the course of our economies and the impact of the environmental footprint we will leave behind. It also requires choices in investment focus between different countries.

We expect the renewables market to flourish as conventional sources such as oil and gas wane and the marginal cost of producing them rises. Over the longer term, this increase will enhance the competitive position of renewables and tip the balance in favour of these new technologies. At the same time, technological progress and economies of scale are driving down the initial investment costs of renewable technologies and increasing their efficiency.

Importantly, stakeholder pressure is acting as both carrot and stick, spurring investment in renewable sources. Renewable energy in particular, but sustainability in general, is now the credo for governments and businesses alike, as consumers are demanding environmentally friendly products and behaviour.

Renewable energy investments have suffered in the current economic crisis. However, increasing the level of investment could decrease our environmental footprint and boost our economies. Recent PwC analysis suggests that reaching the European targets alone will require substantial investments between 1.8 and 4 trillion Euros depending on the technology.

We identify two trends in the market for renewable energy. On the one hand there are large-scale renewable energy projects in development around the world, such as offshore windparks or concentrated solar power plants. These projects are reaching the scale and complexity of conventional power stations. On the other hand, there is a proliferation of small-scale, often local, renewables initiatives, such as households with heat pumps or PV panels on their roofs. At all levels in society a renewable revolution can be witnessed. Although both local initiatives and larger scale projects are necessary to realise the renewable transition, we see an important distinction in focus for developed countries and developing countries. This distinction should be accounted for in policy development and development aid between rich and poor countries.

There is a need for Constraint and Reduction to facilitate and achieve the renewable transition. The developing countries have relatively low per capita carbon intensity when compared to the more developed countries. Policy should be aimed at Constraining the carbon intensity of the less developed countries, whilst allowing economic growth and growth in prosperity. At the same time policies need to be developed to Reduce the carbon intensity of developed countries, whilst maintaining the social wealth that has been created by decades of economic growth.

This implies that the primary focus for developed countries should be on large-scale renewable energy initiatives that will help drive down the carbon intensity. The impact of these large-scale initiatives is likely to be far greater than smaller-scale individual measures. That is not to say that these should be neglected but rather the direction of scarce resources should be aimed at large-scale projects. Obviously this will require coordinated efforts between countries as those initiatives can be across borders.

For developing countries the focus should be on these small-scale, decentralised initiatives. Utilising these small-scale renewable energy solutions will allow the benefits of economic growth to be captured, whilst constraining the growth in carbon emissions. There is a unique chance to leapfrog conventional sources of energy and implement a fully renewable energy system. This leapfrogging is similar to the introduction of mobile telephone networks in many developing countries rather than expanding the traditional fixed line networks. In policy terms this implies that funds should be directed at facilitating this local decentralised transition.

Ultimately, linking these two approaches will boost both the market for large-scale solutions and allow innovation and development in locally-based technological solutions.

Prosperity, energy and global warming – a policy dilemma

By Dr. John S. MacDonald, Chairman and CEO, Day4 Energy Inc.

Modern humans, at least those in developed economies, have had the privilege of living in a time of relative prosperity, when our quality of life has been the best it has ever been since our species first appeared on the Earth. The fundamental basis for this happy state of affairs has been the relatively easy availability of large quantities of affordable energy. The vast majority of this energy is created through the combustion of fossil fuels, energy sources that are depleting and becoming more difficult and expensive to find and exploit. This coupled with rising energy demands as more of the Earth's human inhabitants strive to gain a better life, is leading to increased volatility in energy prices and to their inevitable rise. Our modern energy supply is gradually becoming neither as inexpensive nor as plentiful as it once was. This will impact prosperity.

In addition, our climate is changing and increasing worldwide average temperature is an accepted fact. It is "unequivocal" in the words of the Intergovernmental Panel on Climate Change (IPCC). Careful modeling of climate phenomena and their trends has made it increasingly clear that today's dominant method of generating abundant cheap energy, is a significant contributor to the climate change we observe because of increased emissions of greenhouse gases (GHG's). Global warming is likely to cause many regions to become less inhabitable leading to further decreases in human prosperity. Climate change is therefore not a good thing with respect to our being able to sustain human prosperity at its current levels in the developed world, let alone enable the developing economies to realize their aspirations.

Thus the two major threats to the prosperity of modern civilization, depleting energy sources and climate change, are intimately intertwined. Sober reflection on this state of affairs leads to the conclusion that *today's level of prosperity based on the way we presently derive our energy is unsustainable*. This clearly threatens our future prosperity, and is the essence of the dilemma we face.

Our dilemma is a policy dilemma

What can we do to sustain the level of prosperity we have achieved in the developed world and then propagate this achievement

into the less developed portion of our human family who quite appropriately aspire to increase their prosperity to the level of the developed economies? If we simply reduce GHG emissions, we threaten the short-term availability of the energy supply. If we carry on with "business as usual" energy prices will increase anyway and we will continue to aggravate the warming trend in the global climate with unpredictable consequences.

This simple analysis reveals that unlocking this dilemma cannot be successfully accomplished by dealing with the energy situation and climate change in isolation. *They must be tackled together as parts of a single complex threat*. The failure of the recent Copenhagen Conference on Climate Change illustrates the futility of trying to address one of these issues in isolation.

What is the key to unlocking the dilemma?

That key is Renewable Energy Technology because it simultaneously addresses energy supply/demand and climate change. *It addresses both threats to our continued prosperity*. Renewable energy sources are, by definition, inexhaustible. That can deal with the supply issue. As demand increases we will have to develop better, smarter and cheaper means of harnessing renewable energy sources but there is no fundamental barrier to doing that. Renewable energy sources are secure, the fuel is generally free and not a significant factor in advancing global warming.

Renewable energy in its current state is an infant industry. In spite of this, however, its technologies are well understood and the majority of them are at or near the commercial level of development. The challenge now is to develop policies that will lead to renewable energy sources entering the mainstream of the energy system. These technologies are, in most regions of the globe, still not cost competitive with existing mainstream energy sources and are generally regarded as a peripheral curiosity. The development of the renewable energy industry is still at a very early stage, and it is generally accepted that to develop to the point where it is competitive as a mainstream energy source will require subsidization, a concept that is no stranger to the traditional fossil fuel based energy industry.

At Day4 Energy we have set a goal to move our particular renewable energy technology (solar photovoltaics) to cost parity as quickly as possible through technological innovation. We are making good progress and in our experience so far it has become very clear to us that a performance-based subsidy is by far the most effective policy tool yet conceived as a mechanism to move renewable energy technology to the point where we can begin to realize a viable solution to the energy/climate change dilemma. Subsidy mechanisms based on capital rebates and tax schemes are far less effective in stimulating the innovation necessary to achieve the goal of unlocking the dilemma.

The most well known performance-based subsidy mechanism is the Feed-In-Tariff (FIT) introduced in Germany a decade ago. As a company dedicated to using our skills at technological advancement to realize the generation of solar energy at competitive prices we, at Day4 Energy, find that operating in regions that use FIT subsidies provides the degree of incentive necessary to keep us on the right path to achieve cost parity. This is due to the essential characteristics of the FIT. The subsidy is supported by the ratepayer, not the taxpayer, which creates a business transaction where an investor makes a deal to provide renewable energy to an electrical utility in return for a stable price regime and an acceptable return on investment for an extended period of time. In this way, private capital is attracted to the task of developing more efficient, effective and reliable renewable energy sources. As the technology improves and its costs reduce, so does the subsidy until it ultimately disappears. The pressure to innovate is unrelenting because the competitive advantage of a supplier such as Day4 Energy rests on our ability to provide reliable technology that delivers the most energy at the lowest possible cost thereby providing the investor with the highest possible return together with the assurance that the system will perform for many decades. While our focus at Day4 Energy is on solar generation systems, these same principles apply equally well to all forms of renewable energy.

There is a degree of urgency to all of this. The challenge is not as simple as replacing conventional fossil-based energy sources with renewable ones. The characteristics of renewable energy sources will require considerable modifications to the transmission, distribution and control infrastructure compared to the system we currently have. This will be an enormous undertaking. It will take much time, and given the uncertainties in both the consequences of the global warming threat and the timing of increasing prices for conventional energy, there is no time to waste. The time to start is now. Bold leadership will be required. Let us hope it is forthcoming.

Beyond fossil fuels: how the G8 and G20 summits can help

By enhancing the work of the International Energy Agency, and encouraging emerging economies to join, the G8 and G20 can help reduce the world's fossil fuel consumption

By Dries Lesage,
University of Ghent

Despite the disappointing results of last year's Copenhagen climate change conference, the world still needs to move rapidly to a climate-friendly energy system. Ambitious, globally agreed and binding targets to reduce carbon dioxide emissions are imperative.

Yet Copenhagen demonstrated that this goal is hard to achieve in the short term. It must be supplemented by other strategies, of which stepping up international collaboration on energy efficiency and clean energy appears to be a promising one. Such collaboration should not be seen as opposed to the Kyoto approach of binding emission targets. On the contrary, intensified policy and technology collaboration will likely pave the way for stronger reduction targets. Moreover, the numerous meetings between energy officials from advanced and emerging economies may contribute to mutual trust and understanding. One lesson learned from the difficult post-Kyoto talks is that a gap remains between international climate and energy policy. Only a small amount of the climate debate is dedicated to what enhanced energy cooperation could achieve. The upcoming G8 and G20 summits could make a huge difference on this front.

Apart from useful work in reducing national subsidies for fossil fuels, energy is not yet a prominent theme on the G20 agenda, which focuses on macroeconomic and financial issues. In contrast, the G8 has long engaged in the climate/energy debate. It has been a priority since the 2005 Gleneagles Summit, and has figured on the agenda of all subsequent summits. However, energy is not a priority theme for the June 2010 Muskoka Summit and no energy ministerial has been held. Consequently the useful mechanism of iteration, which can enhance national compliance and G8 effectiveness, has been lost. Moreover, the G8 has not produced a breakthrough on emission reduction targets. It has also had little interesting to say about climate finance.

Yet the G8 has been helpful in ultimately bringing the climate-sceptic former US president George W. Bush on board, pushing forward an 80 per cent reduction target by 2050 for industrialised countries and achieving global acceptance of the principle that global warming should not exceed 2°C compared to pre-industrial levels. More important, but less publicised, is the G8's contribution to technological collaboration on energy efficiency and clean energy, particularly between G8 countries and major emerging economies. Since Gleneagles, the G8 has boosted the work of the International Energy Agency (IEA) on sustainable energy, as well as its outreach efforts. And in 2009, the G8, the European Union, China, India, Brazil, Mexico and Korea founded the International Partnership on Energy Efficiency Cooperation (IPEEC). Open to all interested countries, the IPEEC will promote

energy efficiency worldwide and facilitate the exchange of information and best practices.

But the work is far from done. More than ever, G8 and G20 summits are key in providing the necessary leadership for a complex, multidimensional and urgent issue such as energy, while being sensitive to the interests of non-members. The June 2010 summits have a good chance to become historic ones, by pushing forward a few initiatives already underway and departing from an institutional infrastructure already in place. The rise of Brazil, Russia, India and China and other non-western energy consumers has made it increasingly difficult for the IEA to coordinate strategic oil reserves and work on sustainable energy. The G8 and G20 can help more major emerging economies become members of the IEA. US secretary of state Hillary Clinton and IEA executive director Nobuo Tanaka have already spoken in favour of expanding membership to countries such as China and India. This endeavour should become a foreign policy priority for all IEA member states and major emerging economies.

To be sure, some intricate, practical and legal difficulties must still be sorted out, but that is exactly what leaders' summits are for. The full engagement of the major emerging economies in the IEA will amply benefit both sides. Leaders and their sherpas could take the 2010 summits as opportunities to convince their colleagues of the advantages of becoming a member of the IEA. As an organisation of very important consumers, the IEA could coordinate the shift to a world economy beyond fossil fuels – but only if it is more attuned to today's increasingly multi-polar world.

Meanwhile, the G8 and G20 can take other actions as well. In 2010, they could create the international low-carbon energy technology platform already proposed by the IEA. The proliferation of technological initiatives could be better streamlined, the agendas of energy officials worldwide lightened, duplication of work avoided and remaining gaps better identified. Furthermore, if the IEA assumes a higher profile regarding low-carbon energy strategies, its regular budget must be increased. Relatively small amounts of money would allow this institution to adapt to the 21st century, which would effectively serve the strategic interests of member states. The G8 should take the lead in this. The G8 and G20 could also endorse, both politically and financially, the International Renewable Energy Agency (IRENA), another new multilateral institution headquartered in Abu Dhabi.

> Less publicised is the G8's contribution to technological collaboration on energy efficiency and clean energy

However, strengthening and creating multilateral institutions does not relieve the G8 and G20 of their overall political responsibility in keeping global energy governance moving forward.[1] These bodies are well placed to do strategic thinking on energy, to establish linkages between distinct issue areas (for example between energy and development) and to give necessary impetus to the machinery of multilateral institutions. In other words, the leaders must remain committed. Indeed, the energy agenda should shift from the G8 to the G20, as the latter represents more than 75 per cent of global energy consumption and almost 80 per cent of carbon dioxide emissions from fuel combustion. It is, therefore, highly relevant for future summits to discuss the coordination of domestic policies related to energy efficiency and clean energy, to complement the official climate framework of the United Nations.◆

[1] *See* Global Energy Governance in a Multipolar World, *by Dries Lesage, Thijs Van de Graaf and Kirsten Westphal (Ashgate, 2010).*

OPG's Beck Generating Complex in Niagara Falls has a capacity of 2089 MW

Ontario Power Generation: Public Power in Ontario

Ontario is a big province, about twice the size of Texas, with complex energy requirements, lots of industry, a vibrant commercial sector, and a customer base that wants clean, sustainable electricity.

Ontario Power Generation (OPG) supplies about two-thirds of the province's electricity.

The fact that we're publicly owned is central to our role, and has shaped not just the company we've become, but the province of Ontario itself.

Publicly-owned power

Ontario has a proud history of publicly-owned electricity generation. OPG's predecessor company, Ontario Hydro, pioneered both public ownership in this sector and also developed the enormous water resources of Niagara Falls.

By electrifying this province, Ontario Hydro helped transform Ontario from an agrarian province into the industrial heartland of Canada. It also went on to build Canada's first commercial nuclear plants, which are still operating today.

As all members of the G8 and G20 can appreciate, electrification equals industrial development equals rising wealth and prosperity. Electricity is the foundation of a modern economy.

Today, OPG has a generating capacity of 21,279 megawatts. We own and operate three nuclear stations, five fossil-fuelled stations, 65 hydroelectric stations, and two wind turbines.

OPG's plants can be found the length and breadth of Ontario, and we maintain a close relationship with all our site communities. This is an essential part of operating a sustainable, future-oriented business.

A pioneering environmental course

And in that broader public interest, OPG is setting a pioneering course. Already, nearly 90 per cent of the electricity we produce comes from nuclear and hydroelectric stations that are virtually free of emissions contributing to smog and climate change.

At OPG, we see ourselves as a significant enabler of environmental change. Accordingly, we are transforming our mixed generation base of hydro, nuclear and coal, into a much cleaner portfolio. The company is looking at repowering our coal-fired stations to cleaner alternative fuels, including wood and agricultural biomass, and natural gas. If successful, our biomass efforts could create an entirely new industry in Ontario.

“Our move off coal is one of the most significant initiatives to combat climate change in North America.” Tom Mitchell

Our move off coal is one of the most significant initiatives to combat climate change in North America.

Greening the province

We also believe in promoting biodiversity. Since 2000, OPG has planted nearly four million native trees and shrubs. That’s been a significant investment in carbon sequestration and habitat revitalization. Twelve of our plant sites have been certified by the Wildlife Habitat Council for exemplary habitat enhancement programs.

Not only will the trees we’ve planted offset nearly two million tonnes of carbon dioxide over their lifetimes, OPG’s nuclear plants have made their contribution too. In the last 10 years, our nuclear plants have spared the environment more than 470 million tonnes of CO_2 – that’s equivalent to taking 13 million cars off the road over the same period.

OPG and the economy

G8/G20 participants come together annually to discuss economic matters. OPG’s contributions to Ontario’s economy are significant. We employ 12,000 people and every cent of our net income remains here in this province to the benefit of all Ontarians.

A responsible nuclear operator

As a major operator of nuclear plants, we’ve had notable success. In 2008, four of the top five performing CANDU units in the world were OPG units. Three of those units are from our Darlington station, which also won an important award for operational excellence from the Institute of Nuclear Power Operations. OPG is currently planning for the refurbishment of this station.

The question of nuclear waste management is one that concerns all countries with nuclear operations. OPG is responsible for the cradle-to-grave management of its nuclear plants, and we have well-developed plans to deal with nuclear waste. At three locations in Ontario: in Kincardine, and east of Toronto at our Pickering and Darlington plants, we have major nuclear waste management facilities. We control every gram of used nuclear fuel that we have ever produced. We know where it is, how much of it we have, and we monitor it constantly.

To deal with the long-term costs of managing our nuclear waste and nuclear plant decommissioning, OPG has created a $10 billion dedicated fund. And at Canada’s federal level there is an effective cross-country consultative process being developed for the long-term storage of used nuclear fuel. OPG is closely involved.

Hydroelectricity and our future

The original foundation of the Ontario’s electricity was based on water power. Hydroelectricity continues to offer new renewable energy supply opportunities. OPG is currently building, or proposing to build projects in northern Ontario that will add about 600 MW of new hydropower to Ontario’s supply. In southern Ontario, we’re building a 10.2 kilometre tunnel under the city of Niagara Falls to help our Niagara stations generate more electricity. When finished, the tunnel will have a lifespan of about 100 years.

OPG is a leader in biodiversity and has been honoured by the Wildlife Habitat Council

All over the world, where hydroelectric projects proceed, there are potential effects on indigenous populations. OPG’s approach to new hydroelectric is firmly rooted in principles of respect, partnership, economic opportunity, and sustainable development. The Aboriginal people who live and work in the vicinity of our northern projects are full partners, and share in their benefits. For instance, we opened our new Lac Seul/Obishikokaang Waasiganikewigamig Generating Station last year. Through a partnership agreement between OPG and the Lac Seul First Nation, they have a 25 per cent equity stake in the plant. OPG is also negotiating other agreements with First Nations as we plan future hydroelectric developments in Ontario’s North. This is a key element of our approach to operating a sustainable enterprise.

Through our many initiatives across the province, OPG’s goal is to be increasingly recognized for delivering clean, reliable electricity in a manner that is safe, efficient and that benefits the people of Ontario.

I welcome all Summit participants to Ontario, and hope your discussions are fruitful.

Tom Mitchell, President and CEO of Ontario Power Generation

Harnessing renewable energy

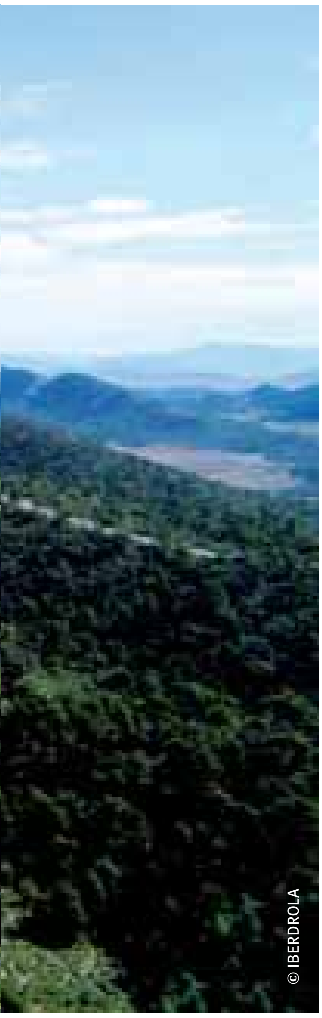
Energy security relies on increased investment in renewable energy research and technology. The G8 and G20 must promote and support these investments

By Victoria Panova, Department of International Relations and Foreign Policy of Russia, MGIMO-University

It has become increasingly evident that energy security is not possible without highly diversified energy sources and, therefore, the full-scale introduction of renewables. The share of renewables in the global fuel and energy balance currently remains below 7 per cent, excluding traditional biomass. According to most forecasts, this figure will only reach about 10 per cent by 2030. Thus, fossil fuels will remain a dominant feature of the mid- and long-term energy mix.

The recent global economic crisis led to a general decrease in energy consumption and reduced levels of investment in the sector in general. It also led to the postponement or cancellation of many renewable energy projects. Thus there is a risk of less investment to develop renewables without substantial government support. This would in turn lead to long-term difficulties in reaching the target of 10 per cent market share for renewables and the transition to a low carbon economy. Meanwhile, interest in wind energy has been increasing, with many companies such as Ibedrola, CEZ, Enel and Blackstone Group engaging in large projects and acquisitions, and Mainstream Renewable Power and Andes Group mounting joint investment projects.

An Ibedrola wind farm in Murcia, Spain: despite reduced investment in the renewable energy sector, wind power projects are on the rise



Harnessing renewable energy: an uneasy path

Renewable energy sources – those that can be replenished quickly – include biomass, hydro power, wind, solar, geothermal, sea (tide and wave, ocean, salinity gradient, sea biomass) and other types of power.

Today, with the volatility of hydrocarbon prices, which remain in the upper part of their price range, combined with long-standing anxiety about the eventual depletion of hydrocarbons, as well as about the damage to the Earth's ecosystem, renewable energy can play a more prominent part in the total fuel and energy balance in the long term. Nevertheless, this cannot happen simply by the stroke of a magic wand. Any increase in renewable production would require several steps at the national and international levels, as well as with business.

Renewables also offer a potentially valuable solution in climate change mitigation. The International Energy Agency (IEA) estimates that increased use of renewables would account for 20 per cent of carbon dioxide savings. Biofuels used in transport accounts for another 3 per cent. However, this transition would require a "hybrid policy approach", which would include national policies, sectoral agreements and cap-and-trade systems with the participation of all the countries with "common but differentiated responsibilities".

Another important step to increase the use of renewables is significant investment, which should amount to $5.5 trillion over the next two decades. As much as half of the total projected investment in renewables will likely come from electricity.

Nevertheless, obstacles remain. They include the high cost of renewable energy technology, the lack of state support or subsidies, the interaction between food security and the development of biofuels, limited skilled labour and policymaking capacity, insufficient investment and a sceptical attitude toward the commercial viability of renewable energy.

Yet harnessing renewable energy is an important step in strengthening energy security, increasing the sustainability of energy development and maintaining ecological balance. There is still a considerable lack of research and transparency on the issue. A recent study, conducted by the European Commission on the use of biofuels, shows that the current policy of the European Union – for example, the target of 10 per cent of all road transport fuel coming from biofuels by 2020, or expanding agriculture to grow crops for biofuels – becomes increasingly unsustainable and leads instead to further deforestation, increased greenhouse gas emissions and degradation of the environment. Meanwhile, the IEA urges further expansion of biofuels, in part because only "around 1 per cent" of total agricultural land is used, there is the "potential to expand".

International mechanisms foster sustainable energy development

One of the reasons behind the creation of the G7 as an informal mechanism for coordination in the 1970s was the need to respond to the energy security challenge as a result of the rise and assertion of energy producers in the developing countries of the Gulf. Today, with globalisation even more advanced, interdependence is not just a slogan but a reality. Hydrocarbons, with all the attendant problems regarding price, availability and so on, are gradually ceasing to be the panacea in global economic development. More and more attention is being devoted by the original G7 countries, together with their new partners – Russia, the G5 or Heiligendamm L'Aquila Process partners of Brazil, China, India, Mexico and South Africa – to the promotion of new sources of energy for sustainable global economic development and wellbeing.

Thus the issue of energy has always been on the G7/8 agenda. This includes the price of hydrocarbons and the security and stability of supply, evolving into environmental and nuclear safety questions, and then returning to oil. Although questions of diversification have always been part of the general discussion on energy, the issue of renewables, although always present, never emerged as a major priority. As G8 chair in 2006, Russia focused on energy security, but its partners prefer to make climate change a priority (with Canada's 2010 chair not breaking the tradition).

Alternative and renewable sources of energy have always occupied a secondary place on the G8 agenda. At the 2000 Okinawa Summit, the leaders agreed to create a task force on renewable energy, but it never produced visible results and existed only for one year. More recently, the 2007 Heiligendamm Process focused on energy and energy efficiency as one of it's four topics. But even then, it only touched indirectly on renewables. The new G20 leaders'-level meetings, kick-started in 2008 by the financial and economic crisis, primarily deal with issues closely related to the world coming out of the current economic crisis.

> "The G8 and G20 should promote high-level political guarantees in stimulating investments and development projects in renewables"

Nevertheless, renewable energy offers ways for more sustainable and environmentally friendly economic development. It is important for the G8 and G20 members to take the lead in this area by adopting the following recommendations.

The leaders must provide the political will to support national and international research facilities and development along with increased financing to conduct research on all types of energy resources and their potential pluses and minuses.

The leaders should also create a new body or expand the mandate of the existing ones (such as the International Renewable Energy Agency or the United Nations Environmental Programme), not to limit them to the exchange of information, but also to provide for joint research on the comparison of natural advantages of specific types of renewable sources in different geographic areas, with further skilled support for providing best policies for introducing renewable technologies. They should also create international programmes to share best practices and advanced technologies with poor countries.

The G8 and G20 should promote and provide high-level political guarantees in attracting the private sector and stimulating investments and development projects in renewables.

The introduction of relevant sources of energy should be promoted according to geographic preferences, on the national level, as well as with the help of the World Bank Group. This needs political stimulus on the part of its major donors.

Providing such high-level political stimulus to the development of renewables is the key to energy security and the sustainability of future economic development. Thus renewable energy should be visibly present on the G8 and even the G20 agenda. ◆

Flexibility enables stability

In West Texas, wind has often been the theme of country ballads. Increasingly, it is also a source of something more practical: electricity

Around the world, energy demand and fuel prices fluctuate unpredictably, and environmental legislation keeps tightening. One significant response to environmental concerns is the fact that more and more energy is being generated from the wind. In 2009, almost 10,000 MW of wind power generating capacity was commissioned in the United States. That's more than any other type of energy source, including coal, oil and gas.

Also, because of changes in legislation, system operators are increasingly responsible for maintaining the stability of their power generation, and this means they have to keep some of their plants on partial load, able to ramp up their output rapidly in response to sudden fluctuations in load or wind generation output.

The demand for wind power enabling solutions that help ensure a stable level of energy is, therefore, also increasing. After all, the need for power doesn't stop just because the wind stops blowing.

Of course, this also raises new technical challenges, as predicting the precise balance of power demanded and supplied at any given time is becoming more and more challenging. Part of the challenge is created by the unpredictable – and often fast shifting – variations in wind power.

Enabling the rising wind

In West Texas an innovative project by Wärtsilä that enables the potential of wind power is showing the way toward more stable and efficient power solutions that will help energy providers stay in control and ensure the supply of energy, now and in the future.

In January 2008 Wärtsilä was awarded a power plant contract by South Texas Electric Cooperative (STEC). Wärtsilä's winning proposal offered a flexible power plant that is able to provide 25% of full power in just two minutes, and achieve full output in less than ten minutes. These engines also offer the highest output levels available in the industry, low lifecycle costs, rapid response to varying grid conditions (including wind power generation), and consistent performance under varying ambient conditions.

According to STEC's General Manager Michael Packard, "Analysis of our different options showed Wärtsilä to be the clear winner in both environmental and economic terms, and in the ability to meet rapidly changing market conditions."

Commissioned in April 2010 in Pearsall, Texas, fifty miles southwest of San Antonio, the project's solution called for a flexible power plant with 24 Wärtsilä gas engines. These were chosen for their high efficiency and low emissions – including their capabilities in compensating rapid shifts in wind power generation. The use of multiple engines allows STEC to use only the number of engines required to meet the real-time demands of its energy cooperative's members while maintaining optimum efficiency.

The Pearsall plant is connected to the region's electrical grid, and is expected to run for about 4000 hours each year. "This flexible facility will efficiently provide the electricity needed for the region's rapid growth, as well as the grid stability required to cope with the increasing proportion of wind generated electricity," notes Frank Donnelly, President of Wärtsilä in North America.

According to Jussi Heikkinen, Director, Business Development, Wärtsilä Power Plants, Wärtsilä offers exactly the right set of power plant solutions to meet the key challenge. "To date Wärtsilä has more than 1 GW of power output installed or

on order in power plants that are dedicated to stabilizing the grid in the US."

Filling in the gaps – worldwide

Of course, as more and more power generated from the wind is being employed – not just in Texas, but around the world – new solutions are needed to make sure the power grid remains stable. Wärtsilä's flexible power plants fulfill exactly these criteria.

And while Wärtsilä carefully customizes every solution, they each offer the highest levels of efficiency available in the industry, consistent performance under varying ambient conditions, low lifecycle costs and rapid response to varying grid conditions. Depending on the specific load profile, ambient conditions and what fuel is available (gas, LFO, HFO, crude oil, liquid biofuel) Wärtsilä ensures the most productive and cost-effective solution.

There are currently more than 9700 engines installed in more than 4500 Wärtsilä power plants, producing 44 GW of dependable power around the clock in 166 countries around the world.

Honing the technology

According to a study by VTT Technical Research Centre of Finland, global capacity in wind-driven electricity generation is increasing rapidly. The reasons for this are several: CO_2 emission reduction targets, the need to reduce dependence on fossil fuels and a hedge against increasing fuel prices.

Wind turbine technology continues to evolve. Individual turbines are becoming larger, wind farms are getting bigger and the turbines are becoming more precisely controllable. In addition, better network connections will make the output of wind farms easier to manage effectively.

Power systems are adversely affected by the variability and unpredictability of wind farm output. In general terms, the variability of wind-generated power decreases as the number of turbines increases and wind farms become more widely distributed. Having wind farms over larger areas also reduces the number of hours when output is zero. When wind power is added to a power system, existing short-term reserves are used for balancing the system: reducing any net imbalance between load and generation output. At higher levels of wind power penetration the challenges require modifications to overall power system planning and operation.

Although wind power is primarily installed to decrease the need for future power generation using fossil fuels, it can also be used to replace existing power plant capacity. Flexibility in power systems can be increased by adding facilities that offer flexible generation reserves – and Wärtsilä power plants are well suited to this role.

Through fast-response solutions that smoothly and reliably fill the gaps between electricity demand and production, wind power can be made profitable, even in areas with less than perfect weather conditions or where a constant supply of electricity is crucial. For Wärtsilä, it is clear that new business opportunities are – quite literally – blowing in the wind.

Cooling towers at Gundremmingen nuclear power station, Germany. Nuclear energy could help significantly reduce carbon emissions

By Trevor Findlay, The Norman Paterson School of International Affairs, Carleton University

The contributions and challenges of nuclear energy

Some organisations and governments are being persuaded of the benefits of nuclear energy. However, there remain political and technical barriers preventing effective use of this controversial power source

One of the arguments increasingly used to promote nuclear power is the need to tackle climate change. The British government, in laying out the case for 'new build' in the United Kingdom, has used this justification the most explicitly of any government: "Set against the challenges of climate change and security of supply, the evidence in support of new nuclear power stations is compelling." Some 'Greens', notably the founding member of Greenpeace Patrick Moore and British scientist James Lovelock, have been converted to a pro-nuclear stance on the grounds that climate change is so potentially catastrophic that all means to reduce greenhouse gases must be used. Pro-nuclear energy non-governmental organisations (NGOs) have emerged to campaign for increased use of nuclear energy, such as Environmentalists for Nuclear Energy and the US-based Clean and Safe Energy Coalition.

Nuclear power, like hydropower and other renewable energy sources, produces virtually no carbon dioxide directly. *Nuclear Energy Outlook* notes that fossil fuel sources used in uranium mining, construction and transport indirectly produce an "extremely small amount" of carbon dioxide. The generation of nuclear electricity does, however, emit carbon by using electricity from the grid for fuel fabrication, the operation of nuclear power plants themselves and in other aspects of the nuclear fuel cycle, especially enrichment and reprocessing. It is not, therefore, entirely carbon-free.

To date the international climate change regime has not favoured nuclear energy. Under the Kyoto Protocol states may use nuclear power to help meet their greenhouse emission targets, but may not build nuclear power plants in developing countries in order to obtain certified emissions credits under the Clean Development Mechanism. This was due to strong opposition to nuclear energy from influential state parties on the grounds of sustainability, safety, waste disposal and weapons proliferation.

Although the December 2009 Copenhagen climate conference failed to agree on a new regime, one will likely emerge that includes deeper mandated emission cuts, the involvement of a broader range of states in such cuts and, potentially, a global carbon cap-and-trade system (accompanied in some states by a carbon tax). The latter would be favourable to nuclear energy. Nuclear energy may even find greater official encouragement in a new climate change treaty, due to the growing urgency of tackling climate change. Changes in the attitude of some key

"Set against the challenges of climate change and security of supply, the evidence in support of new nuclear power stations is compelling"

governments about nuclear power, such as Italy, Sweden and the UK, may help propel this.

The Intergovernmental Panel on Climate Change (IPCC) has meanwhile reached the startling conclusion that to stabilise global temperatures at 2°C above pre-industrial levels would require greenhouse emissions to be cut by up to 85 per cent below 2000 levels by 2050. Scenarios devised by international agencies for doing this propose a significant role for nuclear on the grounds that it is one of the few established energy technologies with a low carbon footprint.

A study in the scientific journal *Science* in 2004 demonstrated how current technologies, including nuclear energy, could help reduce carbon emissions by 7 billion tonnes of carbon per year by 2050 through seven 'wedges' of 1 billion tonnes each. The nuclear wedge, 14.5 per cent of the total, would require adding 700 gigawatts of capacity to current capabilities, essentially doubling it, by building about 14 new plants per year. While this is a reasonable rate, the estimates did not consider that virtually all existing reactors will have to be retired by 2050, even if their operating lives are extended to 60 years. Thus 25 new reactors in total would have to be built each year through 2050 to account for retirements.

The International Energy Agency (IEA), in its 2008 *Energy Technology Perspectives*, suggested that there should be a "substantial shift" to nuclear to permit it to contribute 6 per cent of carbon dioxide savings, considerably lower than the 14.5 per cent wedge, based on the construction of between 24 and 43 1,000 megawatt nuclear power plants each year between now and 2050. The figures differ from the *Science* wedge analysis because the IEA envisages higher carbon levels by 2050 and more severe cuts in carbon. The IEA implied that not all countries would need to choose nuclear, noting that "flexibility exists for individual countries to choose" a mix of carbon capture and storage (CCS), renewables and nuclear technology. The IEA called for nothing less than an energy revolution, arguing that the market cannot stimulate industry to act swiftly "without clear signals or binding policies from governments".

IEA recommendations for achieving greenhouse gas targets by 2050 are relevant as a driver of interest in nuclear energy, but industry must gear up now to sustain the substantial, steady increase envisaged. It would still have to compete with alternative technologies for achieving carbon abatement. The low estimate by the Nuclear Energy Agency (NEA) projects that nuclear will displace only slightly more carbon per year than it does now. This assumes that CCS and renewable technologies are successful, "experience with new nuclear technology is disappointing" and that public opposition to nuclear power continues. The NEA's high scenario projects almost 5 gigatonnes of carbon displacement and assumes a positive experience with "a high degree of public acceptance of nuclear power". A 2003 study by the Massachusetts Institute of Technology (MIT) estimated that a three-fold expansion of nuclear generating capacity by 2050 would avoid about 25 per cent of the increment in carbon emissions otherwise expected in a business-as-usual scenario.

These hedged scenarios reveal that the barriers to nuclear contributing significantly to meeting targets for reducing greenhouse gases are both technological and political. Opinions differ as to how high these barriers are. Members of the 2007 Keystone Nuclear Power Joint Fact-Finding Dialogue, a broad range of stakeholders, reached no consensus on the likely rate of expansion of nuclear power over the next 50 years in filling a substantial portion of its assigned carbon wedge. The MIT study recommended changes in government policy and industrial practices needed in the near term, but in a 2009 review of its earlier report despaired at the lack of progress.

> “Flexibility exists for individual countries to choose a mix of carbon capture and storage, renewables and nuclear technology”

On the political side, there appears to be consensus that a business-as-usual approach to nuclear energy will not increase its contribution to tackling climate change. Nuclear's long lead times (reactors take up to ten years to plan and build) and large up-front costs mean that without a determined effort by governments by 2030 nuclear would have little impact in reducing greenhouse gas emissions. Even replacing the existing nuclear fleet to maintain the current contribution to avoiding greenhouse gases will require a major undertaking. Despite the rhetoric, there is scant evidence that governments are taking climate change seriously enough to effect the energy revolution that the IEA has called for, much less implementing policies that would promote nuclear energy as a growing part of the solution.

Even if carbon taxes or emissions trading schemes help level the economic playing field by penalising electricity producers that emit more carbon, these measures are likely to take years to establish and achieve results. They will also benefit, probably disproportionately, cheaper and more flexible low- or non-carbon emitting technologies such as renewables, solar and wind. And they make conservation and efficiency measures more attractive.

One argument for using nuclear to tackle climate change is that the problem is so potentially catastrophic

> “Large-scale expansion of nuclear energy is simply too slow and too inflexible compared to the alternatives”

that every means possible should be used, regardless of cost. However, resources for tackling climate change are not unlimited. Already governments and publics baulk at the estimated costs. Therefore, the question becomes what are the most economical means for reducing a given amount of carbon. One answer is to examine the financial cost of reducing coal-fired carbon emissions through various alternative means of generating electricity.

Runaway global warning may become more apparent and politically salient through a catastrophic event such as a sudden halt to the North Atlantic sea current, or the disappearance of all summer ice from the North Pole. A growing number of climatologists have concluded that the IPCC underestimated both the scale and pace of global warming, notably changes in the Arctic ice sheet and sea levels. Some say the situation is so dire that the business of burning coal should be shut down by 2030, if not much sooner. In such circumstances, massive industrial mobilisation to build nuclear power plants rapidly may be politically and technologically desirable.

But nuclear power would still face numerous barriers in responding to such a catastrophe. Large-scale expansion of nuclear energy is simply too slow and too inflexible compared to the alternatives, if reductions in carbon emissions must be made by as early as 2015. As the *Keystone* report noted, just to build enough nuclear capacity to achieve the carbon reductions of a wedge would require an immediate return to rapid growth as in the 1980s and '90s sustained for 50 years.

There is also the vast amounts of water that nuclear reactors normally need for cooling purposes. If climate change reduces river flow or results in warmer water, new nuclear power plants will have to be located on sea coasts. Plant costs can reportedly change by $1 billion depending on whether a plant is cooled by saltwater or freshwater. Plants already using river water may be forced to close or require costly changes to avoid overheating water that is to be discharged back into increasingly warm rivers. France has already been forced to shut down certain reactors during heat waves for this reason. The Indian Point reactor in upstate New York is currently facing closure unless it undergoes expensive modifications to avoid its discharge killing thousands of fish in the Hudson River every year. ◆

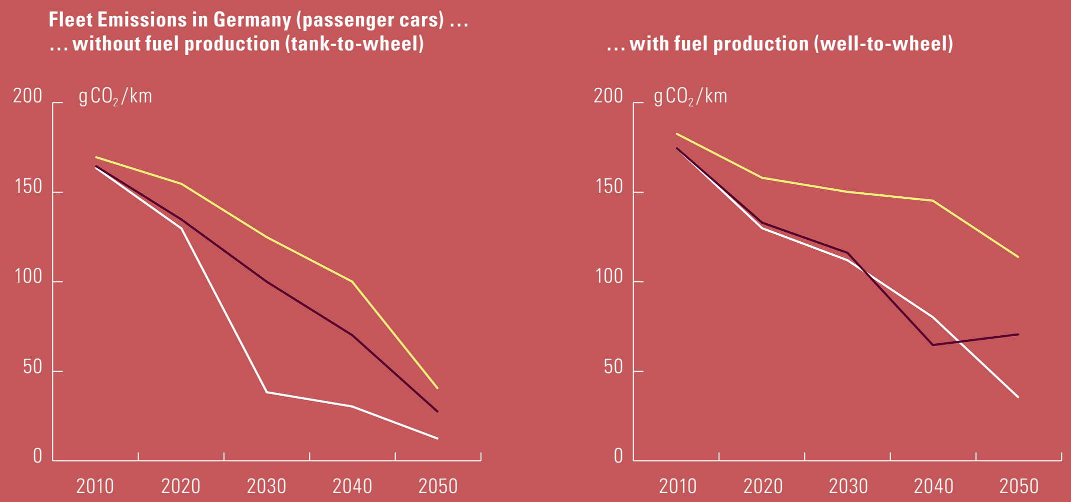
Mobility and Energy Supplies for Tomorrow

Global economic and environmental challenges call for new solutions for mobility and the energy supply of the future. Low emissions and high efficiency – these are the greater criteria while developing alternatives for fossil fuels and today's engines and heating systems. Products and applications based on hydrogen and fuel cell technology offer huge potential for the challenges ahead.

Hydrogen can store large quantities of energy – which makes it the medium of choice for storing excess energy generated from renewable sources; energy that up to now needs to be used right away or else is lost due to the lack of suitable storage. Used as fuel, hydrogen's impact on CO_2 emissions reductions is dramatic, since hydrogen powered vehicles emit nothing but water.

Fuel cells are the most efficient and clean energy converter that we know of today. They can be used in transport in conjunction with electric motors, where they, fueled with hydrogen, are twice as efficient as conventional engines. In stationary applications such as decentralized combined-heat-and power systems fuel cells make use of 80% of the prime energy applied – compared to 30% electrical efficiency today.

IMPACT OF HYDROGEN ON CO_2 FLEET EMISSIONS – THREE SCENARIOS, FROM 2010 TO 2050



"Moderate development" (conservative continuation of trend)

"Shortage of resources" (massive shortages of fossil resources)

"Climate protection" (ambitious climate protection policy)

Source: GermanHy http://www.germanhy.de

Nationale Organisation Wasserstoff- und Brennstoffzellentechnologie

Hydrogen and fuel cell technologies complemented by battery electric technology will over the coming years provide a wide range of products and applications that are not only clean and efficient, but will also provide opportunities for new industries, business areas and employment. Therefore, decision-making players from the worlds of politics, industry and science need to form resilient and focused long-term strategic alliances to accelerate market preparation as well as market introduction for these products.

In 2008 the German government, in close cooperation with industry and academia, set up the NOW GmbH National Organization Hydrogen and Fuel Cell Technology as a public-private-partnership. NOW's task is the implementation of the National Innovation Program Hydrogen and Fuel Cell Technology (NIP) and thereby demonstrating in comprehensive field tests with partners from industry and academia that these technologies are able to offer sustainable solutions in terms of efficient and clean products and applications.

nip
Nationales Innovationsprogramm
Wasserstoff- und
Brennstoffzellentechnologie

Taking the complementary character of fuel cell and battery-electric technologies into account and the consequent need for their integrated introduction to the market, in 2009 NOW has also been put in charge of the implementation of the 'Model Regions Electric Mobility', a program of the German Federal Ministry for Transport. The program aims at establishing Germany as Europe's lead market for electric mobility.

Modellregionen
Elektromobilität

To find out more about us, go to: www.now-gmbh.de

Energy security concerns: do they matter?

Adequate supplies of affordable energy are essential to any country's wellbeing, but how can a country that imports energy secure supply and delivery?

By Robert E. Ebel
Center for Strategic and International Studies

Energy-exporting and -importing countries today share a common bond. They are worried that volatile energy prices, prospective shortages of one fuel but oversupply of another, and regional political crises, singly or together, may have a negative impact on the political and economic stability of their country. Policies stress diversity among sources of supply or markets to be served, diversity among the kinds of fuels exported and consumed, and diversity among the means of delivery to the market place.

Moreover, all are aware of the close linkage between energy security and national security. They are prepared to do whatever it takes to ensure that both are always well served.

Years ago the eminent American diplomat George Kennan offered the least complicated definition of national security: "the continued ability of this country to pursue its internal life without serious interference." That very same definition could easily apply to energy security today, given the irreplaceable role that adequate supplies of affordable energy play in any country's wellbeing.

These are not new concerns, but it has only been recently that the fragility of the world energy market, as a reflection of the worldwide financial crisis, has been demonstrated. Russia, a major supplier of natural gas to Western Europe, has watched demand for its natural gas decline sharply in that market. Demand declines are then inevitably transferred to reduced production levels in Russia and, equally importantly, to reduced financial contributions to the national budget.

Not only has Russia had to contend with the loss of markets through reduced demand but other sources of supply – liquefied natural gas from other suppliers – saw an opportunity and entered the West European markets, further diminishing the Russian share. Moreover, shale gas and coalbed methane appear to be standing in the wings.

The current situation is a very sharp turnaround from

A Yemeni soldier stands guard at the newly built liquefied natural gas plant in Balhaf on the Gulf of Aden

Workers on a natural gas drilling rig near Towanda, Pennsylvania. While some in the US seek energy independence, many feel that diversity of supply and delivery is key to energy security

the winter of 2008-09 when Russia stopped delivery of natural gas to Ukraine for failure to pay for natural gas already consumed. Russia cut off all gas flows to Ukraine, but Ukraine is also a transit country for gas flows to Europe. That meant European consumers were caught short, in midwinter.

The message was very clear. Pipelines circumventing Ukraine, plus increased energy efficiency and biofuels, could offer the energy security these European importers needed.

The United States has long been an importer of crude oil and natural gas. Candidates for political office have recognised the tremendous outflow of US dollars into the pockets of the exporters. They have sounded the call for energy independence, playing to the interests of the general public. They say they must do away with their dependence on unreliable and politically confrontational suppliers who do not stand with them on the issues of the day. Once in office, however, the call is muffled as energy independence becomes a distant goal. But, if not energy independence, what?

The public seeks energy security, whether they understand that or not. And they look to diversity among suppliers and diversity as to how the imports of crude oil and natural gas are delivered to US shores. But how to achieve that diversity is the responsibility of the government and corporations, not the general public. The average consumer likely cares not where the gasoline pumped into his or her automobile comes from. That consumer is interested only in the price that has to be paid and whether there is a limit as how much can be bought.

Another contributor, beyond diversity, to energy security should be recognised. That is technology. Technological advances normally develop over time. That is particularly true for the oil and gas industries. To illustrate, the development and application of technology to allow the drilling and fracturing of shale beds to

> “Candidates for political office have sounded the call for energy independence, playing to the interests of the general public”

produce shale gas took years to come to today's status. The success achieved so far has allowed the media to use the term ‘game changer’, as shale gas contributed 26 per cent of total US gas production during 2009.

What does the future hold? No more imports of natural gas, millions of automobiles fuelled by natural gas and replacement of coal with shale gas in the generation of electricity readily come to mind.

Energy independence? Not yet, but a step in the right direction, some say. The success of shale gas has caught on worldwide and has stimulated other countries to revisit their prospects for shale, as well as opportunities in coalbed methane and tight gas formations. Yet sceptics quickly point out the lost promise that nuclear electric power stations were once believed to hold.

Before the full promise of shale gas can be put to work, long-term environmental issues and concerns regarding public health will have to be resolved. Above all, the potential impact of hydraulic fracturing on underground water formations through the release of chemicals used in the fracturing process must be considered.

Another energy-importing country, of rapidly growing international significance, is China. China no longer is a stranger to the world community. What China does in terms of economic growth, and particularly in the demand for crude oil and natural gas to fuel that growth, carries worldwide implications.

Unfortunately, China is comparatively poor in domestic reserves of crude oil and natural gas. Because of that, it must look to imports to cover the growing gap between domestic production and demand. That growing dependence – 52 per cent dependence on foreign oil in 2009 – means that China must do as any importing country must: seek security through diversity. It works to secure that diversity through its ‘go out’ policy: that is, Chinese oil companies prowl the world seeking to acquire equity oil they believe to be secure.

That program has been successful, as fully one-quarter of Kazakhstan's oil production is now in Chinese hands.

Today, China is a key driver in world oil demand growth, with Chinese imports rising by an average of 510,000 barrels per day in 2009. But can China continue its past high growth rates? And when the slowdown does come, can the required accommodations successfully be made? ◆

Energy policy: paradigm shift needed

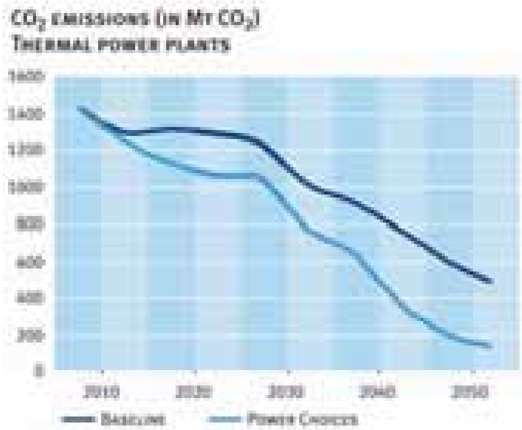
EURELECTRIC Power Choices study shows the path to a low-carbon Europe

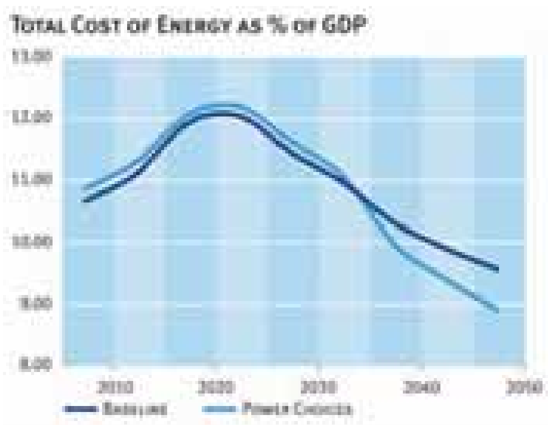
It is feasible to attain carbon-neutral electricity in Europe by 2050 through the market system, with a CO_2 cap-and-trade system driving technology deployment. However, if Europe is to move to a low-carbon economy at reasonable cost, it will require a paradigm shift in energy demand, away from direct use of fossil fuels to energy-efficient electric systems in key areas such as household heating & cooling and road transport.

Climate change has emerged as the most serious environmental challenge of our time. The way the world produces and uses energy will be a crucial factor in the drive to keep global warming to 2°C above pre-industrial levels by drastically reducing emissions of greenhouse gases (GHGs).

The electricity industry recognises its responsibilities as a major emitter of GHGs and continues to play a pro-active role towards achieving an energy-efficient, carbon-neutral economy. In March, Chief Executives of power companies representing over 70% of EU electricity production signed a declaration committing to a carbon-neutral power sector by mid-century. The EURELECTRIC study Power Choices: Pathways to Carbon-Neutral European Electricity by 2050 demonstrates how this vision can be made reality.

The study shows that with the right policies and technologies – both on the supply and demand side – Europe can cut its own CO_2 emissions by 75%, spearheaded by a power sector which reduces its emissions by 90% from 2005 levels by 2050. This will also lead to an overall reduction in both primary and end-use of energy; energy import dependency; and overall energy cost in the economy.





Key recommendations to policymakers are:

- Support the carbon market and ensure all sectors internalise the cost of their GHG emissions
- Actively promote an international agreement on climate change
- Ensure that all low-carbon power technologies remain available for deployment
- Encourage public approval for building modern energy infrastructure
- Lead a widespread drive for energy efficiency, adopting standards and incentives to help consumers choose energy-efficient technologies in the home and in transport
- Promote the roll-out of electric road vehicles and the necessary infrastructure

eurelectric
ELECTRICITY FOR EUROPE

www.eurelectric.org/PowerChoices2050

Industry welcomes constructive dialogue and collaborative solutions on oil sands development

By Dave Collyer, President, Canadian Association of Petroleum Producers

Much has been said and written recently about the oil sands, both across Canada and around the world. For some, oil sands are the economic savior of a recession-weary country. For others oil sands development symbolizes a world that has grown too dependent on fossil fuels. In reality, the oil sands are neither. The truth, as they say, rests somewhere in-between.

Canada's oil sands sector, the individual companies involved in oil sands development, and the Canadian Association of Petroleum Producers (CAPP) as the leading industry association, have spoken at length about the need to demonstrate our environmental and social performance and to communicate more effectively about our very important role in the economy, in creating jobs across Canada and in meeting the world's energy needs.

We fully understand that our reputation is determined by our performance and how we communicate, and that both must be delivered consistently and authentically over time. Where necessary, we will counter our detractors with objective, verifiable facts. At the same time, we recognize the need for more two-way dialogue – to share perspectives and to work toward solutions. On both sides of the dialogue there is an opportunity for less talking and more listening.

A constructive dialogue and collaboration on solutions is what is required, and what we believe most Canadians and international stakeholders expect. Experience shows that collaboration, not confrontation and rhetoric, is the most direct path to solutions. It's essential, however, that these conversations be based in reality rather than exaggerations and misrepresentations. Some of our critics make a point of telling only part of the story: descriptions of water use ignore the fact that current mining production only uses less than one per cent of the Athabasca River's mean annual flow, an amount far less than rivers in industrial areas elsewhere in the world. Characterizations of oil sands extraction as the most carbon-intensive oil production process on earth ignore that CO_2 emissions from Canada's oil sands account for just 1/1000th of total global energy emissions and that emissions from many other crude oil products sources are comparable to those from oil sands crude on a full life cycle basis.

As an industry, we understand that people are genuinely concerned about the environment and the social impact of a growing oil sands sector. Just as our critics should acknowledge the oil sands' vital role economically and in providing a secure and reliable energy supply, industry must respond to the public's concerns about the environmental and social impact of oil sands development.

For many in the oil and gas industry, this is not a new insight. Canada's oil and gas sector has been measuring and reporting on their stewardship efforts for many years. The examples of outstanding project results and the reporting of overall industry performance have contributed to ongoing improvement in industry performance. For example, greenhouse gas emissions per barrel of production from oil sands crude have dropped by more than one-third since 1990, and we continue every day to apply technology to improve oil sands emissions relative to those from conventional lighter crude oils.

However, we also understand the need for change. Perhaps now more than ever, we have a responsibility to demonstrate our performance, to communicate our actions, and to improve our reputation. Our new program, Responsible Canadian Energy™ establishes for CAPP members a forward-looking framework for continuous performance improvement, as well as enhanced reporting of our performance as an industry. This in turn provides a platform for sharing of ideas and stimulating dialogue within our industry and with our stakeholders, both within Canada and around the world.

Canada's oil and gas industry is proud of its achievements to date, but we also realize good is not always good enough. In a world that is always moving and changing, we can't stand still. We have to do better, and we will. We aim to learn from the lessons of our past, listen to key stakeholders and leverage new technologies to improve how we do business today and tomorrow.

It's everyone's responsibility to strive for solutions that advance our core objectives together, energy security, environmental performance and economic growth. And for us, that must be based in healthy, respectful conversations about performance as well as continuing development of solutions that enable us to deliver energy in a responsible way, everyday.

The Arctic energy treasury house

Climate change has revealed valuable resources in the Arctic that are now accessible to southern people. However, who owns these lands and their bounty?

By Rob Huebert, associate director, Centre for Military and Strategic Studies, University of Calgary

The Arctic is undergoing a fundamental transformation. Climate change is creating both the reality and the perception that the Arctic is opening up to the entire international community. The potential of a new treasury of resources in the region has captured the world's imagination and interest. Historically, extreme climate conditions limited the exploitation of Arctic resources to only the region's indigenous population. These hardy people not only survived but also flourished in the face of the extreme cold and ice conditions. Southerners who dared enter the region either dedicated all of their resources to simply surviving or they perished. Now, warming temperatures, melting ice and vast improvements in technology have made it possible for southerners to survive in the Arctic, and even to begin exploiting the region's resources.

The expectations for the region are huge. In 2008, the US Geological Survey estimated that the Arctic potentially holds up to 30 per cent of the world's undiscovered gas reserves and 13 per cent of the world's undiscovered oil reserves. On the basis of three new northern mines, Canada has moved from producing no diamonds to becoming the world's third-largest producer. Possibly the world's largest deposit of iron ore is now being prepared for development in Nunavut. These are only a few of the many cases of actual and potential resources.

> The Arctic potentially holds up to 30 per cent of the world's undiscovered gas reserves and 13 per cent of the world's undiscovered oil reserves

But before the full potential of the North can be unlocked, numerous international challenges must be met. Who owns and who can exploit these new resources? The extreme environmental sensitivity of the region necessitates careful consideration of the environmental standards and rules that must be developed. Of particular concern is the issue of ownership of resources in the Arctic Ocean and who gets to develop and enforce the new rules.

The changing physical landscape of the Arctic has been accompanied by a changing set of international laws governing the control of all ocean space through the United Nations Convention on the Law of the Sea (UNCLOS). It provides the international rules on the use of ocean resources. However, several significant challenges arise when applying its articles to the Arctic.

First, the United States, one of the most important and powerful Arctic states, has neither signed or ratified the convention. For reasons that are confusing to the rest of the world, the United States is the only Arctic state that is not a party to the Convention. This influences how the remaining coastal Arctic states can make their claims over new zones of control. The convention allows states to claim control over the soil and subsoil of much of the Arctic Ocean. But to do so, the claimant state must determine if the region is part of its extended continental shelf. This requires difficult and challenging scientific efforts to map the seabed. The Arctic claimant states (also known as the

Arctic Five) – Russia, Canada, Denmark (for Greenland), Norway and the United States (despite not being a party to UNCLOS) – have been engaged in this work for the past few years. Under the terms of UNCLOS they have a deadline by which they must complete this work. They must then submit their claims to a UN body that will determine if their scientific findings support their claim. Then they must resolve any differences among the various claims. One problem that arises is how a state that is not a party to the convention can submit its claims to this body.

To address this problem, the Arctic Five met in 2008 in Ilulissat, Greenland. They agreed that all of them, including the US, would follow the terms of the convention and, more importantly, would resolve any differences on a peaceful basis. Evidence of this process's success is the announcement on 26 April 2010 by the Russian and Norwegian governments that they had resolved a 40-year dispute over their respective maritime Arctic boundaries.

Nevertheless, the meeting of the Arctic Five and a subsequent meeting in Canada in 2010 have been met with criticism. Some other Arctic states and indigenous populations believed that these meetings were exclusionary. Those that were not invited to these meetings hold the position that even if they do not have an Arctic continental shelf, they will be affected by the economic development in the region. Thus the question has emerged of what is the best forum for developing international cooperation for the future exploitation of the region's resources that is inclusive rather than exclusive.

An aerial view of the Diavik diamond mine, south of the Arctic Circle in Canada's Northwest Territories. Once a hotbed of gold mining, Canada's far north is now unearthing riches from a different precious commodity – diamonds

The most suitable forum is the Arctic Council. Created in 1996 as a Canadian initiative, it was originally intended to create an international body in which all circumpolar issues could be raised and discussed. It was hoped that this would lead to cooperative action to resolve disputes and problems. Unfortunately some of the Arctic states were reluctant to give this new body a comprehensive mandate and capability. It was specifically forbidden to consider issues relating to security and has also tended to avoid politically sensitive issues. Nevertheless, it has proven to be very effective with respect to international environmental issues. Some of its most significant successes have been in the production of several groundbreaking reports on environmental issues facing the Arctic. These include the Arctic Climate Impact Assessment and the Arctic Shipping and Marine Assessment. These have been instrumental in creating a shared understanding of the environmental issues and challenges among the Arctic states and alerting the world to the problems the Arctic now faces. It has been an international pioneer in indigenous relations by including the region's indigenous population in most of its actions. And the Arctic Council is the only multilateral body that includes all of the Arctic states, the organisations representing the northern indigenous peoples and a growing number of non-Arctic states that are becoming interested in the region.

But the Arctic Council still has it weaknesses. It has not been particularly successful in developing cooperative measures to address the problems it has uncovered. It has constantly faced the problems created by very limited budgets. And, as illustrated by the holding of the Arctic Five meetings, it is not always seen as the body of first choice to resolve specific problems.

“The Arctic Council was originally intended to create an international body in which all circumpolar issues could be discussed”

It is clear that it is time to strengthen the Arctic Council. It needs to have both the mandate and the powers that its original proponents had hoped it would be given. Its success in providing an understanding of the impact of climate change on the region, the future of maritime shipping and other such initiatives demonstrates what it can do. Now the council must be entrusted with all circumpolar issues. This requires expanded and improved support for the council. Most importantly, the Arctic states have to regard it as the principal body for addressing the developing circumpolar issues and problems.

As the ice melts, technology advances and the vast untapped resources of the Arctic are developed, there will be many problems and challenges. These can best be met by a shared commitment to cooperation and partnership. The Arctic Council has already demonstrated its success in regards to environmental issues. Now it is necessary to go to the next level. ◆

From
Areas of
Surplus
TO
Areas
of Need

Creating connections
in the global food story

Viterra's growing global presence has established the company as a leader in the supply of high-quality food ingredients to customers around the world.

Known for its quality products and programs, and high performance innovative leadership, Viterra's success is closely tied to its relationships with farmers and destination customers and the connections it creates to deliver safe, nutritious food ingredients to growing markets.

Headquartered in Canada, Viterra has operations across North America, Australia, and New Zealand, with its base for Southeast Asia in Adelaide, Australia, and trading offices in Japan, Singapore, China and Switzerland.

The company operates businesses in grain handling and marketing, agri-products, food and feed processing, and financial services. Through the collective efforts of Viterra's team – now close to 5,000 employees strong – it has forged close relationships with farmers, livestock producers, and destination customers, including the world's leading food manufacturers.

THERE IS A FUNDAMENTAL DRIVER BEHIND OUR BUSINESS: THE WORLD IS GOING TO NEED MORE FOOD.

Countries around the world will be required to significantly increase their investment in seed technology, fertilizer and infrastructure to support additional food production. Viterra's value chain is built around these growing needs – beginning with its research and development of seed varieties and the company's tailored programs for farm customers and producers and extending to its end-use customers.

Central to Viterra's business endeavors is its commitment to agricultural sustainability.

Viterra's integrated value chain strengthens our connections to farmers and destination customers:

RESEARCH AND DEVELOPMENT

FINANCIAL PRODUCTS

AGRI-PRODUCTS

GRAIN HANDLING

The global population is expected to increase from its current 6.8 billion people to 9.0 billion by 2050, according to the Food and Agriculture Organization (FAO) of the United Nations. To meet the needs of this burgeoning population, it is estimated that food production must increase by 70%, with an additional 1 billion tonnes of cereal crops and 200 million tonnes of meat requirements.

As the largest grain handler in Canada and one of the largest grain exporters in South Australia, Viterra's sourced and marketed grain is delivered to customers in more than 50 destination countries.

Through its work with farm customers, Viterra encourages the adoption of agricultural practices that sustain critical resources for future generations to come.

Viterra has established a level of trust that is deeply valued by customers, employees and its communities, bringing essential ingredients from areas of surplus to areas of need.

Visit viterra.ca to learn more about the company's agricultural initiatives.

TSX:VT ASX:VTA

VITERRA™
Essential ingredients. Global success.

MARKETING/MERCHANDISING

LOGISTICS

FEED PRODUCTS

FOOD PROCESSING

Women: reducing poverty and malnutrition

Poverty is associated with inadequate food and poor sanitation. Empowering women can help to improve children's diets and, thus, development

By Kanayo F. Nwanze, president, International Fund for Agriculture and Development

When it comes to health and nutrition, all roads lead to agriculture. Last year, food security was the theme of the G8 and G20 meetings, leading to the historic L'Aquila Food Security Initiative in July 2009 where leaders pledged around $20 billion to strengthen global food production and security. The focus may have changed this year, but the solutions remain the same: ensuring good health for women and children means ensuring access to nutritious food.

The link between poverty, health and nutrition cannot be overstated. According to *The Lancet*, poverty is associated with inadequate food and poor sanitation that lead to increased infections and stunted growth in children. Poverty is associated with low levels of maternal education, increased maternal stress and depression, and inadequate stimulation for children at home. Diets that do not provide sufficient nutrients and high rates of infectious disease can lead to stunting (indicated by low height for age) and wasting (indicated by low weight for height). About 178 million children under the age of five are stunted. Children who suffer from malnutrition early in life are forever deprived of their full physical, mental and social development potential.

Hunger is often a rural issue. Some 75 per cent of the world's poorest people – more than 1 billion men, women and children – live in the rural areas of developing countries and depend on agriculture. Often they do not produce enough food to feed themselves and their families, let alone feed their neighbours or generate a profit. Indeed, many poor farmers are net buyers of food, but with incomes often below one dollar a day, they cannot afford much.

Many of these poor farmers are women. In sub-Saharan Africa women provide most of the labour required to produce basic food crops. Not only are women farming, but they are still carrying out their traditional chores of managing the home while caring for children and collecting fuel and water that can take hours every day. In developing countries in Africa, Asia and the Pacific, women typically work 12 to 13 more hours per week than men.

So women are the key to ensuring food and nutritional security in the home. Studies indicate that when women earn money, they are more likely than men to spend it on food for the family. In Cote d'Ivoire, for example, a $10 increase in women's income was found to bring about the same level of improvement in child health and nutrition as a $110 increase in men's income, as documented in the *Sourcebook on Gender in Agriculture* produced by the World Bank, the International Fund for Agriculture and Development (IFAD) and the Food and Agriculture Organization. And when female farmers have access to resources such as land, credit, technologies and markets, they are often more productive than male farmers.

> In sub-Saharan Africa women provide most of the labour required to produce basic food crops

Unfortunately, women rarely get this access. They are often the most disadvantaged members of rural societies, without rights to the land they work or the power to hold onto the profits of their labour. All too often, when women's activities become profitable, the male members of the household take over.

IFAD has long recognised that there will be no substantial progress in poverty reduction and food security unless there is a greater investment in women. For this reason, IFAD works to empower women economically, to

Studies indicate that when women earn money, they are more likely than men to spend it on food for the family

strengthen their voice and role in their communities, and to fortify their roles in decision making by helping them organise for collective action.

Experience has shown that carefully designed agricultural development projects have huge benefits for child and maternal health. For example, an IFAD-funded biogas project in China, which turns animal waste into energy, has transformed the lives of women and children. Children are healthier because their homes are no longer filled with the smoke from burning wood indoors, and household sanitation has also improved. Women are not only healthier, but they also have more time to generate income now that they no longer have to spend three hours a day collecting wood f or cooking.

Other IFAD-financed projects allow farmers to diversify their production away from basic staple crops and toward vegetables and fruits, as well as livestock and animal-based foods. These provide health benefits for children, women and men. They also command a higher price than staple crops, allowing families to increase their incomes. Vegetable and fruits provide micronutrients such as vitamin A and iron, essential for good health. Livestock products are an excellent source of high-quality protein and essential micronutrients such as vitamin B, iron and zinc.

The only way to make a permanent dent in poverty and hunger is for all countries, rich and poor, to work together to keep agriculture at the top of national and international agendas. In recognition of agriculture's power to improve developing country economies, and in recognition of the need to grow enough food to feed the 9.1 billion people who will be living on our planet by 2050, agriculture has been on the G8 agenda since 2008, when leaders at the Hokkaido-Toyako Summit pledged to reverse the decline in aid to agriculture, which had fallen from 20 per cent of all aid in the 1980s to below 5 per cent in 2007. Despite this commitment, aid to agriculture continues to decline. In 2008, the most recent year for which figures are available, it was just 4.3 per cent, a continued decline from the previous year.

This year, I hope that G8 leaders will take the opportunity of their meetings in Canada to review their progress and accelerate their efforts to meet the commitments they made at Hokkaido Toyako and L'Aquila. And as they implement change, I hope they will take care to include measures to create opportunities and protect the needs of women farmers.

By doing this, they will be able to help the world take a giant step toward the prize everyone seeks: to create a world free from poverty, hunger and desperation. ◆

Food Security: Not (Just) a Development Issue

In recognition of the need to raise food production by 70% to cope with rapid growth, the G8 committed US$20 billion to a sustainable agricultural development fund in 2009. CropLife International, the European Crop Protection Association (ECPA) and CropLife Canada wholeheartedly support this initiative to tackle one of the world's most intractable problems: **food security.**

One year later, we call on the G8 to ensure that this important issue does not become yesterday's news. We call on the G8 to focus on ensuring that the funds committed are channeled for maximum impact, efficiently and based on local needs. Food security is fully achievable. But in addition to investment, its achievement requires significant political will, and coordinated, targeted policies.

Agriculture must produce more food while preserving threatened natural resources, and mitigating and adapting to climate change. That's an enormous undertaking – not just for farmers, but for legislators who must balance these concerns in a way that feeds the world.

We can't simply put more land under the plough. Arable land is severely limited and we can't afford to keep cutting down forests to expand agricultural lands. Deforestation for food production is the single largest contributing factor to the rise in greenhouse gases and the destruction of biodiversity. We must grow more food on the existing land base.

Our industry recognizes the crucial role that technologies such as crop protection and quality seed – including biotech seed – play in helping to achieve food security. Without crop protection products, crop losses around the world would be approximately 40-80%. Beyond existing yield benefits, biotech crops have the potential to further increase yields globally by up to 25%.[1]

However, plant science is not a silver bullet. There are six key issues that need to be addressed through coordinated, effective policies before food security can become a reality: agricultural productivity, global and local trade, sustainable resource management, improved infrastructure, rural poverty and fostering innovation. These priority areas are aligned with the **Farming First** policy platform, which we actively support.

Agricultural productivity

- We must sustainably increase productivity on existing lands.
- This requires more investment in agriculture. The L'Aquila Fund will help, but a corresponding commitment to agricultural investment from the recipient countries will be critical to success.
- Increasing productivity in food insecure countries is not enough. In an interdependent age, falls in productivity in one region impact food security in another. For example, reducing productivity in Europe due to restrictive legislation is predicted to lead to expansion of land to meet Europe's food needs in the developing world.[2] We call on the G8 to remember the importance of sustaining and supporting productivity in all regions.
- This presupposes facilitative, science-based policies. Recent regulatory developments in Europe that restrict the availability of technology to farmers without scientific basis are of great concern. It is hoped that such regulation will be reconsidered in Europe and certainly not replicated elsewhere.
- The private sector currently accounts for one-third of all agricultural R&D[3], which it invests in the lengthy process of researching and developing new, improved solutions for growing more food sustainably. It takes almost 10 years from discovery to market approval of a new crop protection product, costing over US$250 million.[4]
- By broadening application of existing technologies and knowledge, agricultural productivity can be increased – currently, yields in parts of the developing world reach only 20% of those achieved in the developed world.
- Public-private partnerships are an effective way of sharing knowledge, enabling market access and facilitating access to inputs. More such cross-sector collaborations are needed.

Global and local trade

- Efficient food production requires open, fair, and well-functioning global markets.
- This presupposes removal of trade barriers, such as export restrictions.
- Many countries depend on international trade for food security. Developing countries' net cereal imports are expected to more than double by 2050. To address this vulnerability, investment is needed in rural infrastructure, services, R&D and access to technology.
- Risk reduction policies and joint measures among countries that are food import-dependent are needed to better equip them to withstand future shocks.

Sustainable resource management

- Biodiversity and natural resources, such as land and water, are under unprecedented pressure.
- Agriculture impacts these natural resources. To ensure that agriculture helps preserve natural resources, policies should inform and incentivise farmers to adopt more sustainable farming practices.
- A key step to preserving biodiversity is to prevent encroachment on wild habitat by using the most productive agricultural methods on existing farm lands and thereby minimizing the expansion of farmland.[5]
- Agriculture currently consumes 70% of all blue water.[6] Infrastructure and technology are key to improving water use efficiency. Better irrigation and water transportation systems can make a big difference. Advances in plant sciences can enable plants to more efficiently utilize water – biotech-derived drought tolerant crops will be able to maintain crop yields with less water, and preserve crop productivity in times of drought.
- Climate change will render vast swathes of land uncultivable, threatening millions of rural livelihoods. Concerted, decisive international action on climate change is critical.

Improved infrastructure

- Improved infrastructure is needed to improve crop production and quality, reduce post-harvest losses and to secure farmers' access to inputs and markets.
- Poor infrastructure in developing markets means that often inputs such as crop protection, seed and fertiliser cannot reach the farmer.
- In areas where there is no road or transportation, taking goods to market becomes almost impossible, preventing many smallholder farmers from ever entering the marketplace.
- Post-harvest losses are highest among smallholders, largely due to lack of storage infrastructure, leaving produce susceptible to attacks by pests and disease.

Rural poverty

- With rising urbanisation, there is a real risk that rural and agricultural communities will be neglected further by government policies. This must be avoided.
- 75% of the poor in developing countries live in rural areas. Often, they cannot feed themselves and as net food buyers, are very sensitive to food price increases.
- They need purchasing power to avoid hunger – food availability alone is not enough.
- Economic growth in the rural and agricultural sectors – particularly among smallholders – is twice as effective at benefiting the poor as growth in other sectors.[7]

Fostering innovation

- Increasing agricultural productivity sustainably requires continued innovation for new, improved technologies and knowledge.
- To do this, we need more investment in research, by both public and private sectors.
- Innovation in plant science holds vast potential. More targeted and impactful crop protection technologies and improved plant varieties, including biotech varieties, already help farmers grow more food with a smaller environmental footprint.
- Policies should foster and incentivize such innovation. Clearly defined, robust intellectual property protection systems are indispensable.
- Farmer-centric and locally-relevant research must be prioritized to ensure impactful and relevant outcomes.
- Improved, broader extension services are a must to ensure appropriate knowledge and technology reaches the farmer. Public-private partnerships have a key role here.

We believe that with a commitment among policymakers to addressing the above issue areas, food security is fully achievable. We call on the G8 to ensure that the L'Aquila Food Security Initiative is targeted, impactful, and builds on existing international processes, to make food security a reality for this generation, and for our future generations.

CropLife INTERNATIONAL
www.croplife.org

European Crop Protection Association
member of CropLife International
www.ecpa.be

CropLife CANADA
www.croplife.ca

[1] Consultative Group on International Agricultural Research [2] Humboldt Institute, 2010 [3] Consultative Group on International Agricultural Research
[4] Phillips McDougall, 2010 [5] University of Leeds, 2010 [6] Blue water is defined as stored rainwater [7] World Bank, World Development Report 2009

The right food at the right time: prioritising nutrition in food security

Globally, 200 million children are affected by malnutrition. For those who survive, mental and physical issues will follow them into adulthood. The World Food Programme is working to provide food and nutrition interventions and education

By Josette Sheeren, executive director, United Nations World Food Programme

No issue is more urgent, or more foundational to other development goals, than getting maternal and child nutrition right. Each year, more than 3.5 million children die as a result of poor nutrition. This is nearly 10,000 lives lost each day. Canada is providing critical leadership on this issue as it hosts the G8 and G20 summits.

These children are among the record 1 billion hungry – or one out of every six people on earth – who wake up every morning not knowing whether they will have enough food to eat.

The science is now clear on what is at stake. We know that children never recover from the mental and physical stunting that occurs if undernourished in their first two years of life. By allowing under-twos to remain malnourished, we are robbing an entire generation of their very future. The focus on under-twos is critical – this is the window of opportunity where a global investment can pay dividends for decades to come.

Globally, malnutrition affects almost 200 million children. This means that 200 million children right now are being dealt lasting damage to their young minds and bodies. These are children affected by the earthquake in Haiti, the drought in Kenya, violence in Somalia and high prices in the Central Asian republics.

Malnutrition is an economic issue as well. Studies, including those by the World Food Programme (WFP) and the Economic Commission of Latin America and the Caribbean, show that the cost of malnutrition to developing countries is as high as 11 per cent of gross domestic product. Research from Guatemala shows that children who receive adequate nutrition earn wages as adults that are nearly 50 per cent higher.

> Studies show that the cost of malnutrition to developing countries is as high as 11 per cent of GDP

Although there are many causes of child malnutrition, there is one goal: getting the right food and nutrition interventions to vulnerable children at the right time. Unfortunately, achieving that goal is not simple and requires a historic collaboration among experts in many fields – from science and food technology to heath, global logistics and medicine.

Nutrition cuts across different tribes – the medical profession, experts in public health, food security and development. People are also divided into government, international organisation, private sector, non-governmental organisations and civil society tribes. But a global nutrition revolution is starting, united by a common goal – to ensure that every child has sufficient nutrition to reach his or her full potential and live a healthy and productive life.

The WFP provides 100 million people a year with food and nutrition interventions, including school meals and nutritional supplements. Last year 80 per cent of its interventions went to women and children because they are often most at risk. Filling empty bellies is no longer enough. Armed with nutritional knowledge, we know that we need to ensure that the food provided is the right nutritional match for the most vulnerable people – pregnant and lactating women, children under two and those with HIV/AIDS and other life-threatening illnesses.

Canada has been a leader in fighting malnutrition. Canada's support and focus on malnutrition helped WFP to provide critical supplementary feeding to children under five and pregnant and nursing mothers in the aftermath of the earthquake in Haiti, and so many other places around the world. In addition, Canada is a leading supporter of the Micronutrient Initiative, which works to ensure that vulnerable people in developing countries get the vitamins and minerals they need to survive and thrive.

We know that we have much more to do. In *Scaling Up Nutrition: A Framework for Action*, the World Bank estimates that about $10 billion per year would provide 13 proven interventions in the most vulnerable countries, from food fortification to targeted supplements for the most vulnerable people.

We must advocate together for new funding dedicated to nutrition. There is money on the table. Last year at the G8 summit in L'Aquila, leaders pledged $22 billion for comprehensive food security. Comprehensive means everything, from growing more food, to ensuring people can access it, to ensuring that the right food reaches the right people to have the best nutritional impact. If this money just goes to growing more food, there is a risk that nutrition will take a back seat.

Bangladesh is a perfect example of this. Bangladesh nowadays is substantially self-sufficient in rice production, yet there is what the WFP's team in Dhaka calls a "nutritional emergency". Some of the worst nutritional indicators in the world include wasting rates at more than 17 per cent and 41 per cent of children under five being

underweight. At the Food Security Investment Forum in Dhaka, earlier this year, Bangladeshi prime minister Sheikh Hasina said: "producing more food does not guarantee access to food … A comprehensive approach is necessary. Only this shall ensure that all our people have access at all times to the safe and nutritious food necessary to lead a healthy and active life."

Countries have tackled and solved this problem, including China, Brazil, Thailand and Chile. Lasting, sustainable nutrition solutions must be country-led. Donor countries and private sector partnerships can then help catalyse home-grown solutions with critical financial backing and scientific know-how.

I recently visited Brazil, where nutrition has been championed by the government of President Luiz Inácio Lula da Silva as part of the Zero Hunger campaign. Rates of undernutrition in children dropped by 50 per cent over a single decade, from 14 per cent in 1996 to 6.8 per cent in 2007. Their success was due, in part to their ability to build systems that promote nutrition in a variety of settings. From school meals, to cash transfers, to interventions in health clinics, the result is simple – better nutrition for young people.

A mother and her malnourished child in the Nutritional Rehabilitation Centre of Sheopur district in the central Indian state of Madhya Pradesh

Taking Brazil's knowledge and helping other countries with their own solutions to hunger is what is behind a new centre for excellence that the WFP is launching in Brazil, a centre that will support South-South solutions to hunger and malnutrition.

The G8 and G20 have a unique opportunity to make combating child malnutrition a pillar of the 2010 summits. Now is the time. The burden of knowledge compels us to act together. All that is needed is focus, our combined knowledge, political will and resources from around the world. These summits can become a tipping point where the world can rally to make child malnutrition history. ◆

VFRC

Technology Research and Development: Helping Feed the World

IFDC is launching the Virtual Fertilizer Research Center (VFRC), a global research initiative to create the next generation of fertilizers and production technologies. New and improved fertilizers are critical components in the effort to help grow nutritious crops to feed the world's population, create sustainable global food security and protect the environment.

In 2008, the world struggled with food, fertilizer and fuel price crises that included dramatic price swings and shortages. The crises have temporarily abated – due largely to the global recession. However, the underlying causes remain, and it is likely that these problems will re-emerge with economic recovery.

New and innovative research is needed to develop technologies that improve the use of land and labor resources, reduce emissions into the air and water and conserve natural resources. These are global issues and they require global solutions. Therefore, IFDC began the VFRC as the most rapid, economical venue to tap the world's intellectual capacity to generate critically needed research. The Center will partner with universities, public and private research laboratories and the global fertilizer and agri-business industries. The VFRC will bring together the best scientific, business and government minds to create a research system to produce more (and more nutritious) staple food crops with fewer wasted resources and a reduced environmental impact.

The global population is more than 6.8 billion and could reach 9.2 billion by 2050. More than 90 percent of population growth is occurring in Asia, Africa and Latin America, which already account for more than 75 percent of the global population. According to the Food and Agriculture Organization of the United Nations (FAO) the number of hungry people exceeds one billion – more than one-seventh of the world's population (U.S. Bureau of the Census International Database). The FAO estimates the Asia/Pacific region has the largest number of hungry people (642 million), followed by Sub-Saharan Africa with 265 million.

There is a finite amount of arable land. The world food supply has only stayed ahead of rising population because of increasing productivity and a modest expansion of cultivated area. However, limited resource reserves, increasing energy costs and the growing environmental cost to bring new land under cultivation pose ever larger challenges.

Facing these critical population, economic and environmental issues, the world cannot afford the current inefficiency in fertilizer production and use. It is not merely a matter of applying more fertilizer, but one of balance and effective application. Beyond that, it is time for new thinking about the way we use our resources to produce nutritious food.

It is estimated that 50 percent of the food consumed worldwide results directly from the use of (or benefits of) fertilizers. The production of one ton of urea, the predominant nitrogen fertilizer product, requires the energy equivalent of four barrels of oil. Yet, only about one-third of the nitrogen fertilizer applied to cereal crops in developing countries is utilized due to application and product inefficiencies. Farmers are burdened by this financial cost and waste, often paying for three times as much nutrient as their crops absorb. But that is not the complete cost; the "wasted" fertilizer does not disappear but often becomes an environmental pollutant, either in the form of potent greenhouse gas or runoff that fouls streams, rivers and lakes.

There are issues with other types of fertilizer as well. Inefficiencies in production and use result in less than 30 percent of the phosphate mined to produce phosphorus fertilizer ever becoming a part of the food chain. Yet, over the past 25 years, no "new" efficient fertilizer product has been developed – particularly no product affordable for use on food crops by farmers in less developed countries.

Recent advances in nanotechnology and biotechnology open new opportunities for collaborative research between the public and private sectors. With a billion hungry people, it is unacceptable to condone widespread crop nutrient waste. With global climate change and declining biodiversity, it is also unacceptable to continue the unnecessary pollution of our environment. The VFRC will produce a "new generation" of fertilizer products and processes that make more efficient use of available resources and are more effective when used.

“A move toward reducing hunger on the continent must begin by addressing its severely depleted soils.”

AfricaFertilizer.org

AfricaFertilizer.org, a global forum to disseminate and exchange information about fertilizers, soil fertility and related agricultural issues that face Africa, has been developed and launched by IFDC. The website features: interactive maps and a database of fertilizer and nutrient production, trade, use and depletion in Africa; numerous publications available for download; directories of major fertilizer producers, importers and traders; and news and market information crucial to agricultural intensification. AfricaFertilizer.org serves stakeholders in the movement to make Africa self-sufficient in food production. These stakeholders include farm organizations, researchers, policymakers, extension specialists, the agro-input industry, the private sector, donors and funding agencies and the media.

African Union (AU) Commissioner for Rural Economy and Agriculture, The Honorable Rhoda Peace Tumusiime, stated, “As an IFDC board member, I am pleased that the organization is providing much-needed agricultural information to the citizens of Africa and the world. As an African Union commissioner, I believe that the use of AfricaFertilizer.org can help pull smallholder farmers out of poverty. The AU’s objectives include eradicating poverty and placing Africa on a path to sustainable growth and development. Food security cannot be achieved without a collective effort to increase the agricultural productivity and technological knowledge of smallholder farmers.”

According to IFDC President and Chief Executive Officer Amit H. Roy, “the concept of the website grew out of the Africa Fertilizer Summit. By providing such information, AfricaFertilizer.org will help fuel the African Green Revolution that smallholder farmers need and deserve.”

The Africa Fertilizer Summit was convened by the African Union’s New Partnership for Africa’s Development (NEPAD) and implemented by IFDC. It was held in Abuja, Nigeria in 2006 and generated *the Abuja Declaration on Fertilizer for the African Green Revolution*. It states, “Africa’s farmers face a variety of constraints including low productivity, limited access to new agricultural technologies and weak markets. Without adequate inputs, farmers often cannot meet the food needs of their own families, much less those of a rapidly growing population. To feed themselves and their countries, farmers will need to shift from low-yielding, extensive land practices to more intensive, higher-yielding practices, with increased use of improved seeds, fertilizers and irrigation.”

The Abuja Declaration continued, “A move toward reducing hunger on the continent must begin by addressing its severely depleted soils. Due to decades of soil nutrient mining, Africa’s soils have become the poorest in the world. Yet farmers have neither access to nor can they afford the fertilizers needed to add life to their soils. And no region of the world has been able to expand agricultural growth rates, and thus tackle hunger, without increasing fertilizer use.”

Semi-annual reports relating the progress that has been made in the implementation of the provisions of the *Abuja Declaration* are available through a dedicated blog on the website. AfricaFertilizer.org will contribute to the African Green Revolution and help break the cycle of hunger and poverty that afflicts so many inhabitants of the African continent.

Web site: www.africafertilizer.org
Contact: info@africafertilizer.org

Projects Across the Developing World

IFDC is a public international organization addressing such critical issues as international food security, the alleviation of global hunger and poverty, environmental protection and the promotion of economic development and self-sufficiency. Celebrating its 35th year of global service, IFDC was founded in Muscle Shoals, Alabama, in 1974. The Center’s collaborative partnerships combine cutting-edge research and development with training and education, helping IFDC enrich and sustain the lives and livelihoods of people around the world.

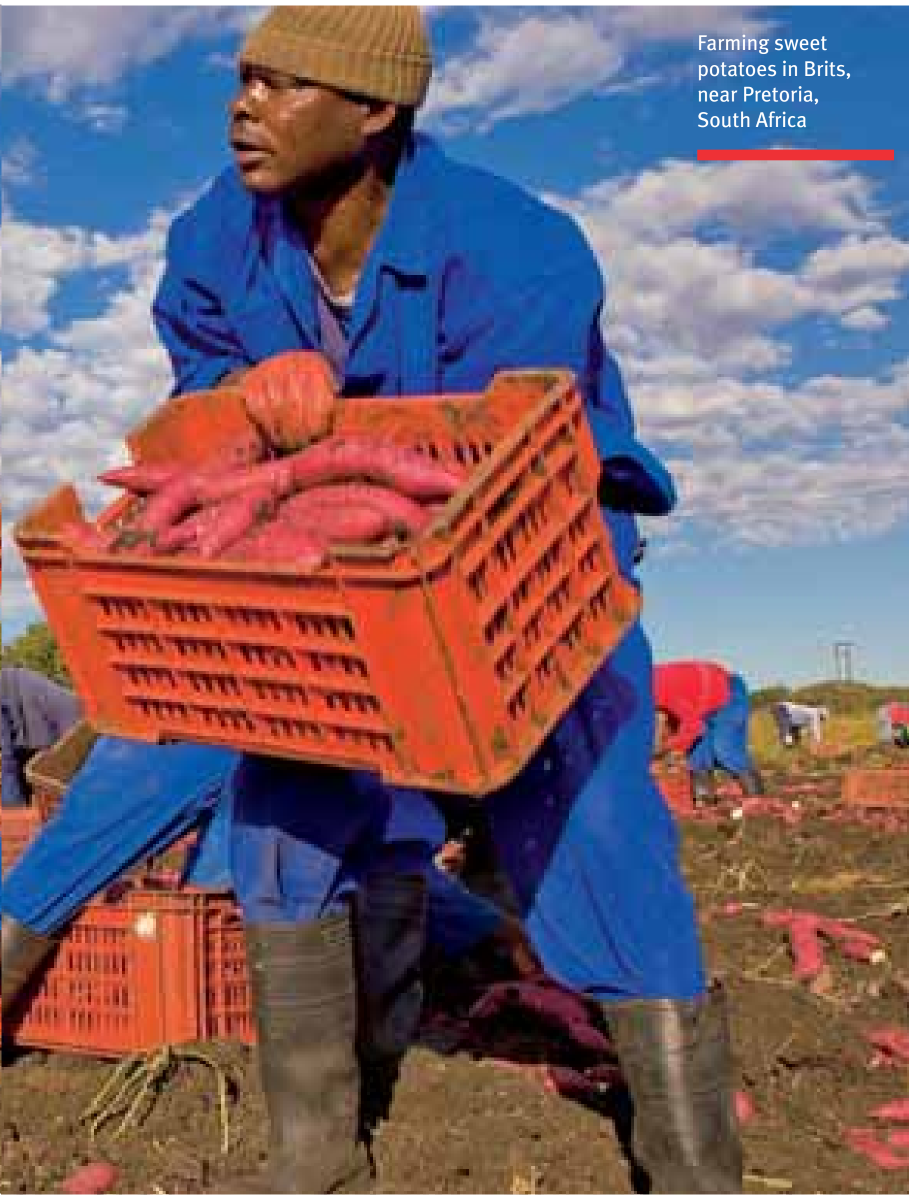
IFDC
P.O. Box 2040
Muscle Shoals, Alabama 35662 (U.S.A.)

IFDC

www.ifdc.org

The contributions and challenges of African agriculture

With its abundant arable land and the people to work it, Africa is the breadbasket of the world. But there are many challenges in the agriculture sector that must be realised if Africa is to develop



Farming sweet potatoes in Brits, near Pretoria, South Africa

By Diéry Seck, director, Centre for Research on Political Economy, Dakar

The year 2010 marks the 50th anniversary of the independence of many African countries. While the event will be celebrated in country after country in the coming months, it also offers an opportunity to pause and look back at the economic and social record of Africa's development strategy of the last half century. With a few exceptions, most African countries have not only failed to develop, but have also struggled to keep pace with developing countries in other regions. Indeed, countries of the continent did not reap the benefit of a green revolution; they linger at the bottom of the rankings of the Human Development Index produced by the United Nations Development Programme and will mostly fail to achieve the Millennium Development Goals (MDGs). In recent years, this unfavourable record has insidiously turned the agenda for Africa from development to a damage-mitigating consensus that takes the form of a fight against disease, poverty, illiteracy, hunger, civil unrest and poor governance. This new unspoken approach is aimed at preventing Africa from becoming worse off, not at converging toward rich countries' performance or even locking steps with other developing regions. Paradoxically, at the heart of Africa's failed development lies the area that once held the best promise for improving its welfare over time: agriculture.

The agricultural sector holds a combination of some of Africa's biggest challenges: extreme poverty in rural areas, stark gender disparity, antiquated production techniques and violent confrontations over land. Conversely, Africa also benefits from ample and arable land, a sizable supply of fresh water, a large and young population, and wide biological diversity that can help feed and cure the world in all seasons. If the battle for agriculture is won, all the battles for development will be won – and Africa will have the triple distinction of being the breadbasket of the world, the biofuel production plant of the world and the food price stabiliser of the world.

A few considerations must be kept in mind to achieve development through agriculture, however. First is the need to abandon the idea of food self-sufficiency that confines efforts to feeding mouths only. A more positive notion of agriculture-based economic expansion must be embraced. Second, Africa's rural landscape is populated by low-skilled peasantry that cannot be displaced in large numbers to cities that do not have jobs to offer them and cannot provide them with adequate social services. In the same vein, increasing land pressure makes it difficult to pursue the policy of leasing large tracts of arable land to agribusiness firms notable for their high degree of mechanisation and who thus have limited need for unskilled peasants. Third, as rational economic agents, African farmers would produce more if they were paid more, but may be unable to achieve higher levels of output unless they acquire higher skills.

> “The agricultural sector holds a combination of some of Africa's biggest challenges”

One way of facilitating this new enabling economic environment is to stop treating agriculture and industry as separate sectors in Africa with distinct, sometimes conflicting, policies, and to combine them into one powerful engine of growth. The hub-and-spoke agricultural strategy that is proposed here aims at developing and formalising value chains that link agriculture and industry under the entire control of the private sector. The main goal of the strategy is to significantly increase the added value, and thus wealth, that is created by local economic agents. One or more agro-industrial plants could be settled in a geo-climatic area, perhaps transcending national borders, and could train peasants in modern cultivation techniques, lend or sell them high-quality seeds, provide extension services and enter into crop purchasing contracts with them to process the entire harvest of the region. Smallholder peasants would be part of large-scale agribusiness schemes and benefit from wider market access, enhanced skills, lower income variability and perhaps partial ownership of the industrial firm that processes the harvest. They would be the spokes and the processing plant would serve as the hub.

The competitiveness of African agriculture would increase through gradual diffusion of technical know-how among rural populations. The resulting size of production units and more intense integration of agriculture and industry would enhance Africa's global market power and strengthen its trade negotiation position. The strategy would also help mitigate urban migration by increasing rural household income and creating more rural employment through agro-industry. Success of the whole scheme would depend on a programme of massive financing, most likely from both private and public sources, the details of which would need to be worked out in consideration of the country or sub-region, the level of development of the financial system and the initial conditions of related agricultural sub-sectors. One of the intended consequences of this strategy is that African peasants would have the opportunity to own shares of industry, thereby diversifying their sources of income and controlling the entire length of the value chains in which they work.

The proposed strategy would also possibly mean the end of agricultural marketing boards as they exist today. It would usher in an era of public-private agribusiness export promotion efforts. While the strategy would be mainly spearheaded by the private sector, government could facilitate its implementation by undertaking stronger policies in several areas. To help improve the volume and quality of output, more agricultural colleges and similar training institutions could be created and adequately funded. Furthermore, steps could be taken to enhance research on yields and innovation on local varieties and industrial processing techniques, all supported by wide dissemination programmes. Production activities could benefit from dedicated funding schemes, with a contribution from the private sector, through a variety of facilities ranging from micro-credit for smallholders to large-scale financing of industrial processing of major crops. The sector would also gain from liberalising its input markets in order to avoid distortions, although government could provide subsidies for selected target groups. To help gain market share at home and abroad, government could expand construction of feeder roads, build more export-supporting infrastructure and, with the help of the private sector, undertake vigorous campaigns to promote agribusiness exports.

Such an agriculture-based hub-and-spoke economic expansion strategy would not require foreign aid to be successful. Indeed, in itself it would be an empowering and sustainable development. And it can be fully implemented by African people themselves. ◆

Herding cattle on the high plateau in central Madagascar, Africa. This area has rich, fertile soil


Why pay $4.1 trillion in disease costs, when prevention costs $10 billion?

The World Health Organization (WHO) estimates that for each dollar spent on improving water and sanitation globally, there is a US$3 to US$34 return on investment – and millions of lives saved.

This is where global security starts
Economic and human development cannot go any further without securing the basic human needs for water, food and shelter. Global policies on water quality and accessibility and correlations with hunger, health, poverty, governance, finance, climate, human rights and other development issues are shaped every year at the World Water Week in Stockholm, Sweden.

This September, 2,400 leaders, policy makers, scientists, private sector executives, NGOs, educators, and entrepreneurs will meet at the World Water Week as they have done for the past 20 years to deliberate on topics under this year's theme – "The Water Quality Challenge – Prevention, Wise Use and Abatement."

We will look beyond 2015 and the Millennium Development Goals, taking into account prognoses on climate and demographic changes.

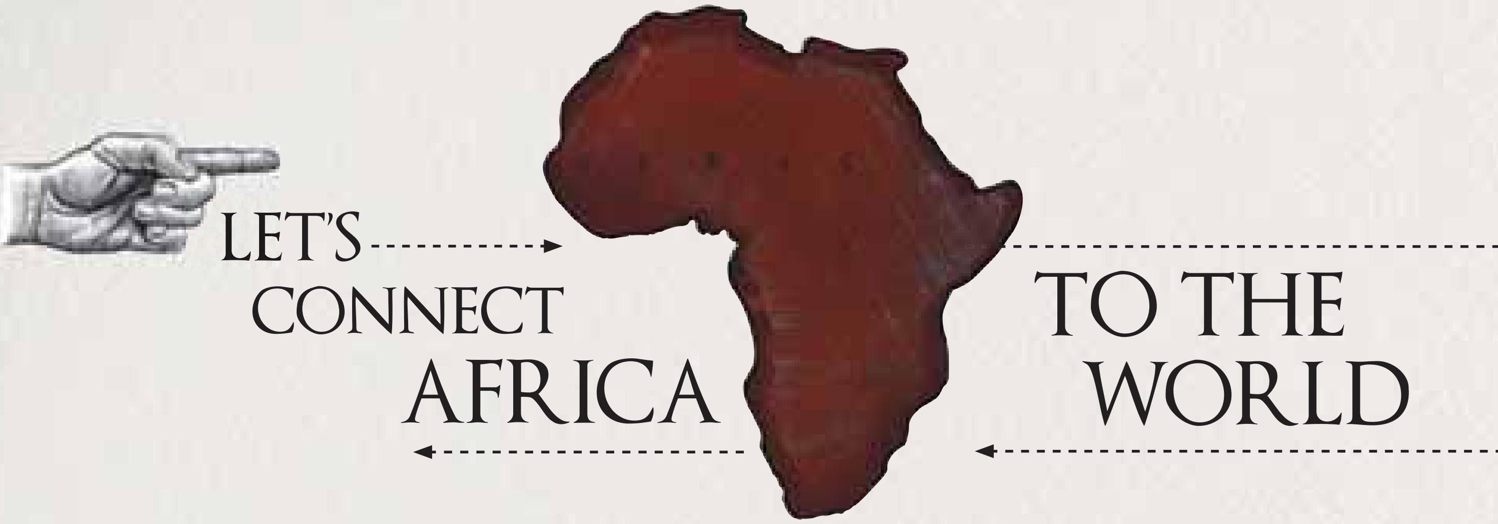
Be part of the solution
Join other international leaders at the World Water Week in Stockholm, September 5-11, 2010. The World Water Week is organised by the Stockholm International Water Institute (SIWI).

Visit our website today www.worldwaterweek.org

WORLD WATER WEEK
in Stockholm,
September 5–11, 2010

Convening organisations at World Water Week in Stockholm 2010

- African Development Bank
- African Ministers' Council on Water
- Americas Water Forum
- Asian Development Bank
- AusAID
- Bill and Melinda Gates Foundation
- Black & Veatch Corporation
- European Commission
- European Investment Bank
- Federal Ministry for Economic Cooperation and Development, Germany
- FAO
- Global Partnership on Output-Based Aid
- Google
- IKEA
- Inter-American Development Bank
- International Finance Corporation
- KfW Entwicklungsbank
- Lake Victoria Basin Commission
- McKinsey and Company
- Slumdwellers International
- Stockholm International Water Institute
- Swedish International Development Cooperation Agency
- UN Independent Expert on the Human Right to Water
- UNDP
- UNEP
- UNICEF
- United Nations Economic Commission for Europe
- United Nations Global Compact
- UN-HABITAT
- United Nations Industrial Development Organization
- USAID
- United States Department of State
- UN-Water
- Water and Sanitation Program
- World Bank
- World Business Council on Sustainable Development
- WWF


LET'S
CONNECT
AFRICA
TO THE
WORLD

Genetically modified food against hunger

The demand for food is on the rise and agricultural production must increase to meet the quota. How can genetically modified food and biotechnology contribute to solving world hunger?

Genetically modified (GM) canola: GM foods are less costly and continue to be grown, despite some market resistance

By David Sparling, chair, Agri-Food Innovation and Regulation, Richard Ivey School of Business, University of Western Ontario, and Janet Beauvais, Professor of Practice, McGill University

Fifteen years after its introduction, agricultural biotechnology remains controversial. With resistance to genetically modified (GM) foods in many parts of the world, what role will such foods play in reducing hunger in the coming decades? Some ask whether the global need for food can be met without the use of biotechnology.

It is obvious that the world is going to need more food. More than 1 billion people in the world currently suffer from serious malnutrition and the global population is projected to increase by another third by 2050. Changing consumption patterns mean that the actual increase in demand for calories will be even greater – as much as 70 per cent more by 2050 – and that does not account for the rising demand for crops for biofuels.

Although improved distribution must be part of the solution, agricultural production will have to increase dramatically at a time when the land devoted to agriculture is expanding at only 0.2 per cent per year. Can the world produce enough to feed everyone and meet global biofuel demand as well? What role will biotechnology and GM food play?

It is important to start by recognising several facts about biotechnology and the future of food.

First, the markets that do not accept GM foods, such as the European Union and Japan, are economically important. Consumers and non-governmental organisations (NGOs) are particularly concerned with trans-species gene transfer and potential health and environmental impacts. That stance is unlikely to change in the foreseeable future.

Second, resistance to GM foods has reduced the scope of research and development, limiting the vast majority of the research to a small number of global crops. This is evident in the inability to commercialise vitamin A-enriched golden rice in spite of its obvious health benefits to the world's poorest. It is also evident in decisions not to commercialise varieties of GM wheat.

Third, adoption in food-insecure regions, particularly Africa, was slowed by concerns over market acceptance, especially in the EU, but adoption in Africa is now picking up.

And fourth, the biotechnology tools used to create GM foods are becoming more powerful, flexible and less costly. Other tools such as genomics are coming into play and it will soon be possible to achieve many GM-type results by manipulating plant genomes, without trans-species gene transfers.

Genetically modified plants grow from tissue culture: such technology can be used to improve food security

In spite of the resistance in some markets, GM crop production continues to increase – in area planted, in crops modified and in overall production. The advantages of agricultural biotechnology over non-GM crops are significant – higher yields and resilience, lower costs, reduced pesticide use and new management techniques that are not only easier but that can also support carbon sequestration. In 2009, 14 million farmers planted GM crops; more than 90 per cent were small and resource-poor farmers from developing countries. Developing countries now account for almost half of the area of GM crops planted and will soon exceed 50 per cent.

But solving hunger is about more than just producing more food. It is also about creating the economic security to be able to afford proper nutrition. That is why half of the world's cotton is Bt (insect resistant) and hectares of Bt cotton in Burkina Faso grew 1,353 per cent in 2009, with 115,000 hectares planted. Hunger can be fought at three levels: by increasing available calories, by increasing the nutrition value of those calories and by creating economic opportunities from agricultural products. These are not mutually exclusive. New strategies to address hunger should understand their potential implications at each level.

Biotechnology capabilities are increasing rapidly, moving beyond single traits added to enhance production and yield into new traits to improve nutrition and function and also to stacking multiple traits into a single plant. There are also numerous initiatives underway in animal biotechnology, although these are moving cautiously due to concerns over consumer willingness to accept GM animals. Biotechnology has the potential to improve food security at all three levels, but using it to help defeat global hunger will require a significant redistribution of resources in research, knowledge and systems.

In terms of research, it is no longer affordable to concentrate the world's extensive public and private biotechnology research capabilities on a limited number of global crops. More must be devoted to solving hunger, focusing on the smaller crops that can make a difference to the world's hungry. The goals are higher yields, better nutrition profiles and greater production resilience, and also crops that can improve the economies of food-insecure regions. These can include industrial and biofuel crops. Strategies to increase domestic research capabilities in developing countries will also be vital.

> “The goals are higher yields, better nutrition profiles and greater production resilience”

In terms of knowledge and systems, the research will only make an impact if local knowledge and capabilities are also expanded and effective systems are developed to manage GM crops. This includes support to help farmers use the seeds appropriately, control environmental risks and protect biodiversity, as well as better systems to manage GM and non-GM supply chains to ensure efficient and segregated delivery to both markets.

Can hunger be reduced in the world without GM crops? Possibly, but not as effectively. It also will not happen: agricultural biotechnology is here to stay. The benefits are too clear. The truly relevant questions are: How can biotechnology be used best to reduce hunger and to ensure that the benefits are shared with the world's poorest populations? Can this be done without adding new risks? We have to start now. Change of this magnitude takes time and for many, that time is running out. ◆

HarvestPlus reduces hidden hunger in poorer countries by developing micronutrient-rich staple food crops. HarvestPlus envisions that billions of people will improve their nutrition by growing and eating these new biofortified crops. Within five years, HarvestPlus and its partners in Africa, Asia and Latin America will release conventionally-bred varieties of six staple food crops with more vitamin A, zinc or iron. HarvestPlus crops are public goods given to partner countries free of charge.

HarvestPlus thanks our innovative donors, who are willing to cross disciplinary boundaries to support the development and testing of new staple crops for public health. Our 2010 donors include: The Bill & Melinda Gates Foundation, the Canadian International Development Agency (CIDA), Syngenta Foundation for Sustainable Agriculture, the U.K. Department of International Development (DFID), the United States Agency for International Development (USAID), The World Bank and the Zinc Fertilizer Group.

HarvestPlus
Breeding Crops for Better Nutrition

HarvestPlus is a Challenge Program of the CGIAR. It is co-convened by the International Center for Tropical Agriculture and the International Food Policy Research Institute.

www.HarvestPlus.org harvestplus@cgiar.org

Tariffs, standards and agricultural trade: what's the right agenda?

Do governments have the right policies in place to achieve fair, agricultural trade without penalising developing countries?

By Sophia Murphy, Institute for Agriculture and Trade Policy

For 50 years, negotiating tariff reductions has formed the core of the multilateral trade system under the rubric of the General Agreement on Tariffs and Trade (GATT). Market access remains the central focus of trade negotiations at the World Trade Organization (WTO), and tariffs are central to that agenda. It took almost 50 years to get agriculture included. Now, 15 years after the passage of the Uruguay Round Agreement on Agriculture (AoA), the model is running out of steam.

The WTO negotiations are in crisis. In March 2010, the WTO membership again failed to muster the political leadership to bring the Doha Round closer to conclusion. In effect, the membership accepted that there would be no progress in negotiations in 2010. The talks are in part paralysed by domestic politics in the United States. At the

India is the world's biggest producer of tea. Developing countries, such as India, would benefit from lower tarrif cuts

same time, many developing countries are embittered by the failure of developed countries to address their specific trade-related development concerns.

The AoA squeezed agricultural trade into a framework that was too simple. It allowed rich countries to continue to distort trade using domestic support programmes, turned a blind eye to the highly consolidated market power of the dominant commodity traders and ignored most development priorities. However, it established relatively straightforward criteria for assessing agricultural policies from a trade perspective.

True to the GATT's legacy, the central issue in the agriculture negotiations is tariff reductions. The proposals that make up the draft Doha agreement would impose bigger tariff cuts on rich countries than on developing countries (developing countries would be cut by about two-thirds as much as the developed countries), and would exempt the least developed countries (most of which apply very low tariffs on agricultural imports in any case) from further tariff cuts. Both developed and developing countries would be required to divide their agricultural tariffs into bands and commit to bigger cuts in their highest tariffs.

So far these proposals reflect the Uruguay Round framework. But that apparent simplicity has been overwhelmed by politics. Agriculture is not just about commerce. It is about food security, livelihoods, rural development and even national security. The 2007-08 food crisis highlighted how even some of the most determined exporting countries will restrict trade if they think their food security might be compromised. The politically unpalatable reality of applying the AoA framework is reflected in the long list of complicated exceptions now proposed by a range of WTO negotiators in the agriculture talks.

First, the G10 (a group of developed countries plus Mauritius) wants to protect higher tariffs on a range of 'sensitive' goods, exemptions the European Union is also pushing for and that the United States will clearly use for the few products that it protects with tariffs. Then the G33 (a group of developing countries) has its own demands. The G33 wants a list of 'special products' for developing countries, on which lower tariff cuts would be imposed. They also want a special safeguard mechanism (SSM) to protect against import surges (a measure that echoes a safeguard put in place for mostly developed country use under the existing AoA). Many developing countries have found trade liberalisation is accompanied by significant import surges that undermine domestic producers and destabilise local food markets. These goods are too frequently dumped at prices below their cost of production.

The demands for exceptions and exemptions have provoked bitter struggles. The G10 by and large protects an uncompetitive but relatively small number of agricultural sectors. The G33 is looking for 'policy space'. It views tariffs as an important tool in a relatively limited economic toolbox. Its members do not agree that tariffs can only come down. Indeed, this issue of whether tariffs can go up as well as down caused the round of intensive Doha talks to collapse in July 2009. The G33 wants the right to apply an SSM even if it raises tariffs over levels agreed under

> "Agriculture is not just about commerce. It is about food security, livelihoods, rural development"

> "Developing countries are embittered by the failure of developed countries to address their trade-related development concerns"

the Uruguay Round. That idea is anathema to some WTO members, although, in practice, most developed countries have found other ways to protect their policy space, while reducing their reliance on tariff barriers.

Whatever the outcome of this debate on market access and the allowed flexibility on tariffs, governments are finding that the market access debate is more complicated than the AoA framework suggests. Market barriers take many forms – tariffs are just one of the most obvious. One of these barriers comes in the form of standards, including sanitary and phytosanitary standards (SPS). No one wants to inadvertently (or otherwise) import goods that put human health at risk, or that risk the survival of domestic flora and fauna. Understandably, local growers fight hard to protect their crops from pests, and health officials rightly fret about pesticide and other chemical residues, as well as bacterial contamination, in imports as much as in domestic production. But, inevitably, SPS becomes a safe way to justify economic protection for domestic producers as well. Some of the most committed free-trade countries are also assiduous users of SPS barriers. Australia rejects everyone else's bananas as unsafe, as they do New Zealand's apples (a now 89-year-old fight that the WTO is expected to rule on any time).

The WTO can do little about this form of market access barrier. There are some useful rules about using internationally recognised procedures and agreed standards where they exist. Yet the most stringent standards come from the private sector in the form of voluntary certification schemes such as GLOBALGAP (Good Agricultural Practice). For exporters of agricultural commodities, these private standards are the ones that matter. Sure, high tariffs are a cost for would-be exporters. Sometimes they are prohibitive. But even if tariffs are set to zero, standards are every bit as effective as a barrier. High tariffs can block imports but low tariffs cannot guarantee them access.

These standards are likely to grow increasingly complicated in the years ahead. Governments and industry (particularly agriculture) have hardly come to terms with the implications of climate change. Clearly the way food is grown, stored and transported is going to need to change, given what climate scientists have shown about the effects of fossil fuel. More pressingly, soil quality and the relative scarcity of fresh water in some regions are imposing their own non-trade concerns. The WTO prohibition on discrimination based on production and processing methods cannot stand up to the clear economic logic imposed by environmental costs on the public (and increasingly the private) purse. Trade regulation will have to start to conform to the growing domestic pressure to legislate changes to reduce these costs.

Governments should give serious thought as to whether they have the right framework for negotiating multilateral agricultural trade rules. Market access is obviously central, but focusing on tariffs is not going to take agricultural trade into the 21st century. ◆

Seeking healthy trade environments

How can we improve population health and feed a growing world? Start by establishing predictable, open trade in agriculture

Canadians have become proudly familiar with the summer landscape of yellow canola fields stretching to the horizon. But as extraordinary as canola looks, what it represents to Canada means so much more. Canada is the number one supplier of canola to the world, and we take heart in knowing we are supplying products that promote good health and environmental sustainability.

In order for consumers around the world to benefit from canola, we must have open trade in export markets and fight protectionism.

Trade plays a vital role in economic growth and development, job creation, and poverty reduction without a significant cost on governments. Trade is also fundamental in addressing food security and in supporting environmentally sustainable agricultural production.

This is why we must resist protectionism and why efforts to strengthen the rules-based multilateral trading system must continue. For world leaders, the conclusion of the Doha round of multilateral trade negotiations on agricultural trade should be a top priority.

A comprehensive multilateral trade agreement is critical to ensure farmers around the world can rely on predictable markets and consumers can benefit from accessing healthy products without threat of interruption from protectionist trade actions. A conclusion to the current Doha round would mean the elimination of export subsidies, limits on trade distorting domestic support programs, and sizeable reductions to high tariffs which stifle trade and make agricultural goods more expensive to consumers the world over.

For Canada, predictable access to markets for agricultural products is critically important. Canada is a world trader. In 2008, Canada's agriculture and food product exports totalled $39 billion – close to eight percent of the country's total merchandise exports. Canada is the fourth-largest exporter of agriculture

and food products. Canola is one of Canada's most sought after agricultural exports. Up to 90 percent of Canada's canola production goes to export markets. In fact, Canada is responsible for 85 percent of world trade in canola.

Canola oil's health benefits are driving its ever-growing demand. It is the healthiest, most versatile and cost-effective cooking oil available. With its beneficial fat profile, neutral taste and high heat tolerance, canola oil is ideal for kitchens around the world. Canola oil has the least saturated fat of any culinary oil – half that of olive oil – and is free of trans fat and cholesterol.

Canola meal is increasingly valued in the livestock industry as a feed additive. In fact, recent research shows that canola meal in a dairy cow's diet can increase milk production by one litre per day on average!

Traditionally, tariffs have been the major barrier to open trade. Increasingly, non-tariff barriers are springing up as the newest challenge and this is likely to continue in the future. Increasingly, trade disputes revolve around issues of plant diseases, weed seeds, the utilization of biotechnology and new regulations on sustainable agricultural production. These issues are numerous and complex. If they are used to protect markets they pose a very significant challenge to predictable, reliable trade.

The priority of Canada's canola sector is to ensure that these issues do not lead to trade disruptions. Canada's canola industry is working with government trade officials to refocus our efforts in support of fair, predictable market access.

Canola adds almost $14 billion annually to Canada's economy and in 2009, delivered more than $5 billion in farm cash receipts to Canada's 50,000 canola growers. The industry creates over 216,000 Canadian jobs in production, transportation, crushing, refining and food development, manufacturing and service. But canola also creates wealth and jobs in the countries to which we export. For example, the economic spin-off of using Canadian canola as an ingredient in the United States (U.S.) food and feed chain is $1.79 billion.

Canada's canola industry has set a target of sustainably producing 15 million tonnes of canola by 2015. In 2009, we produced 11.8 million tonnes. To reach our target will require a comprehensive approach involving research, ever-improving agronomy practices, and promotion. But critical to success will be our efforts in market access.

Canada's canola industry was negatively impacted in 2009 with restrictions on access in major export markets. China was Canada's biggest seed market in 2008-09. Sales of canola seed to China – worth $1.3 billion in 2008-09 – have been all but completely shut down due to the country's concern about the disease, blackleg, which is common in canola. Canadian officials are working closely with the Chinese to find workable solutions to this issue. The European Union (EU) and Canada agreed to close the file on Canada's long standing World Trade Organization challenge regarding GMO approvals, but actually moving canola into the EU will take more discussion around the approval process when new traits come forward. We continue to work through market access issues with our other customers, including Korea, Mexico, India and several Asian markets. And we continue to value and nuture our long-standing relationship with Japan.

Canada's canola industry is working constructively with government officials and export customers to address market access issues. This includes phytosanitary issues, biotechnology issues, sustainability requirements by importing countries, food safety regulations, trade policies that limit the adoption of new technologies, renewable fuel standards, and tariffs. This also includes legislative, regulatory and administrative barriers. This work is being coordinated through the Canola Council of Canada (CCC), whose mission is to enhance the Canadian canola industry's ability to profitably produce and supply seed, oil and meal products that offer superior value to customers throughout the world. The CCC is the only fully vertically integrated industry association in Canada where seed and input companies, growers, exporters, and crushers all sit at the same table to develop a common platform for growth.

Canada's canola industry is committed to reducing tariffs and regulatory-based differences, and technical barriers to trade. We move forward with the knowledge that Canada has an excellent reputation as a reliable supplier of quality canola seed, oil and meal.

We are confident that in the years to come, those remarkable fields of yellow will continue to supply the world.

By JoAnne Buth, President Canola Council of Canada

canola council

www.canolacouncil.org

Nutrition: the forgotten Millennium Development Goal?

For billions of children in Africa and South Asia, malnutrition is a fact of life. What must be done to ensure that mothers and babies get the nutrition they need for a longer, healthy and more productive life?

By Meera Shekar, lead health and nutrition specialist, Human Development Network, World Bank

> More than one-third of all child deaths in developing countries are due to malnutrition

More than a third of children across the world are too short for their age. About the same number are underweight. Nearly 2 billion suffer from some form of vitamin and mineral deficiencies. And 90 per cent of these malnourished children live in just 36 countries. Many are in Africa, but a surprisingly large number live in South Asia – especially India, Bangladesh, Pakistan and Nepal. These South Asian giants have seen rapid economic growth over the last decade or more, yet the malnutrition rates in these countries are nearly double those in many sub-Saharan African countries. Yet, across the world action on malnutrition has been minimal. The unrelenting economic crises continue to squeeze the poor, particularly women and children. This makes case for investing in child nutrition more urgent than ever, to protect and strengthen future human capital in the most vulnerable developing countries.

Malnutrition remains the single largest cause of child mortality. More than one-third of all child deaths in developing countries are due to malnutrition. Malnourished women give birth to malnourished babies. Many of these children die in the first few years of life – because they are weak and they fall sick more often. If they survive, they tend to start school late, are more likely to drop out and, as adults, earn less. The result is that malnutrition robs many developing countries of at least 3 per cent of economic growth.

Investments targeted at the critical window of opportunity between pregnancy and two years of age are most effective because they target the most vulnerable, and because they prevent irreparable damage to human capital. Without these investments, developing economies are doomed to a vicious cycle of poverty and malnutrition. Guatemalan boys who benefited from an early childhood nutrition programme nearly 30 years ago grew up to earn 46 per cent more today than their peers.

Economic growth alone does not solve malnutrition. Predictably, poor countries have more malnutrition. But in many high-burden countries, malnutrition rates are surprisingly higher than in other countries with similar national incomes. Examples of such countries that have much higher malnutrition rates than expected given their per capita gross domestic product (GDP) include India, Guatemala, Peru, Turkey, Rwanda and Burundi. In fact, almost all the high-burden countries are fairing worse than would be expected given their level of GDP. India, in particular, has had sustained economic growth for more than a decade, yet has shown little improvement in nutrition. Senegal, however, is an example of a 'positive deviant' country with modest economic growth but rapid declines in malnutrition. It is set to achieve the Millennium Development Goal (MDG) of reducing malnutrition by half between 1990 and 2015.

Furthermore, in many countries, malnutrition rates are surprisingly high even among the wealthiest households. These facts indicate that income growth does not automatically solve the nutrition problem. Concerted efforts must be taken to reduce malnutrition. With carefully designed strategies, malnutrition rates can be reduced even in countries where economic growth lags.

Investing in nutrition is cost-effective. However, despite the availability of relatively simple and extremely effective interventions to address malnutrition, very few countries implement these proven interventions at scale. Two kinds of investments are needed. The first kind is direct nutrition intervention, also referred to as short routes to improving nutrition or nutrition-specific interventions. These include breastfeeding promotion, vitamin and mineral supplements, and deworming. The second is a series of longer routes to improving nutrition, also referred to as nutrition-sensitive investments across many sectors, such as economic growth, women's education, water and sanitation, and agriculture and food policy. These are necessary to ensure that gains from investments in the short route are sustained, and that development agendas fully utilise their potential to contribute to reductions in malnutrition.

What can be done?

The new Framework for Action for Scaling Up Nutrition (SUN) has already been endorsed by more than 80 partners, including bilateral governments, United Nations agencies, the World Bank, the Bill and Melinda Gates Foundation, academia and civil society organisations. It represents a collective vision and call for action, and the beginnings of a movement to scale up nutrition.

Health and nutrition examiners carry out nutrition surveys on children in Monrovia. Nearly 2 billion children across the world suffer from vitamin and mineral deficiencies

The four main elements of the SUN framework for action are:

1. Start from the principle that what ultimately matters is what happens at the country level. Individual country nutrition strategies and programmes, while drawing on international evidence of good practice, must be country-owned and built on the country's specific needs and capacities.
2. Sharply scale up evidence-based cost-effective interventions to prevent and treat undernutrition, with highest priority given to the period between pre-pregnancy until two years of age, as it produces the highest return on the investment. A conservative global estimate for these interventions is about \$10 billion or more per year from national and global sources.
3. Take a multi-sectoral approach that includes integrating nutrition issues in related sectors and using nutrition indicators to measure overall progress. The closest actionable links are to food security (including agriculture), social protection (including emergency relief) and health (including maternal and child healthcare, immunisation and family planning). There are also important links to education, water supply and sanitation, as well as to cross-cutting issues such as gender equality, governance (including accountability and corruption) and state fragility.
4. Provide substantially scaled-up domestic and external assistance for country-owned nutrition programmes and capacity. Ensure that nutrition is explicitly supported in global as well as national initiatives for food security, social protection and health, and that external assistance follows the principles of aid effectiveness agreed to in the Paris Declaration and the Accra Agenda for Action. Support major efforts for advocacy of what already works and for strengthening the evidence base – through better data, monitoring and evaluation, and research.

The vast majority of direct nutrition interventions can be delivered using the primary healthcare system, supplemented by outreach, community nutrition programmes and child health days (see table). It is critical to build strong links with ongoing efforts for health systems strengthening. Other interventions such as food fortification use market-based mechanisms for delivery, but need some investment through the public sector for regulation and policy changes. Furthermore, nutrition-sensitive food security programmes and policies are also needed to reduce child malnutrition. The agriculture sector needs not just to produce more food, but also to produce more diverse and nutritious foods to meet nutritional needs. Efforts should also focus on women as key managers of food security and nutrition in households.

While in theory, nutrition can 'fish from two buckets' of food security and health – and possibly a third, of social protection – in reality it almost always slips between those buckets. To date, none of the global initiatives on food security or health have invested adequately in improving nutrition – and nutrition remains the forgotten MDG. The G8-led maternal and child health and nutrition initiative is the first serious effort to correct this neglect of nutrition.

The financing needs to expand the delivery of proven nutrition interventions from current levels to full coverage in the 36 countries with the highest burden of undernutrition is about \$10.6 billion a year. This will cover 356 million children, prevent at least 2.2 million children's deaths and protect future human capital in these countries. If we value our children, and our economies, this is affordable and cost-effective. In addition to the millions of lives it would save, such an investment would bring returns reaching as much as 30 times the costs.

Since early childhood offers a special window of opportunity to improve nutrition, the bulk of the investments needs to target this critical window between pre-pregnancy until two years of age. These investments have a multiplier effect – better nourished mothers produce better nourished children, fewer children die, they learn better in school and they grow up to be more productive adults who contribute to economic growth and national prosperity. Without this dedicated investment, it is impossible to achieve the nutrition MDG, or to achieve the MDGs to reduce child mortality, improve maternal health or educate children. Most importantly, without this investment future human capital will continue to be compromised in developing countries, stymieing their growth and making them progressively more vulnerable to future shocks.

The time to act is now. The human and financial costs of not acting are very high. ◆

Evidenced-based direct interventions to prevent and treat undernutrition

Promoting good nutritional practices (\$2.9 billion)

- Breastfeeding
- Complementary feeding for infants after the age of six months
- Improved hygiene practices including handwashing

Increasing intake of vitamins and minerals (\$1.5 billion)

Provision of micronutrients for young children and their mothers:

- Periodic vitamin A supplements
- Therapeutic zinc supplements for diarrhoea management
- Multiple micronutrient powders
- Deworming drugs for children (to reduce loss of nutrients)
- Iron-folic acid supplements for pregnant women to prevent and treat anaemia
- Iodized oil capsules where iodized salt is unavailable

Provision of micronutrients through food fortification for all

- Salt iodization
- Iron fortification of staple foods

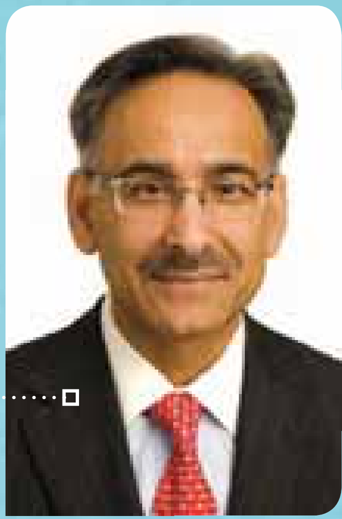
Therapeutic feeding for malnourished children with special foods (\$6.2 billion)

- Prevention or treatment for moderate undernutrition
- Treatment of severe undernutrition ('severe acute malnutrition') with ready-to-use therapeutic foods

Source: Scaling Up Nutrition: What Will It Cost? *World Bank 2009*

"At PepsiCo, Performance with Purpose means delivering sustainable growth by investing in a healthier future for people and our planet. We know that our financial success goes hand-in-hand with sustainability and therefore our product portfolio is increasingly aimed at delivering foods and beverages for the diverse nutrition needs of consumers around the world."

—**Indra K. Nooyi**, Chairman and Chief Executive Officer



"We believe good nutrition is the foundation for good health and we're establishing partnerships with academia, scientists, nongovernmental organizations (NGOs) and others because we know it's the best way to make a positive impact."

—**Mehmood Khan**, Chief Scientific Officer

PepsiCo Supports Eight Key Steps That Food Companies Can Take to Help Reduce Undernutrition Worldwide

Invest in Agriculture, Especially Local Smallholders

In cooperation with the Inter-American Development Bank, PepsiCo supports sunflower farmers in rural Mexican communities by providing access to agricultural innovations that increase crop yields to raise income and reduce hunger.

Expand Use of Corporate Distribution and Quality Control Capabilities

The PepsiCo Foundation initiated a program that draws upon retired PepsiCo distribution experts to share expertise with the World Food Programme.

Support Fortification of Staples and Commonly Consumed Nutritious Foods and Beverages

PepsiCo is a member of the Global Alliance for Improved Nutrition (GAIN), the leading global private-public partnership devoted to improving nutrition, and supports their efforts to fortify essential foods consumed by the world's poorest communities.

Innovate and Expand Foods for Complementary Feeding of Acute and Chronic Undernutrition

In Nigeria, PepsiCo is providing funding for Valid International's technical support to UNICEF to improve access to nutritious foods for children suffering from severe acute malnutrition.

Develop Innovative Social Business Models to Combat Undernutrition

Companies are developing unique partnerships with organizations such as Muhammed Yunus' Grameen Bank that match investments with innovative new products and social business models.

Sustain and Increase Investment in Development of Nutrition Science Capacity in Developing Nations

PepsiCo has signed over two dozen agreements in the last two years with leading academic, development, and scientific groups to improve our R&D capabilities around the world.

Reformulate Low-Cost Nutritious Foods for All Markets

PepsiCo has created a pilot program in India to explore business and product innovations that deliver affordable, fortified product offerings to malnourished populations.

Advocate for Nutrition Friendly Trade Policies

PepsiCo's U.S. Farm Subsidy Policy supports reform of current agricultural policies that would improve the availability and quality of commodities critical to the needs of the world's poor.

References:

Can the Food Industry Help Tackle the Growing Global Burden of Under-nutrition?, *American Journal of Public Health*, June 2010, Vol 100, No. 6, Derek Yach, MBChB, MPH, Zoë A. Feldman, MPH, Dondeena G. Bradley, PhD, and Mehmood Khan, MBChB

Closing the Nutrition Gap, Indra Nooyi's speech at the 2009 Borlaug Dialogue: Food, Agriculture, and National Security in a Globalized World, The World Food Prize

PEPSICO


If you
could make
this planet
a better place,
what would
you do?

Look closely

What do you see?

Each day, policy makers and investors make decisions affecting the access to, and use of, land, water, and other natural resources.

Some will see only empty, under-developed, and ownerless territories, or places to produce food and fuel.

Others see more. They see rural women and men ready to invest in their lands and their futures, while protecting natural resources for future generations. They see that reducing poverty, improving food security, and keeping our planet healthy benefits us all.

The experience of ILC members working across the globe has clearly shown that:

- People must have a say in the decisions that affect them. Civil society and farmers' organizations should be openly consulted on land-related decisions.
- Rural people are at the heart of sustainable development. Enabling environments should be created to foster their entrepreneurial potential and allow them to choose how they use and develop their lands.
- Where public or private, domestic or foreign investments are necessary, transparent, participatory, and appropriate mechanisms must be established to ensure that investments benefit landless and land-poor farmers.

Learn more at **www.landcoalition.org**

The International Land Coalition is a global alliance of organizations working together to overcome poverty through secure and equitable access to and control over land and other natural resources.

INTERNATIONAL LAND COALITION

Wheat harvesting in Kansas, US. The rise in wheat harvests in the US has caused some complacency

Supporting the new green revolution: are politics properly targeted?

The North-South divide persists – while rich farmers of the North are still subsidised, the poorer South lacks the technology needed for the agricultural sector to flourish

By C. Ford Runge, Distinguished McKnight University Professor of Applied Economics and Law, University of Minnesota

As the global economy slowly recovers from the 2008-10 recession, what strains are in store for the world's food and energy supplies, especially in rapidly growing developing countries? In rich countries, fiscal austerity puts large subsidies to agriculture in stark relief. The fact that many of these subsidies are supplemented by new payments to biofuels, drawing down food and feed to produce fuel, raises further questions over the future direction of the food and energy system. A key question is whether the right balance has been achieved between subsidies for the production and biofuels in the rich countries of the North and the needy and technologically lagging agricultural sectors of the South, for which development assistance has steadily fallen. Despite the impressive record of productivity improvement, especially in the United States, Northern Europe and parts of Latin America and Asia, there are ominous clouds on the horizon.

Wheat yields in the United States rose from roughly 26 bushels per acre in 1965 to roughly 43 bushels per acre in 1998 and then to roughly 45 bushels per acres in 2008. Over the same periods, corn yields rose from about 74 bushels per acre to about 134 bushels per acre and then to 154 bushels per acre. This progress, however, has bred what Nobel Prize–winning economist Amartya Sen calls "Malthusian optimism" and a sort of complacency about those still in need.

International development efforts to spread the green revolution have flagged. In real 2008 dollars, US investment in agricultural development abroad fell to $60 million in 2006, down from an average of $400 million a year in the 1980s. In rich countries, public investment in research, which had grown annually by more than 2 per cent in the 1980s, shrank by 0.5 per cent annually between 1991 and 2000. Global official aid to developing countries for agricultural research fell by 64 per cent between 1980 and 2003. The decline was most marked in poor countries, especially in Africa.

Meanwhile, the world's poor farmers are still unable to take advantage of the technological advances that have brought food security and economic development to others. Some scientists, philanthropists and governments of developed countries seem to have lost sight of what had once been the green revolution's central goal: food security for all. More recently, rising food prices have intensified the risks of large-scale hunger. The reasons for these increases are complex, but one of them is that demand for food is increasing as populations and incomes grow, especially in China and South Asia, even as the

A farmer uses a wooden shovel to winnow newly harvested wheat, China. Modern technology needs to be made available to poorer countries

supply of food is increasingly diverted to other uses, such as the production of biofuels. As a result, the spectre of Malthus is again stalking the world's poor.

Prices for food and feed staples appeared to peak in 2008-09. Record harvests have helped restore some grain stocks. But these prices have not returned to 2005-06 levels, and are unlikely to do so, especially as biofuels demand an increasing share of grain and oilseed crops. The International Monetary Fund's index of primary commodity prices, which measures the average price variation in a group of critical food grains and oilseeds, rose from a base of 100 in 2005 to a high averaging 157 in 2008, fell to 126 in March 2009 as global demand collapsed with the economic crisis, but then rose back up to 143 in May 2009, despite weakened demand. By August 2009, at the beginning of the fall harvest season in the northern hemisphere, the index still stood at more than 135.

A July 2009 report by the Food and Agriculture Organization (FAO) warned that "domestic prices in developing countries remain generally very high and in some cases are still at record levels". Speaking at the United Nations Conference on Trade and Development in 2009, Akinwumi Adesina, an agricultural economist with the Alliance for a Green Revolution in Africa, noted that the global recession's dampening of prices on commodity markets was masking "the next storm". Jacques Diouf, director general of the FAO, has stressed that the world's poor, mostly landless labourers and the residents of urban slums – both groups that are largely beyond the reach of global media – are suffering a "silent hunger crisis".

This year, despite record US harvests, roughly 30 per cent of the US corn crop will be used to produce ethanol. In light of the environmental catastrophe emerging from the BP oil platform explosion off the coast of Louisiana, biofuels are once again touted as a green alternative to petroleum. Yet, even before the spill, much of the Gulf of Mexico had been despoiled by an hypoxic dead zone resulting from billions of tonnes of agrichemicals washed into the Mississippi, mainly crop fertilisers derived from hydrocarbons and used on US corn.

A closer look at the impact of biofuels on the environment suggests profound effects on water, the eutrophication of coastal zones from fertilisers, land use and greenhouse gas emissions. These suggest that biofuels are anything but green. A pair of 2008 studies, published in *Science*, focused on the question of greenhouse gas emissions due to land-use shifts resulting from biofuels. One study noted that if land is converted from rainforests, peatlands, savannas or grasslands to produce biofuels, it causes a large net increase in greenhouse gas emissions for decades. A second study stated that growing corn for ethanol in the US leads to the clearing of forests and other wild lands in the developing world in replacement, which also causes a surge in greenhouse gas emissions. A third study, by another Nobel Prize laureate, chemist Paul Crutzen, emphasised in 2007 the impact from the heavy applications of nitrogen needed to grow expanded feedstocks of corn and rapeseed. The nitrogen necessary to grow these crops releases nitrous oxide into the atmosphere – a greenhouse gas 296 times more damaging than carbon dioxide – and contributes more to global warming than biofuels save through fossil fuel reductions. Biofuels have made the slow fade from green to brown. It is a sad irony of the biofuels experience that resource alternatives that seemed farmer-friendly and green have turned out so badly. In short, global agricultural priorities should shift away from subsidising rich farmers and biofuels production in the North, and toward improved productivity and agricultural technology in the South. ♦

“It is a sad irony of the biofuels experience that resource alternatives that seemed farmer-friendly and green have turned out so badly”

Environment agency – Abu Dhabi

Abu Dhabi is the largest of the seven emirates that make up the United Arab Emirates.

The Emirate of Abu Dhabi, which has a Coastline stretching approximately 350 km, or about 76 per cent of the Arabian Gulf coastline of UAE, is located approximately between latitudes 22o 40' and 25o 38' north and longitudes 51o 30, and 55o 55' east. It is bounded on the north by the Arabian Gulf, on the north-east by the Emirate of Dubai, on the south and west by the Kingdom of Saudi Arabia and on the east by the Sultanate of Oman.

The Environment Agency-Abu Dhabi (EAD) was established in 1996 by Law No. (4) under the name "Environment Research and Wildlife Development Agency" as the first environmental agency at Emirate level. It aimed at protecting the environment, wildlife and biodiversity. The real change in the agency work began in 1999 with the issuance of Federal Law No. (24) of 1999 concerning protection and development of the environment, in addition to other relevant environmental laws. In November 2000, the agency was officially announced as the "Competent Authority" for environment at Abu Dhabi Emirate level. In 2005 Law No. (16) restructured the Agency and the Agency changed its name to "Environment Agency-Abu Dhabi" (EAD).

Water Resources Program

The water resources responsibilities were fragmented between various agencies and institutions. In 2005, EAD was appoint the sole agency to undertake the water resources management in Abu Dhabi. In 2006 EAD developed a water resources management strategy and the first ever law No. (6) for 2006 was issued by HH Siekh Khalifa bin Zaied Al Nahian, the ruler of Abu Dhbai, to regulate the groundwater resources in the Emirate.
EAD also started many initiatives to manage its scarce water resources including:

Abu Dhabi Emirate Sustainable Water Resources Management Policy

In May 2008, EAD launched an initiative to develop the Abu Dhabi Emirate Sustainable Water Resources Management Policy (SWRMP), including the development of the Water Resources Master Plan to address:

- Conservation of water resources.
- Segregation of Grey water and Black water systems.
- Development and implementation of the Abu Dhabi Uniform Plumbing Code.
- Using new water-saving technologies in urban areas.

Abu Dhabi Water Master Plan

In April 2008, EAD started to develop the Abu Dhabi Water Master Plan which aims to analyze the statues of present and future water use, conserve the water resources and allocate the available water resources to various development sectors. The master plan was completed in December 2008. The main results were:

- Reform and support of existing water institutions/agencies.
- Updating the existing laws, regulations and standards.
- Capacity building.
- Water public awareness and education.
- Analysis of present and future supply/demand.
- Increasing the existing IT and develop the central Water Resources Data Management System.

Strategic Water Reserves in Abu Dhabi Emirate

Since 2002, EAD has been working closely with all stakeholders and partners (ADWEA, TRANSC, ADWEC, ADDC and AADC) to operate and mange two pilot projects for strategic water reserves for emergency conditions. In January 2008, after the success of a pilot project in a western region (Liwa), a new project was commenced to develop a full aquifer storage and recovery project to inject 5 MIGD and pumping rate of about 90 MIGD. In an eastern region (Al Shweib), EAD is operating the existing pilot project to inject a daily 500,000 gallons to complete the evaluation and analysis of this project.

Pilot Project of Groundwater Wells Inventory

In January 2007, EAD signed a contract with GTZ/DCO consortium to start a pilot project for groundwater wells inventory for a period of 17 months. The project was completed by the end of May 2008. During this project about 15,000 wells were inventoried. All available information about these wells and the farms including pumping rate, depth, diameter, crop pattern, farm area, etc., were collected. This information was stored in the central Water Resources Data Management System. The data collected was analyzed and the water balance and aquifer potentiality were calculated. The results were also used to update the groundwater levels and salinity maps.

Groundwater Monitoring Program

In 2005, all monitoring wells that were drilled during the groundwater assessment program by GTZ/DCO consortium were handed over to EAD for operation and maintenance. The total number of wells is 675. Some 240 of those wells are equipped with automatic loggers. These wells are considered as the Abu Dhabi national groundwater quality/quantity monitoring network. Since 2005, EAD has operated, maintained and collected the information. The information is stored in the central Water Resources Data Management System. An annual report is produced every December.

Groundwater Wells Permitting Program

In March 2006, the law no. (6/2006) was issued by H.H. Sheikh Khalifa bin Zaied Al Nahian as a Ruler of Abu Dhabi Emirate to regulate and control the drilling and rehabilitation of groundwater wells. The bi-law was issued in 2007. Since that time EAD has been enforcing the law and issuing permissions for drilling new wells or the rehabilitation of existing wells. In 2008 about 7,000 license were issued.

Subsurface Irrigation Project in Western Region

As part of its effort to save and conserve the water use in agriculture and forestry sectors, EAD launched a project to apply a new subsurface irrigation system using leaky pipes. Subsurface irrigation systems will save as much as a 40% reduction in water use compared to conventional irrigation systems, while still achieving the same plant growth. When using subsurface irrigation, evaporation is virtually eliminated because water is contained in the soil profile under the surface. With an efficient

method of delivering irrigation water, researchers anticipated that it would be possible to establish seeds using subsurface irrigation system. A well-designed irrigation system will save time, money and, most importantly, water. Subsurface irrigation systems minimizes evaporation and overspray by putting water at the site of action, the trees and vegetations root zone.

Root Hydration Irrigation Project
In March 2007, EAD signed an agreement with an English Company to test and develop a new system for irrigation using the root hydration. The Root Hydration System is a new method of delivering brackish/saline water to the roots of each plant without the need to use fresh water in the system. The pipes are made from a polymer (DT486) that retains contaminants such as salt, chemicals, viruses & microbes, whilst allowing water to pass through. Water is pumped through the pipes to the root system. The amount of water passing through the membrane is determined by the hydration level of the soil surrounding the pipes. As the soil dries out more water passes through the membrane. If the soil is damp, perhaps after rain, water will stop passing through the membrane until the plants require additional water. The membrane is a barrier to water borne contaminants such as salts, chemicals, viruses and microbes. Due to the contaminant barrier, brackish water may be pumped through the pipes whilst still delivering high quality clean water to the plants.

Arab Water Academy
In July 2008, EAD launch a new initiative to host the Arab Water Academy. The launch of the first Arab Water Academy brings everyone from academics to policy makers to implement new training initiatives for better water management. The Abu Dhabi Government and The World Bank are backing the Academy with the required fund grant over the next three years. Although the academy is the brainchild of the Arab Water Council in Cairo, it will be based in Abu Dhabi. The Academy will offer an opportunity for the development of policies and strategies. The academy will demonstrate how to effectively communicate and negotiate with decision makers and incorporate decision-support tools in order to prioritize water into the national agenda and to balance competition for the resource (agriculture, urban expansion, industry etc) among sectors in the short and long term.

Using Solar Energy for Water Production and Desalination
To minimize the environmental impact of using fossil energy, EAD launched an initiative in January 2008 to develop a solar thermal desalination unit for brackish water desalination in the Umm Alzamoul remote area. EAD is evaluating and assessing the results of this pilot project. This project is Kyoto Protocol compliant and generates clean energy and significantly fewer greenhouse gas emissions and carbon dioxide.

Let's give water a chance

Humankind and nature cannot exist without water. It is essential that we manage this resource efficiently and effectively, throughout the world

By Loïc Fauchon, president, World Water Council

There is crisis after crisis for the climate, food, sanitation and energy today. Natural disasters are soon forgotten to make room for the new ones that erupt.

As a result, people are lost. They no longer understand where the real threats or solutions lie. Political and economic leaders work daily, victims of the pressure of the evening news or the fluctuations of the stock exchanges. The world has lost its landmarks and no longer knows how to prepare for the future – our future and that of our children. What decisions, what policies, what rules are needed? Postures can be taken easily, but commitments are more difficult to hold.

Contradictions are constantly exacerbated precisely where efforts should ease them. The environment is a perfect example. Opposing the development of humankind to protect biodiversity is nonsense fuelled by glorifying contradictions rather than seeking consensus.

The topic of water should thus be approached by privileging solutions. The question is not to know when and where the war on water will break out, but rather to know how to provide future generations with the water so essential to survival.

Severe threats

Severe threats already exist. Demographic growth is galloping and could gain more momentum in the coming years, with progress made in sanitation and the liberalisation of some birth control policies. The urban and coastal concentration of populations sometimes requires securing districts – often shanty towns – that supply water and prevent mass pollution. The overuse of fertilisers and chemicals, detrimental to water quality, is another reality that is hard to circumvent.

Last but not least, there is the climate and its long- or short-term cycles, which can lead to more floods and droughts.

These threats are real. They should be neither exaggerated nor ignored. They will aggravate certain tensions to which governments and the international

An installation by relief organisation Helvetas displays 4,000 baby bottles on the Swiss Federal Square, Bern, to mark World Water Day, on 22 March 2010

> Access to safe drinking water is an integral element of the right to a decent standard of living closely tied to human dignity

community should pay attention. Vigilance must not be limited to trans-border issues. No state can afford to ignore the difficulties tied to preparing the future of its water.

A needed new awareness

The last decade has been encouraging: water and sanitation issues have moved up international and local agendas. But words and intentions still prevail over action and decisions. That is where citizens and the World Water Council have a role, by being the voice of water and tomorrow's conscience.

The first step is to reduce consumption and improve the management of this scarce and precious liquid so essential to life. Whether in agriculture, with its considerable economic opportunities, or in industry or in the home, individual behaviour as well as collective policies are beginning to change. This change will be amplified if it is carved in bold writing on the pediment of humankind's commandments.

In many places, nature will force this change. Water depletion often appears without warning after decades of aberration. The case of California is particularly enlightening: the government had no choice but to require all citizens to reduce their consumption of freshwater by between 10 per cent and 20 per cent in a year. The success of this forced endeavour will inspire several national or local water-demand policies in the coming years.

Another kind of management for water now

Consuming less today means spending less – or better – in the long term by adapting solutions to the needs in the field, the requirements of industrial growth, the increase in the standard of living and the changes in consumer behaviour.

The way ahead is to make the management of the resource more responsible, moving from unacceptable waste to a fairer distribution.

Slowly but surely, increased awareness of the moral as well as economic value of water will lead to the balanced distribution of water to satisfy the needs of both humankind and nature. The impending growth pattern may result in duly returning to nature what nature has given. More respect is thus needed when water is returned to nature. Some will say that this economy is green; others that it is blue.

Whatever the colour, the objective remains the same: guaranteed access to water and sanitation for the largest number while ensuring hydric and ecological security.

Legislation, money, energy: the conditions for success

What conditions will bring success? First, a legal framework is needed that states that each individual and each community will have access, at all times and in all places, to a resource responding to their personal as well as collective needs. On 22 March 2010, the Council of the European Union helped that process by declaring that access to safe drinking water is a human right and indeed an integral element of the "right to a decent standard of living closely tied to human dignity". One can only hope that the G8 and G20 members as well as the rest of the international community will follow suit, as this right still needs to be guaranteed, clearly defined and implemented for the benefit of the daily lives of billions of individuals.

Next comes money, because access to water can only improve if financial resources are significantly increased. Obviously, the very large infrastructure required cannot continue without a stronger commitment by bilateral cooperation and international banks. Yet this is neither sufficient nor desirable. Local saving capacities must be increased because local authorities and citizens must be encouraged to implement innovative financing schemes. The World Water Council will soon launch an initiative to gather such ideas and projects.

And then comes energy, because this precious resource cannot be dissociated from water. The need for fuel and electricity to pump, transfer, desalinate and recycle water will exist for a long time. And the production of hydroelectricity and the cooling of nuclear plants will continue to require enormous quantities of water.

The destinies of water and energy are intertwined. This is why, at the opening of the Copenhagen climate change conference, the World Water Council was the first to claim that a 'water-energy-climate' package is required. The 'scarce resources fund' yet to be set up should support the production of energy dedicated to water.

Under the sole condition of guaranteed access to water humankind can secure its future: water to provide food and food security for the poor, water to reduce the death toll from the lack or bad quality of water.

The G8 along with the entire international community cannot miss out on this opportunity for humankind. ◆

Time for a new conversation

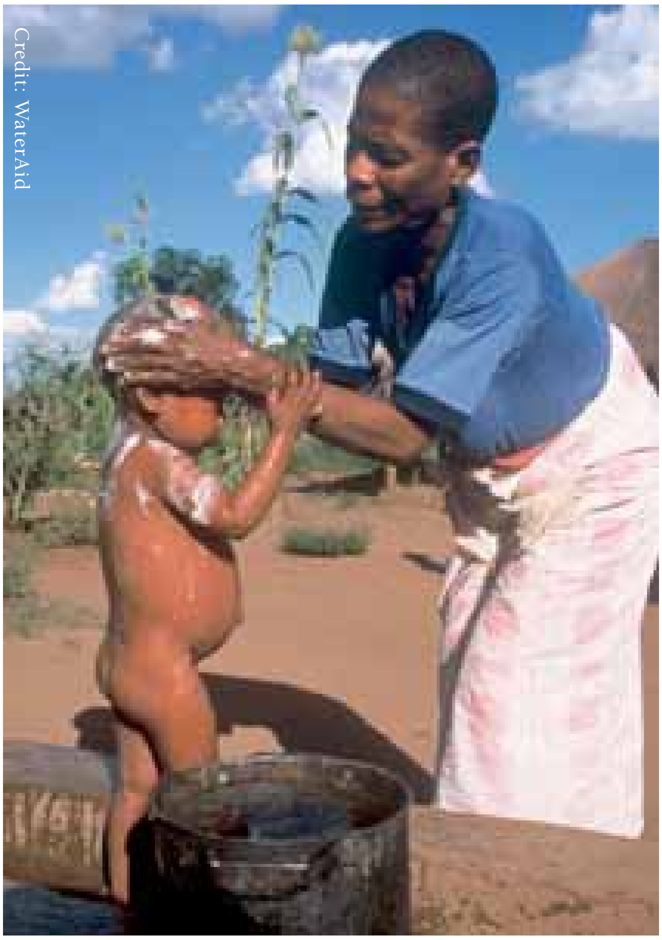
In the developing world, dirty water and inadequate sanitation services have a disastrous impact on poor people's lives, from maternal health and child well-being, to education and livelihoods. At least 1.4 million children die every year from diarrhoea caused by unclean water and poor sanitation – that's one child every 20 seconds.[1] We must overcome the overwhelming lack of political will to take decisions that actually benefit the poor. The bigger-is-better approach and throwing money at the problem does not work. Technological advances will only take us so far.

Having worked for over 10 years with multi-stakeholder and multi-disciplinary approaches, Building Partnerships for Development in Water and Sanitation (BPD) has confirmed the simple conclusion that **relationships matter**. Quick investments may help hit the targets of the Millennium Development Goals (MDGs). But if the failed international water decade taught us anything, it is that efforts at sustainable service delivery must recognise and seek to overcome the political and social obstacles that marginalise poor people. No other approach will ensure that access continues into the future and that the other half of the population not addressed by the MDGs will get access. This approach requires a different conversation.

With increased urbanisation and industrialisation, the environmental considerations for sustainable service delivery are integral to these discussions. *Some* institutions have roles to play in fulfilling people's right to access water and sanitation services. *All* institutions, though, must ensure that degraded water sources and poor sanitation do not jeopardise people's health and livelihoods.

Customised approaches must include the smaller providers, community management structures, household strategies, and the health and land planning sectors. Admittedly some of these integrated conversations will result in deadlock. Many more though, will result in more systemic, systematic and localised approaches that actually meet people's water and sanitation needs.

Supported by several G8 member initiatives, BPD provides demand-led, tailored support to relationships in the water and sanitation sector at all levels. As a multi-stakeholder organisation led by an international board of key water and sanitation professionals (from large multinationals to small-scale providers, from utility managers to regulators, international NGOs to water associations), we urge you to join us in these conversations.



Signed: BPD's Board of Directors

- AguaTuya, Bolivia
- AquaFed – The International Federation of Private Water Operators
- Care USA
- Chilean Directorate of Waters, Ministry of Public Works
- Development Workshop, Angola
- eThekwini Water Services, South Africa
- International Water Association
- Manila Water, The Philippines
- The Affiliated Network for Social Accountability (ANSA) – South Asia Region, Institute of Governance Studies, Bangladesh
- Veolia Water
- Water Regulatory Council (CRA), Mozambique

BPD is a non-profit organisation that works with strategic partnerships involving government, business, civil society and donors to improve access to safe water and effective sanitation in poor communities. Through the development of a set of analytical and facilitation tools, BPD aims to influence the way organisations work together in partnership.

[1] Prüss-Üstün A, Bos R, Gore F, Bartram J. *Safer water, better health: costs, benefits and sustainability of interventions to protect and promote health*. World Health Organization, Geneva, 2008

> In the 21st century, no woman should have to give her life to give life.
>
> **Ban Ki-Moon**
> Secretary General of the United Nations

A Call for Resolve: Global Leadership Needed to Make Universal Reproductive Health a Reality by 2015

The World Health Organization has stated it clearly. The United Nations has adopted it as a goal. Access to reproductive health is the right of all individuals. Reaffirming a decision made at the 1994 United Nations International Conference on Population and Development (ICPD) in Cairo, the Millennium Development Goals (MDG) included the target "universal access to reproductive health by 2015" as part of MDG 5.

But behind statements and affirmations lies a stark reality. Despite recent improvements in maternal mortality, progress on MDG 5 is not on track to be achieved by 2015. Guaranteeing universal access to reproductive health remains uncertain in many parts of the world. U.N. Secretary General Ban Ki-Moon has declared this as the "slowest moving target of all the Millennium Development Goals." Lack of progress on this one target could prove to be the weak link that imperils the other vital goals we seek to achieve by that date.

More than 350,000 women die each year due to complications related to pregnancy and child birth. 99 percent of these deaths occur in the poorest, most disadvantaged populations of the developing world.

At present, girls as young as 11 are married and the pressure to bear children starts immediately. They are not given a chance to plan their families, space their children or consider their health.

200 million women wish to delay a pregnancy or have no more children but are not using modern contraception, not because they don't want to but because they have little or no information or access to it.

Poor reproductive health and limited or no access to family planning has quality of life consequences for families – greater risk for disease, disability and death, lower education rates and lower household incomes. Between proclamations and reality lies a gap that not only threatens the health and economic stability of families but also threatens the Millennium

Development Goals (MDG) in which reproductive health plays a vital, if often overlooked, role. Lack of access to reproductive health throughout the developing world will make it nearly impossible to make meaningful progress on MDGs that seek to reduce poverty and increase prosperity. For poverty rates to go down, for a country's systems to meet the needs of its people, and for health rates to go up, a nation's people must have access to reproductive health care and family planning services.

a host of benefits. When more condoms are used, transmission rates for HIV and other STIs go down. When women prevent unintended pregnancies, they are better able to pursue educational and economic opportunities. This economic power increases women's status in society. Family savings and investments improve. Ensuring reproductive health around the world is one of the best ways to combat poverty and improve a nation's economic outlook.

> "Assuring universal access to reproductive health services for all women is a fundamental human right. We have to create a world where women, children and girls have access to the education, services and supplies they need to grow healthy and live strong."
>
> **Mary Robinson,** Former President of Ireland and President of Realizing Rights

Advocates around the world have done their job. They have proven that reproductive health is central to the global development results we all want to see. They have developed and successfully implemented programs that make reproductive health possible in the most remote regions among the most vulnerable. What is needed now is leadership. In particular, we need political leaders to make the connection between reproductive health and important global development results.

To that end, the Global Leaders Council for Reproductive Health will launch this fall to engage world renowned leaders to use their voice to make universal access to reproductive health a top priority and one that we can achieve by 2015.

Mary Robinson is calling on fellow global leaders to step forward and use their voice to make a compelling case that reproductive health is central to global development and prosperity.

The leaders will argue for investments in reproductive health and family planning that pay off. Report after report has shown that better reproductive health and widely available and used family planning has

Reproductive health needs champions and that is what the Council aims to provide – global leaders who embrace the idea that reproductive health is central to global development and prosperity. The Council spokespeople will use their voice, leverage their networks and create an echo around the world that helps build political will to get this done.

In the words of U.N. Secretary General Ban Ki-Moon, "In the 21st century, no woman should have to give her life to give life." Access to reproductive health is the right of all. But saying it and believing it are not enough. By 2015, we are obligated to make universal access to reproductive health a reality.

For more information go to http://www.aspeninstitute.org/policy-work/global-health-development

GLOBAL LEADERS COUNCIL
FOR REPRODUCTIVE HEALTH

A Call for Resolve:
Universal Reproductive Health By 2015

THE ASPEN INSTITUTE

www.aspeninstitute.org

Vaccination Week in the Americas reaches populations with otherwise limited access to regular health services and at heightened risk of contracting vaccine-preventable diseases

The global health challenge

Achieving the ultimate goal of health for all requires equitable health systems, clear and coordinated spending policies and effective global health governance

By Mirta Roses Periago, regional director, Pan American Health Organization/World Health Organization

The 2010 meetings of the G8 and G20 present world leaders with a renewed opportunity to pursue a coordinated agenda of social and economic policies that place countries on a path to universal and equitable healthcare. Rising inequalities are increasingly affecting both developing and developed countries undermining prospects for sustainable growth and social stability. No country or region, regardless of size, level of development or geographical location, can face these challenges in isolation. The ever more visible characteristics of globalisation have blurred the boundaries between local and global, individual and collective issues.

Health profiles have shifted due to demographic, epidemiologic and technological changes, requiring care and services over a much longer lifespan. The results are higher costs of health services and more healthcare expenditures. These changes co-exist with a historically accrued social debt in access to timely and quality healthcare services and to conditions essential for hygienic and decent living.

In the lower and middle income countries of Latin America and the Caribbean, the main economic and fiscal impact comes from preventable chronic diseases, the health consequences of injuries and violence, and mental health problems, including substance and alcohol abuse. These problems contribute significantly to poverty throughout the region.

Globally, 33 million people have HIV, and almost 300 million people have diabetes and will suffer disability, high-cost treatments and premature death. More than 1 billion men, women and children are overweight or obese. While 1.7 million people die each year from tuberculosis, deaths related to tobacco use account for more than 5 million each year – expected to rise to 6.5 million per year by 2015.

The global community has already experienced the rapid spread of communicable diseases linked to globalisation such as the influenza virus H1N1, severe acute respiratory syndrome (SARS), avian influenza and multi-drug-resistant tuberculosis. A higher frequency of devastating natural phenomena related to climate change further illustrates the challenges confronting the stability of healthcare systems and communities.

These staggering statistics confirm the predicament of public healthcare systems as they still cope with innumerable communicable diseases that disproportionally affects the most vulnerable – mothers and children, the elderly, the disabled and indigenous populations.

A social and economic compact

As the leading forum for international economic cooperation, the G20 has focused on improved coordination and resilience of the world's financial and economic systems. For more than a decade, the global health community has welcomed the G8's sustained attention to global health issues. The pledge for shared responsibility and collaborative efforts by the world's leading economies has accelerated efforts in HIV/AIDS, tuberculosis, malaria and neglected tropical diseases. G8 leaders recently embraced the role of comprehensive approaches to address the strengthening of health systems including social health protection, while acknowledging the need for more widely accessible sexual and reproductive health services.

> Globally, 33 million people have HIV, and almost 300 million people have diabetes and will suffer disability

In a globalised world, harmonising policy orientations on global health at the G8 summits with those on financial and economic issues before the G20 is a matter of urgent concern. Bridging the agendas of the G20 and G8 for improved coordination and resilience in social sectors can finally allow societies to address entrenched health disparities. The Commission on Social Determinants of Health of the World Health Organization (WHO) found that economic growth without appropriate social policies that strive for fairness in distributing benefits will bring little benefit to health equity. This, in turn, will negatively affect the world's stability and security, generating further economic losses. It becomes a vicious cycle.

In the Americas – the most inequitable region in the world – out-of-pocket financing of healthcare costs is increasingly becoming the norm rather than the exception. These expenditures represent a higher proportion of the total income of poor families, mostly for medications, causing impoverishment for families, particularly when chronic or life-threatening diseases turn into a catastrophic situation.

Disparities hide behind averages and national aggregates. To fight inequity we need to expose it.

Preparing the H1N1 vaccine: communicable diseases linked to globalisation, such as influenza H1N1, are spreading across the world

Inadequate and insufficient data that can reveal financial and geographic differences among population groups remain a challenge.

The commitment of the G8 and G20 leaders to developing and coordinating pro-equity policies across sectors in a highly interdependent world is most welcome. The stakes are high: success will empower countries to tackle the structural conditions that shape health inequities. The ministers of the members of the Organisation for Economic Co-operation and Development (OECD) understood the risk of reversing positive development outcomes and the real potential of social-political crisis. In 2008 they stated that successful poverty reduction requires mutually supportive policies across a wide range of economic, social and environmental issues. They called for a vigorous agenda that promotes policy coherence for development in both member countries and partner countries.

The financial and economic crisis has shown the need for global and national collective action on several key public policies that will cast a protective safety net on vulnerable groups already in a desperate situation. An additional 100 million people worldwide have been thrown into poverty, reversing hard-fought gains. The crisis will slow down efforts in solving today's global health challenges. The Pan American Health Organization (PAHO) and the WHO have approached the crisis as an opportunity to design more inclusive and equitable health systems for more just societies.

Canada's announcement of maternal and children's health as a priority theme at the 2010 G8 Muskoka Summit has energised the global health community. Each year more than half a million women die in pregnancy. Nearly nine million children die before their fifth birthday. Today, with only five years left to reach the Millennium Development Goals (MDGs), it appears the target of reducing the number of pregnancy-related deaths by 75 per cent might not be met. Canada is committed to increasing global spending and to raising additional resources from G8 governments, non-governmental organisations (NGOs) and foundations to ensure the goal is achieved.

Simple and affordable solutions have been targeted. These include training healthcare workers, vaccination, improved nutrition and clean water. These measures will bring progress. Canada's call to action represents an opportunity for G8 leaders to advocate a rights-based approach to address the underlying causes of maternal mortality, such as gender inequities, education and empowerment, favouring coherent multi-sectoral responses.

The MDGs are a clear example of the need to optimise the links across sectors and to press for systematic policy coordination among developed and developing countries. The slow pace in meeting the MDGs shows how the structural forces of exclusion and disparities can be formidable adversaries to progress. A great deal of responsibility has been placed on the leaders of developed and developing countries to steer the powerful economic and business forces to shape successful global and national public polices.

This responsibility must also be shouldered by the international community as a whole. Global health is receiving unprecedented attention. Development assistance for health to low-income and middle-income countries increased from $5.6 billion in 1990 to $21.8 billion in 2007. These resources come from a far greater number of organisations in both the public and private sectors. Regrettably, more often than not they generate their own funding mechanisms and development schemes, placing a heavy burden on the governance structure of global health and the implementation capacities of countries.

Equitable and universal healthcare systems

A healthcare system can be a powerful driver of inequities.

Access to healthcare is greatly influenced by factors that include gender, education, occupation, income, ethnicity and place of residence. How a health system is organised influences health outcomes. Steering health systems to guarantee universal and equitable access of healthcare, in particular for those in greatest need, is the unquestionable responsibility of the health sector.

Insufficient and inadequate distribution of public spending on health is challenging the pursuit of universal healthcare. Most countries fail to reach the levels of public spending on health needed to achieve universal access to healthcare services (6 per cent of gross domestic product. Those countries that do spend enough on health face problems in ensuring that these resources are adequately distributed and produce the highest possible level of health for every dollar spent. Effective regulatory mechanisms are still required to direct public spending on health to the most disadvantaged groups in society.

The interest in defining a well-functioning health system has grown in recent years. A health systems agenda is being adopted by a wide number of actors in global health, including foundations, leading international financial institutions and NGOs. The 2008 G8 Hokkaido-Toyako Summit recognised the critical role of health systems in achieving health outcomes.

A country's historical, political, epidemiological and socioeconomic context ought to shape the appropriate configuration of its health system. The policy mix guiding a health system's structure and operations, however, ultimately influences its likely contributions to equity, solidarity and universality. This is the purpose of the primary healthcare approach promoted by PAHO/WHO. Evidence continues to show that a health system oriented toward primary healthcare is the best approach for producing sustained and equitable improvements in the health of populations. It provides a stronger sense of direction, favouring a whole-of-government approach to health.

Four reforms to refocus health systems toward health for all and reduce exclusion and social disparities were brought forward in the WHO's *2008 World Health Report: Primary Health Care – Now More Than Ever*. These address universal coverage, people-centred care, leadership and healthy public policies across sectors.

"Progress in reaching health outcomes is tied to effective cross-sector policy coordination"

The evolving role of PAHO and the WHO

The changing landscape is placing constant demands to revisit the international community's role in global health. Increasingly, progress in reaching health outcomes is tied to effective cross-sector policy coordination. Mixed health systems are becoming the norm. They require careful steering and a wide network of relationships among those that influence and inform national and global health policy.

The recent prominence given to national health planning is a step in the right direction. This policy orientation goes hand-in-hand with the mandate of PAHO/WHO to build and strengthen national capacities in the health sector. Much work remains in bringing countries up to speed in designing their own strategies and priorities. Support is coming from new sources, with a larger input from countries in the developing world. Opportunities for solidarity and cooperation are already taking place among the six WHO regions. They are likely to expand.

Perhaps the greatest test to the effectiveness of the international health community remains solving the complex structure of global health governance. Deliberations continue on the possible design of new international public policy frameworks that reflect the participation of multiple actors in a basically borderless world. The WHO's International Health Regulations and the Framework Convention on Tobacco Control represent two legal instruments than can show the way in complex interactions across policy areas. They constitute a globally accepted set of rules for protecting people's health and moving the world forward to achieving the ultimate goal of health for all. ◆

Nutrition counselling at a primary health centre, India. An emphasis on primary healthcare seems to provide sustained improvement in the health of a population

End the neglect – MDGs and tropical diseases

There are 13 parasitic and bacterial infections that affect over 1 billion of the world's poorest people. They are most prevalent in remote rural areas, urban slums and conflict zones. Some of them kill, others cause severe physical impairment. Many particularly affect women and children. They reduce income, limit access to education and cause social stigma and exclusion. They are diseases of poverty that constrain development and the achievement of the Millennium Development Goals (MDGs). They are known as the Neglected Tropical Diseases (NTDs).

Strategies for controlling them are deliverable, tested, cost-effective and hold a strong track record of success. For example, the Community-Directed Treatment approach has led to nearly 60 million Africans being treated for onchocerciasis (river blindness), significantly advancing the elimination of this disease.

Over the last few years, responses to some of these diseases have been combined and more strongly integrated within health systems, further improving the numbers of people treated or protected.

Yet, despite the clear need and an effective combination of proven approaches and established partnerships, the NTDs receive a fraction of the development expenditure made on health and are not explicitly recognised within the MDGs.

This year provides a unique opportunity. The G8 in 2009 stated that "we will work to support the control and elimination of (these) diseases". At the UN MDG Summit in 2010, G8 members can ensure at-risk populations receive the highly cost-effective support and attention they need, through:

- Explicitly incorporating the NTDs in Goal 6 by including indicators on prevalence, incidence and numbers of people treated for these diseases in Target 6c
- Ensuring that support for improved water and sanitation under Goal 7 is linked to NTD programmes as water and sanitation play a key role in, for example, trachoma and schistosomiasis
- Ensuring continued support to NTD drug administration in line with Goal 8, Target 4: In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries.

A billion thanks…

Sightsavers

policy@sightsavers.org
www.sightsavers.org

Russell Williams, President, Canada's Research-Based Pharmaceutical Companies (Rx&D)

Disease knows no borders. Neither does our Research

G8 leaders are faced with a stark reality as they consider measures to improve child and maternal health. Fully one-third of the world's population does not have access to even basic health care and an estimated 10 million children will die this year, mainly from preventable or treatable diseases.

These global health problems would be insurmountable if not for the partnerships that have brought governments, non-governmental organizations and industry together in a common cause: to combat disease and poverty and give mothers around the world a chance to see their children grow up healthy and strong.

We saw with the H1N1 pandemic how disease can spread rapidly from one country to another. And we also saw how a rapid, co-ordinated response from governments, health providers and research pharmaceutical companies managed to contain this global threat. I am proud to say that Canada was at the forefront of this response.

Our struggle against disease in the world's least developed countries has been far more challenging. Sub-Saharan Africa alone accounted for nearly three-quarters of HIV/AIDS related deaths in 2008.

The global research-based pharmaceutical industry has responded by building partnerships which address many of the priorities set at past G-8 meetings to fight HIV/AIDS, malaria and tuberculosis while expanding global access to anti-retroviral and other medicines

Success depends not only on access to affordable medicines but also on access to better health care. As Bill Clinton observed in an address to a United Nations forum, "My experience has been that almost no one in the world will die this year because of the cost or the lack of availability of AIDS medicine. Still, many people will die of AIDS this year because of the absence of effective health care systems in rural areas of the poorest countries."

That is why our industry is working with the Clinton Foundation and other non-government organizations to train health professionals, build clinics, prevent disease and supply medicines and vaccines at low cost or no cost. Together, we are saving lives every day.

For example, an agreement to supply pneumococcal vaccine under the Advanced Market Commitment involving Canada and other G8 countries as well as GAVI, the Bill and Melinda Gates Foundation and research-based pharmaceutical companies will save an estimated 7 million lives over the next two decades.

Globally, our industry has invested over $9 billion (U.S) over the past decade to support hundreds of partnerships under the United Nations Millennium Development Goals including efforts to prevent mother to child transmission of HIV/AIDS.

In Canada, our member companies have donated more than $250 million in medicines and health supplies through Health Partners International of Canada, providing hope and healing to places like Haiti after the recent earthquake.

World Health Organization Director General Dr. Margaret Chan recently observed that there are "many bright and motivating examples of success everywhere."

But no one can underestimate the challenges that remain.

Disease knows no borders. Neither does our research. Whether we are talking about cancer, diabetes, HIV/AIDS or the so-called "neglected diseases" of the developing world, researchers working for the global pharmaceutical industry are determined to find new treatments and new cures.

Patents are not a barrier to access; they are part of the solution because intellectual property safeguards help fuel discovery and innovation. Furthermore, over 90 per cent of the 319 medicines deemed by the World Health Organization (WHO) to be essential for human health in developing countries are not protected by patents.

We will succeed by continuing to build partnerships that improve health care systems and provide patients world-wide with access to safe and affordable drugs.

AIDS in Africa: challenges and complacency

Winning the fight against AIDS will take more than just finance. Aid strategies need continued support and to overcome cultural and political hurdles, too

By Sophie Harman, Department of International Politics, City University

Now is not the time to be complacent about AIDS. A decline in global prevalence rates show that interventions are beginning to work. Newly established systems and interventions to combat AIDS in Africa are overcoming bureaucracy and inertia, but still require sustained support. A lack of continued support would see a global rise in the numbers of new infections and a reversal of any advances made in the war against AIDS.

The challenge: what are the priority health needs of Africans now?

AIDS remains a day-to-day nightmare for millions of people living in Africa. People still lack access to antiretroviral treatment. Treatment has been made more widely available by bilateral and multilateral initiatives; however, those in the greatest need lack the transportation to access health centres, food and nutrition, and support structures. Localised health centres and working health systems that provide basic services are desperately needed. These services must be gender sensitive and responsive to the different and multiple needs of all members of the community.

People living with HIV/AIDS continue to be cast out of their family and local communities. Stigma continues to restrict employment opportunities and personal relationships. Efforts to sensitise and educate people about HIV/AIDS are essential. These efforts need to be continuous and evolving, not stagnant one-offs.

Legions of grandmothers are the sole breadwinners and carers of extended families that have lost one, both or multiple parents and siblings. Girls are taken out of school to care for siblings and help around the home. Husbands continue to leave wives who are confirmed or suspected to be HIV positive. Women remain dependent on men for financial support and access to social and economic rights.

HIV/AIDS is both a driver and outcome of poverty. AIDS stifles local economies and impedes growth. It restricts investment opportunities as companies and markets stigmatise those states with high prevalence rates. Socioeconomic development in Africa will not be achieved unless HIV/AIDS is combated: it is not only a challenge faced by Africans, but a challenge for us all.

> National strategic plans across Africa are often identical despite the different cultures, societies, economies and political systems

Meeting the challenge: how well have these needs been met?

Multiple global initiatives have risen to this challenge. The last 10 years have seen the introduction of the Global Fund to Fight AIDS, Tuberculosis and Malaria, the World Bank's Multi-Country AIDS Program and the US President's Emergency Plan for AIDS Relief (PEPFAR). These initiatives have shown considerable success in the number of people on treatment, a rise in AIDS awareness, increased global support and an end to state silence and denial. However, the multi-sectoral approach to combating HIV/AIDS pursued by these institutions has its drawbacks.

First, states do not 'own' national interventions against

HIV/AIDS. Political will is constructed by the financial incentive of international aid. National strategic plans across Africa are often identical despite the different cultures, societies, economies and political systems these states have. There is little room to manoeuvre, with states often having to accept intervention strategies developed in Washington and Geneva as a means of securing support for eradicating the disease. World Bank and Global Fund initiatives have introduced new governmental structures in the form of the national AIDS councils that often exist in competition and confusion to ministries of health. This leads to mistrust, additional bureaucracy, tension over mandate and priorities of health interventions and, in effect, the development of two parallel systems.

Second, interventions have been driven by funding that has led to an upsurge in civil society actors. While community-led initiatives are generally promising and responsive to local needs, the increased amount of funding also creates 'briefcase NGOs' with no base, little experience of HIV interventions and minimal outcomes for those they claim to help.

Third, good governance of international institutions remains a problem. There is little transparency and accountability of the World Bank, Global Fund or new actors such as the Bill and Melinda Gates Foundation.

HIV orphans at the Mildmay HIV Centre in Kampala, Uganda

People know these funding bodies are active and money is available, but complain they do not see the money reaching the community, do not know how to access these funds, and do not understand what they are doing and how they affect their everyday lives. The Global Fund particularly lacks an in-country presence and, similar to the World Bank, is only seen as lining the pockets of governments.

Fourth, prevention has increasingly taken a backseat to more costly treatment interventions and vaccine-based eradication strategies. Strategies emphasise abstinence and being faithful as prevention, with less focus on condoms and eradicating the stigma surrounding their use.

The challenge ahead: what can the 2010 G8 Muskoka Summit best do to help?

To meet these outstanding challenges it is imperative that the G8 does not cut funding on HIV/AIDS and comes good on the commitments made in 2005. This will enable those policies and structures that are beginning to work well work better, plug the gaps and continue treatment support that allows people living with HIV in Africa to lead productive lives.

Should cuts in international aid be unavoidable, the following areas should be ring-fenced: universal access to free treatment, provision of free condoms alongside other prevention strategies and the introduction of more rural healthcare centres. Community-led initiatives must continue to be the focus of activity where they are able to show tangible outcomes. Donor programmes must be adaptable and flexible in measuring such outcomes.

> “AIDS stifles local economies and impedes growth. It restricts investment opportunities as companies and markets stigmatise those states with high prevalence rates”

Vaccine development needs continued support but not at the cost of basic front-line services. Data on the disease must emphasise the number of deaths and new infection, as well as prevalence rates to allow a more accurate comparison of success and failure. This will reduce the ability to manipulate data for political gain.

African states should be encouraged to tackle AIDS head on and to confront contentious issues of homosexuality and the role of women. Policy and programmes must be cognisant of gender difference in experiencing the impact of HIV/AIDS and the delivery of services. States must not be coerced into accepting blueprint AIDS strategies from Geneva and Washington, but must have space to design responsive programmes appropriate to the country in which they are implemented. The role of the national AIDS councils and health ministries should be harmonised to decrease the level of overlap and distrust between the institutions and to allow for state-based interventions to be based on one organising system.

The global financial crisis will make finding money to combat HIV/AIDS a problem. But basic interventions that have proven successful will show that the challenge of combating AIDS in Africa can be met. ◆

EXAMPLES OF TDR WORK

- **New drugs and control methods** for global and regional disease control and elimination programmes (developed in partnership with private industry, national governments and others), including malaria, leprosy, onchocerciasis (river blindness), Chagas disease, lymphatic filariasis and visceral leishmaniasis.

- **Identifying equitable research priorities** by bringing together national, regional and global stakeholders to assist donors and policy makers make their decisions (a global report covering infectious diseases of poverty is due in June, 2011).

- **Increased research capacity and development** through empowerment, mentorship, training and the development of new networks and partnerships, such as the African Network for Drugs and Diagnostics Innovation (ANDI).

Investing in maternal, newborn and child health

To achieve Millennium Development Goals 4 and 5 – reduce the number of deaths of children and mothers – G8 countries must be substantially committed to an initiative to reach mothers and children in the communities where they live

By Nigel Fisher, president and CEO, UNICEF Canada, and Meg French, director, International Programmes, UNICEF Canada

When world leaders gather in Muskoka for the G8 Summit in June 2010, they will turn their attention to the large numbers of women, newborns and children who are dying around the world everyday from preventable causes. This focus from the world's largest donor countries comes at a critical time. At this late point in efforts to achieve the Millennium Development Goals (MDGs), the world is seriously off track in achieving Goals 4 and 5 to reduce the number of deaths of children and mothers. While child deaths from preventable diseases are declining and there has been a steady increase in international funding, a surge of support is needed if the MDGs are to be met. This year the G8 has a real opportunity to show leadership and provide critical investment in an area that desperately needs it. Success is within reach, given the right focus and sustained commitment.

About 8.8 million children and hundreds of thousands of women continue to die each year, mostly of preventable causes. It is particularly frustrating that the solution to end these deaths is well known.

In recent decades highly effective interventions have improved the health and nutrition of women and children and prevented and treated many of the main causes of their deaths. Many interventions involve community-centred strategies such as exclusive breastfeeding (feeding with only breast milk with no supplements or water), micronutrient supplementation and family planning. Others involve strengthened facility-based provision of skilled birth attendants, basic obstetric care and antibiotics, and innovations such as new vaccines to prevent pneumonia and diarrhoea, simple drugs to treat and prevent malaria, and highly effective methods to prevent the transmission of HIV from mother to child. The challenge has been to ensure that these interventions reach all women and children. Bottlenecks in accessing health services have meant that coverage rates for these interventions remain low and children and mothers continue to die.

This is where the G8 countries can play a catalytic role. By addressing these bottlenecks through the commitment of sufficient funding to strengthen health systems, support innovation and train community-level workers, the G8 can help galvanise the movement to achieve MDGs 4 and 5. The G8 Muskoka Summit comes in time to make an important contribution in support of the United Nations Joint Action Plan for accelerating progress on maternal and child health ahead of the UN Millennium Development Goals Review Summit in September 2010.

One element critical to the solution for ending preventable maternal and child deaths is the ability to reach mothers and children in the communities where they live. The poorest and most marginalised have little or no access to health facilities. Any initiative hoping to see results in the short to medium term must reach directly into communities themselves. To strengthen the lower levels of the health system, the G8-funded initiative must focus on going to scale with a package that includes the following interventions:

- community-based curative interventions, including policies that permit the administration of antibiotics by community health workers;
- family and community health promotion interventions, to encourage breastfeeding and healthy hygiene and sanitation practices; and
- preventive interventions, such as new vaccines, vitamin A and zinc.

> “Now is the time to invest in maternal, newborn and child health. It makes good economic and political sense”

Constraints related to the social, economic, political and epidemiological contexts of countries influence what type of investment can and should be made. By examining the constraints faced by the 40 countries in Asia and sub-Saharan Africa, which represent three-quarters of global child and maternal deaths, it is possible to determine which investment option is most feasible for each country. Three options for investment would have the highest

A mother and her newborn baby at a maternity clinic in Manila. A large number of women in the Philippines die from complications from pregnancy and childbirth

proven impact on the main causes of deaths of women and children.

The first option would involve investments in preventive services, promotion and community-based curative care. This would result in a decrease in the number of deaths of children under five by 42 per cent and of mothers by 6 per cent.

The second option would build on the first and also include additional investments to provide essential packages of maternal and newborn health services, such as basic emergency obstetric care, and selected high-impact curative services for older children, such as treatment of severe acute malnutrition. Under this option child deaths would be expected to fall by 55 per cent and maternal deaths by 34 per cent.

The third option would build on the first two but see them taken more fully to scale. It includes strengthening the referral system to higher levels of the healthcare system in order to provide additional curative care. Such an investment would be expected to reduce child mortality by 59 per cent and maternal mortality by 44 per cent.

Investment in the most appropriate funding option for each country would require donors to invest a total of \$20 billion – \$81 billion between 2011 and 2015 depending on the size of the investment available from national governments.

As part of the G8's catalytic role in improving maternal, newborn and child health, the investment should be used to leverage additional funding from a fully resourced Global Fund to Fight AIDS, Tuberculosis and Malaria and from the GAVI Alliance. G8 governments should meet the commitments they made at Gleneagles in 2005 to double aid. All donors should be encouraged to invest further in maternal, newborn and child health. Governments of high-burden countries should be encouraged to meet their global financing commitments to health responses such as the Abuja targets. By investing together and developing common platforms for monitoring the quantity and effectiveness of aid, both donor and national governments build on the concept of mutual responsibility for outcomes.

Now is the time to invest in maternal, newborn and child health. In this age of financial crises and political instability, it makes good economic and political sense. Investing in prevention and promoting good health reduces the cost of curing people when they get sick, a saving of up to \$700 million globally per year for child survival alone. Good health and nutrition can also generate huge economic returns, because people can work more productively. This helps to improve their lives and contributes positively to the wider economy. It has been estimated that current maternal and newborn mortality rates directly result in \$25 billion in lost potential productivity every year.

Thus mobilisation of the required resources can show a very effective return on investment, as well as contribute to improved governance and stability. Effective delivery of services reinforces trust in institutions and governments. Expanding access to previously excluded populations nurtures equity and social integration.

But most importantly, there is a moral obligation to make these investments. It is the basic human right of all people to survive. Mothers and children who die of preventable diseases or who face illness or disability are denied this right.

Now is the time for a substantial commitment by the G8 in an initiative to reach mothers and children in the communities where they live. The impact of such an investment and leveraging could mean the difference between life and death for millions of mothers and children around the world. We know what to do. The leadership and political will of G8 leaders can turn that knowledge into millions of lives saved and lives improved. ◆

WHY DO G8/G20 LEADERS NEED TO STAND UP?

- 50% of mother and newborn deaths at childbirth occur in sub-Saharan Africa
- Africa has one midwife for 345 women giving birth; the WHO recommends one midwife for every 20 women giving birth
- 80% of maternal deaths can be averted with increased access to skilled delivery
- African governments have not delivered on their commitment to allocate 15% of public budget to health
- African wage bills for health remain restricted and underfunded limiting recruitment and retention of health workers

SIMAMA

STAND UP FOR AFRICAN MOTHERS

AMREF

Better Health for Africa

www.amref.org

AMREF ASKS G8/G20 LEADERS TO TAKE A STAND AND ENSURE ACCESS TO SKILLED DELIVERIES TO STOP THE DEATHS OF AFRICAN MOTHERS AND CHILDREN. THE G8/G20 SHOULD:

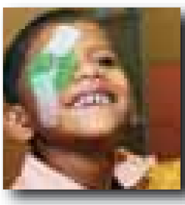
- Invest in programme support to recruit and retain midwives and other health workers in sub-Saharan Africa
- Support a 100+% increase in the number of midwives, community and midlevel health workers to reduce maternal deaths by 75% (MDG 5)
- Support African governments to remove financial barriers such as user fees to increase access to health services for mothers and children

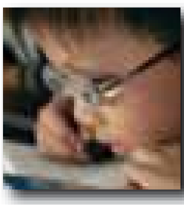
Blindness causes poverty...
...poverty causes blindness

80% of blindness is **avoidable**

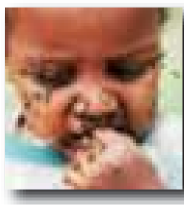
VISION 2020: The Right to Sight

Main photograph: Abir Abdullah/Sightsavers International. All other photographs courtesy of IAPB member organisations.





VISION 2020
THE RIGHT TO SIGHT

VISION2020.org

WHO & IAPB, working together to eliminate avoidable blindness

SPONSORED FEATURE

831 million people live with blindness or vision impairment*

80% of blindness is avoidable

90% of blind people live in developing countries

Sight restorations are among the most cost effective interventions in health care

VISION 2020: The Right to Sight

VISION 2020: The Right to Sight is the Global Initiative for the Elimination of Avoidable Blindness; a joint programme of the World Health Organization and the International Agency for the Prevention of Blindness (IAPB). IAPB is a worldwide coalition of 111 organisations including NGOs, global peak bodies for ophthalmology and optometry, world-leading academic institutions and multinational corporations.

The Initiative aims to eliminate the main causes of avoidable blindness by the year 2020 by facilitating the planning, development and implementation of sustainable national eye health plans. IAPB member organisations seek to strengthen national health systems, encouraging the integration of sustainable eye care services into existing structures.

VISION 2020 strategies have proven successful in reducing blindness due to cataract, onchocerciasis, trachoma, vitamin A deficiency and other blinding eye conditions. Today, 15 million fewer people are blind compared to 1999 projections.

VISION 2020 Strategies – crucial contributions to MDGs

There is a strong correlation between blindness and poverty, particularly in developing countries. Many of the causes of blindness are directly related to economic and social disparities.

Studies indicate that strategies to eliminate avoidable blindness can help to alleviate poverty in developing countries. Impressive economic rates of return have been cited, including an estimated 19% in the example of the Gambia. In India, it was estimated that treatment of cataract blindness alone, at a cost of $0.15bn could result in savings of up to $1.1bn in annual GNP.

Findings from a recent study by WHO Collaborating Centre International Centre for Eye Health (ICEH), “provide empirical evidence of improved health related quality of life and increased involvement in different daily activities”, supporting arguments of economic benefit from eye health interventions.

WHO Action Plan on Blindness and Visual Impairment

With World Health Assembly resolutions in 2003 and 2006, WHO Member States made unanimous commitments to integrate prevention of blindness and vision impairment into their health care systems.

Based on these resolutions in 2009 the World Health Assembly adopted a WHO Action Plan for the Elimination of Avoidable Blindness and Visual Impairment. For the implementation of this plan significant additional financial resources are needed.

Honouring Commitments

The Australian government is leading efforts to eliminate avoidable blindness and vision impairment in Asia Pacific, with a total commitment of A$600 million over 10 years. With this plan, more than 124 million people will have their vision improved or restored. Given that vision impairment in Australia costs $9.85 billion a year, and $66.75 billion a year in the US, the Australian government believes that this strategy will bring significant economic benefits to the region.

The Indian government has also made substantial commitments to eye health, allocating Rs.1,250-crore (over $250 million) to expand the scope of its blindness control scheme to include other causes of blindness such as diabetic retinopathy and glaucoma, as well as cataract.

All governments need to provide funding to support the elimination of avoidable blindness, particularly in low- or middle-income countries.

Please visit www.VISION2020.org for more information and to find out how to help.

**45 million people are blind, 269 million have low vision and 517 million people have impaired near vision or presbyopia*

www.VISION2020.org

VISION 2020 THE RIGHT TO SIGHT

Success within reach – a call for renewed leadership on AIDS

The International Council of AIDS Service Organizations (ICASO) calls on all government leaders to recognise that the decisions they make in 2010 could be the defining moment in history, when world leaders make the difference in turning the tide on the AIDS epidemic.

As we entered the 21st century, G8 leaders recognised that a world with AIDS was a world in which economies and whole generations were shattered and devastated. Governments' commitments globally to universal access (to HIV treatment, prevention, care and support), backed by funding, has literally meant that many millions of lives have been saved.

Yet, while significant progress has been made, a misconception seems to be gaining hold – that enough has been done on AIDS. But AIDS has not gone away. In 2008, 1.7 million adults and 280,000 children under 15 years died due to AIDS, and 2.7 million people were newly infected. The leading cause of death among women of reproductive age is still AIDS. (WHO/UNAIDS 2009).

Investing in AIDS responses has been a good example of how the world can effectively respond to health challenges. Through investments by the Global Fund to Fight AIDS, TB and Malaria to put 2.5 million people on HIV treatment by the end of 2009, it is estimated that "averted deaths in 2011" will correspond to 2 million life years gained. Further estimates have it that 5 million lives overall will have been saved as a result of Global Fund-financed programmes to date. **That is real impact.**

Investing in AIDS responses continues to be a mechanism to reduce other related health challenges. By integrating more successfully relevant maternal and child health programming into HIV and AIDS responses, and funding mechanisms such as the Global Fund, this can both accelerate the existing slow progress on maternal and child health, and also reduce HIV infections and AIDS-related deaths. **That is real impact.**

Investing in AIDS responses has also been reported by WHO to have strengthened health care systems through innovative approaches to service delivery, from standardized drug regimens to improved supply and procurement systems. **That is real impact.**

Yet, despite these gains, we now see donor investments in AIDS slowing – even though we are still far from achieving the commitment to reach universal access by 2010. We can see this in the reported drop-off in donor financing of AIDS responses – the implication being rising rates of morbidity and mortality for those waiting to access HIV treatment in Africa for instance.

As we learn more about the impressive impact that HIV treatment has on preventing the transmission of HIV, to stop access to treatment now will have serious human and financial implications for the future.

ICASO therefore calls for investments in the AIDS response:

1. **By donor governments fully funding the Global Fund third replenishment in October 2010, with at least the necessary minimum of $20 billion for 2011-13.**
2. **By developing country governments honoring their commitment to spend 15% of total government spending on health.**
3. **By all governments committing to delivering on Universal Access to HIV prevention, treatment, care and support by 2015, in line with other MDG commitments.**

Kieran Daly | Executive Director | International Council of AIDS Service Organizations (ICASO), 65 Wellesley Street E, Suite 403, Toronto, ON M4Y 1G7 | +1 416 921 0018 | kierand@icaso.org

ICASO
INTERNATIONAL COUNCIL OF AIDS SERVICE ORGANIZATIONS

www.icaso.org

The Global Fund has distributed 104 million insecticide-treated nets to prevent malaria since 2004

Overcoming AIDS, tuberculosis and malaria

Major investments in health programmes by the Global Fund mean we are closer to winning the fight against AIDS, tuberculosis and malaria

By Michel Kazatchkine, executive director, Global Fund to Fight AIDS, Tuberculosis and Malaria

This year donors will decide if the world will win the fight against AIDS, tuberculosis and malaria and meet the health-related Millennium Development Goals (MDGs). It can be done.

Ten years ago, the world was floundering in its response to AIDS, tuberculosis and malaria in developing countries, causing an unprecedented public health and human rights crisis. Effective HIV treatment had been available in high-income countries since 1996, but was still out of reach for nearly everyone else in need. The spread of malaria seemed unstoppable, and the target of halving tuberculosis prevalence by 2015 seemed unreachable. After United Nations secretary general Kofi Annan issued a call to action, governments from the North and the South, civil society, UN agencies and the private sector met in Brussels in 2001 to create the Global Fund to Fight AIDS, Tuberculosis and Malaria, with the aim of vastly accelerating the response to these three diseases.

What we have achieved

In the past eight years, the Global Fund has proven to be an efficient channel for massively increased funding for health programmes in more than 140 countries, focusing international efforts on achieving ambitious, measurable


© Paolo Pellegrin/Magnum Photos

Kassi Keita, 3, had been sick for 18 months before being diagnosed HIV-positive. In Africa in 2009, 400,000 babies were born with HIV

> Less than half of the people in urgent need can obtain life-saving treatment while access to prevention measures remains limited for many

targets. Since 2002, the Global Fund has approved grants totalling $19.2 billion, making it the main multilateral contributor to the health-related MDGs. Every dollar given to the Global Fund goes straight to programmes in the country – the Global Fund has no country offices, and its operating expenses are almost entirely covered by interest earned on its contributions. With government budgets under strain and the world's poor facing increased economic hardship, the Global Fund's continuous efforts to improve value for money, increase efficiency and channel resources to where they achieve the best results are more crucial than ever.

At the end of December 2009, Global Fund programmes were providing antiretroviral therapy to 2.5 million people living with HIV. The Global Fund is also the main multilateral funder of measures to prevent the spread of HIV. For example, in 2009 alone, 340,000 pregnant women received a complete course of antiretroviral prophylaxis to prevent transmission of HIV from mother to child through Global Fund grants. Since 2004 the Global Fund provided treatment to 6 million people with active tuberculosis and has distributed 104 million insecticide-treated nets to prevent malaria.

Investments are making a major impact

As a result of the Global Fund's efforts and those of its partners, AIDS mortality has decreased in many high-burden countries. The number of new HIV infections is stabilising or falling in countries throughout sub-Saharan Africa. Countries in Africa are reporting up to 80 per cent declines in new malaria cases and in malaria mortality. Prevalence of tuberculosis is also declining worldwide. It has been estimated that Global Fund programmes have saved at least 4.9 million lives in the last six years alone. Every day, another 3,600 lives are saved.

Global Fund investments to combat HIV, tuberculosis and malaria are also having a much wider impact – beyond individuals, their families and communities. They are major investments in health systems – bolstering infrastructure, strengthening laboratories, expanding human resources, augmenting skills and competencies of health workers, and developing and supporting monitoring and evaluation activities. These investments, in turn, improve the sustainability of services, increase national capacity to expand programmes further and increase countries' ability to improve services for other health issues.

Global Fund investments are also making a substantial contribution toward reaching MDGs 4 (reduce child mortality) and 5 (improve maternal health).

The Global Fund is contributing to reducing under-five mortality by supporting activities for the prevention and control of malaria, increasing access to pediatric HIV treatment and funding programmes to prevent HIV transmission from mother to child.

The Global Fund is also contributing to improved maternal health through programmes that are scaling up prevention and treatment of HIV, tuberculosis and malaria. These programmes are reducing the largest causes of mortality among women of childbearing age, as well as reducing major causes of maternal deaths.

Worldwide, maternal mortality rates have declined, but progress has been slowed by the HIV epidemic. Providing greater access to treatment and care for HIV-positive pregnant women must therefore be an essential component of efforts to reduce maternal health risks.

The Global Fund has also been facilitating the integration of HIV and sexual and reproductive health services, thus contributing toward the second target under MDG5: universal access to reproductive health. Almost all Global Fund–supported HIV programmes provide sexual and reproductive health-related services.

A decisive year

The year 2010 will be a decisive one in the fight against the three pandemics and for maternal and child health. The world will review progress on the MDGs. But 2010 is also the year of the replenishment of the Global Fund for 2011-13. The outcome will decide where the world will be in 2015 with regard to the health-related MDGs.

Even today, more than four years after G8 leaders at Gleneagles pledged to provide HIV prevention, treatment and care to everyone who needs it, less than half of the people in urgent need can obtain life-saving treatment while access to prevention measures remains limited for many. In Africa alone, 400,000 babies were born with HIV in 2009 – a moral outrage and a public health and human rights disaster. The gains made in the fight against HIV, tuberculosis and malaria are impressive, but they remain fragile. A reduction – or even stagnation – of funding at this point in the fight would lead to reversals of recent progress and put the MDGs out of reach.

Instead, if donors, led by the G8 countries, contribute the resources that would allow the Global Fund to continue scaling up HIV, tuberculosis and malaria programmes and interventions rapidly, by 2015 malaria could be eliminated as a public health problem in most countries where it is endemic; millions more HIV infections may be prevented and lives otherwise lost to AIDS saved; further significant declines in tuberculosis prevalence and mortality could be achieved; the growing threat of multi-drug resistant tuberculosis may be contained; the transmission of HIV from mother to child may be eliminated; health systems could be strengthened; and maternal health and reduced child mortality could be improved.

We must rise to this challenge

HIV, tuberculosis and malaria prevention and treatment can be scaled up cost-effectively and at unprecedented speed in poor countries, helping to strengthen health systems, reduce child mortality and improve maternal mortality. This is no time to slow down our efforts. Rather, we should all redouble them. ◆

Tuberculosis Control: a wise investment

By Marcos Espinal, Executive Secretary

Great progress has been achieved in the fight against tuberculosis - the proportion of the world's people becoming ill with tuberculosis each year is declining slowly. Some 36 million people have been cured of TB over the past 15 years through DOTS, a rigorous approach to case management endorsed by the World Health Organization (WHO). Since the launch of DOTS in 1994, the number of people being cured has increased regularly and up to 8 million TB deaths have been averted.

Still, tuberculosis causes more deaths among young people and adults worldwide than any other single infectious disease, apart from HIV. The enormous economic impact of tuberculosis is driven by both the size of the problem - with nearly two million deaths per year, including half a million deaths from HIV-associated tuberculosis[1] - and the fact that in developing countries the majority of people affected by tuberculosis are in their prime working years.

> "Great progress has been achieved in the fight against tuberculosis"

Health investments are essential to the well-being of nations and a pre-requisite to good social and economic security. We must not allow the gains that have been made to be lost or allow the situation to deteriorate further - something that we risk doing if we fail to respond to the new and emerging TB threats of drug resistance and the deadly combination of TB and HIV.

To fight tuberculosis effectively and accelerate further the achievement of its control and elimination, we need bold new political leadership and broad legislation on matters that go beyond the normal and narrow remit of the health sector: social protection, laboratory services, quality assurance for all drugs and public sector human resources. We also need leadership, funds and commitment for an invigorated research agenda to develop and bring to market urgently needed new diagnostic methods, new drugs and a new vaccine.

Tuberculosis is widely viewed as a disease of the poor, but many of those affected have considerable education and earn good incomes. The World Bank has acknowledged that investing in tuberculosis control is one of the most cost-effective public health investments. A recent report found[2] that scaling up control of tuberculosis according to the Stop TB Partnership's Global Plan to Stop TB 2006-15 would not only prevent unnecessary sickness and death but that it would actually be cheaper than maintaining the status quo. In Africa, the economic benefits of fully funding and implementing the Global Plan, which is underpinned by the WHO Stop TB Strategy, exceed the costs by a factor of nine.

This year represents an important benchmark towards the Millennium Development Goals. There has been a recent upsurge of support from civil society, progressive leaders and private citizens for a financial transaction tax and a currency transaction levy targeting development challenges. Fighting TB is a wise investment and must be viewed as a critical aspect of any development agenda. As G20 leaders deliberate this year about innovative financing solutions, we urge them to give global health challenges, including TB, sufficient weight.

1. World Health Organization. Global tuberculosis control 2009: epidemiology, strategy and financing. WHO report 2009. WHO/HTM/TB/2009.411
2. Laxminarayan R, Klein EY, Darley S, Adeyi O. Global investments in TB control: economic benefits. Health Affairs 2009;28; w730-w742 (published online 30 June 2009; 10.1377)

Stop TB Partnership | World Health Organization | www.stoptb.org

Defeating malaria together

This year, 2,000 young children will die daily from malaria unless they receive treatment that can cure them. By developing new effective and affordable antimalarials, Medicines for Malaria Venture is working to give these children a better chance of survival.

New and more effective medicines for malaria are urgently needed. Why? Because although medicines for malaria do exist, the most popular ones, such as chloroquine, no longer cure the disease. The ever-present threat of resistance to current medicines looms large. Effective high-quality medicines are an essential weapon, which, with preventive measures such as insecticide-treated bed nets, indoor residual spraying and a future vaccine, will help to ultimately defeat malaria.

Medicines for Malaria Venture (MMV), a leading public-private-partnership, is dedicated to finding innovative treatments for malaria. With over 130 partnerships in 44 countries, MMV now manages over 50 projects in the world's largest antimalarial research portfolio and is a proven success.

In early 2009, working with partners, MMV developed and launched its first product – a sweet-tasting, cherry-flavored, dispersible antimalarial for children: Coartem® Dispersible. MMV plans to launch two more products by 2011. With malaria eradication at the top of MMV's agenda, its research focuses on new treatments to tackle emerging drug resistance, defeat all species of the parasite, and block transmission of the disease.

Critical though it is, however, research is not enough. People must also have access to these novel life-saving products. This is not as easy as it sounds. MMV is helping to design and implement innovative strategies to radically improve access to its medicines for those most at risk of malaria. It is also helping to build an evidence base on the antimalarials' market in several African countries.

MMV's work is possible thanks to the support of governments, foundations, corporations, and individual donors. Typically, hundreds of millions of dollars are needed to develop a new medicine. MMV can do this at a fraction of the cost with the help of generous in-kind contributions from our partners, e.g., facilities and expertise, which equals the input from our donors.

We are actively striving to expand and develop current and new donor partnerships, solicit more in-kind input from partners and build MMV's global network to achieve our mission.

Help us discover, develop and deliver new medicines that will cure and protect vulnerable and neglected populations at risk of malaria. Please contact Julia Engelking at engelkingj@mmv.org with any ideas or philanthropic investment queries.

Giving Them Back Their Future

More than 2,000 children die from malaria every day because their caregivers cannot access effective antimalarials

Medicines for Malaria Venture and partners are working to **discover, develop and deliver effective and affordable medicines** to give vulnerable populations the hope of a future

Defeating malaria together

MMV Medicines for Malaria Venture

Cutting and tearing

Médecins Sans Frontières (MSF) has published Writing on the Edge, *a collection of first-hand accounts of life inside conflict zones where MSF provides emergency medical care. In this abridged excerpt, crime writer Minette Walters recounts MSF's efforts to reduce maternal and infant mortality in Sierra Leone*

It's eleven o'clock at night, and I'm in a medical operating theater in Kambia, a remote town in Sierra Leone. I'm using my weight to hold a pregnant seventeen-year-old girl to the table because there's no one else to do it. She lies in the crucifix position with each hand anchored to a wooden board, but her unfettered legs keep jerking and sliding toward the floor. A Dutch doctor and an Irish nurse are scrubbing up in another room, while two Leonean nurses hurriedly assemble the necessary anesthetic and equipment for an emergency C-section.

I try to look intelligent when Dr. Anne-Maria explains that the patient's suffering from eclampsia, but the only "eclampsia" I know is pre-eclampsia. Heads would roll in England if a consultant saw a seventeen-year-old in this state.

Her seizures have caused her to bite through her tongue, and it's so swollen that it's protruding from her mouth. To stop further damage, the nurses have jammed a stick between her teeth but, coupled with the crucifix position, it looks like a grotesque form of torture. Her name is Wara, and her husband brought her to the hospital half an hour ago. One of the nurses asked him why he waited so long but she knew the answer already. It took him twelve hours to borrow enough money to make the six-mile drive from their village. Sierra Leone is the third-poorest country in the world and, with no public transport, vehicle owners exploit the needy.

The closer a patient is to death, the higher the price demanded.

Wara will die of system failure unless her baby is removed. The good news is the baby is still alive; Anne-Marie has picked up a heartbeat. The bad news is she knows nothing about this patient except that it's her first pregnancy. Wara's never been to a clinic, has never had her blood pressure checked or treated, and her husband's unsure when the seizures started because in this society men do not attend births. He can only repeat what Wara's traditional birth attendant (TBA) told him, and that information is unreliable.

TBAs have worked in Sierra Leone for centuries. They have herbs, containing active ingredients similar to Western medicines, which can stimulate contractions; but most of them use these herbs indiscriminately, without any real understanding of a mother's condition. The results of misuse can be horrific (excessive bleeding, ruptured placentas, retained placentas, obstructed labor, untreated eclampsia), which may explain why women in Sierra Leone have a one in fifty chance of dying every time they get pregnant, and why one in five of their babies is stillborn. As ten pregnancies per woman is common, death and childbirth are closely linked.

Kambia Hospital was destroyed during Sierra Leone's eleven year civil war. The war was declared over in 2002 after deployment of a large UN peacekeeping force and the deployment of British troops—a military intervention that, for the moment, Tony Blair can count as a success. The Revolutionary United Front surrendered its arms in exchange for money, and a desire for peace and reconciliation seems to pervade the country. Certainly, Leoneans are some of the friendliest people I've met in Africa. With the hospital destroyed, MSF rented the largest available house and turned it into a sixty-eight-bed inpatients' department by building an extension and erecting a tent in the garden. There's no running water (medical staff scrub up under a tap connected to a plastic water container) and only intermittent electricity. Every bed is full, and each patient has one or more caretakers to cook and clean for them.

In a country like Sierra Leone with high mother/baby mortality rates, specialist maternity care is essential. I'm shocked at how devastating full-blown eclampsia is and look up with relief when Anne-Marie and Marion return, fully gowned and gloved, to start the operation. I have no medical pretensions at all. I may write about murder but I'm not that keen on blood. I'm in Sierra Leone to observe MSF's Mother Child Health initiatives, not to participate in emergency C-sections.

With two professionals in charge, everything takes on a new urgency. A cordon of sterility is established, anesthetic's administered, and everyone starts barking instructions at me as if I'm part of the team.

Suddenly a tiny boy, weighing just over three pounds, emerges through the incision. He has virtually no color, he isn't crying or breathing, but he does have a heartbeat. One of the Leonean nurses scoops him into a green sheet and, together, she and Anne-Marie attempt to revive him with oxygen. We wait in silence until a thready cry and a sudden fluttering in his chest tells us he wants to live. It's an amazing moment that turns all too quickly to tragedy. Marion, who's removing the placenta, has discovered another foot. This time it's a little girl, and she's half a pound lighter than her twin brother. Briefly, Anne-Marie tries to revive her but, with no heartbeat and only one oxygen set, she instructs all efforts to be concentrated on the viable baby. Later, I ask her what would have happened if the second baby had responded. "The same," she says with a sigh. "With only one oxygen set I have to choose the twin with the best chance of survival."

It's seven hours later. I'm in a 4 x 4, traveling north to Tombo Wallah with Isabel, a volunteer from Germany, and her Sierra Leonean colleague, Emmanuel.

All MSF staff cite the difficulty of travel as a major cause of mother and infant mortality. Apart from the exploitative cost, the roads are so bad that only lorries and 4 x 4s can negotiate them successfully. In places, we see some road-flattening and hole-filling but new ruts open up as soon as the rains come. The only tarmacked roads in the north of the country were given and constructed by Germany in the 1970s and France in the early 1990s. I'm impressed by this sensible use of donor money in a country where corruption is rife. Finished roads don't disappear into government pockets.

Isabel and Emmanuel are MSF outreach nurses, and their job is to support the Ministry of Health primary-care clinics in the isolated communities around Kambia. Their focus is maternal and child health, and they train local teams to go around the villages with information on family planning, malaria, AIDS prevention, the importance of clinic visits during pregnancy, and safe delivery in the hospital.

Their target patients are women like Wara, whose tragedy could have been avoided with free antenatal care, but access to outlying communities is difficult and MSF workers believe they reach only a percentage of mothers at risk. That percentage keeps rising with 160 new consultations a month, but I hear numerous horror stories about what happens to women in the bush. Certainly Wara's experience suggests that if the drive to Kambia had been twice as long, she would never have reached the hospital. The life of a sick woman has less value than a man's, while the life of a sickly child has none.

"Sierra Leone has the highest infant mortality rate in the world, with one in three children dying before their fifth birthdays"

We approach Tombo Wallah by water, keeping a wary eye out for crocodiles. Wooden boats line its muddy, estuary beach, and tropical jungle sweeps the banks on either side. Single-story houses with rusted corrugated-iron or thatched-palm roofs border a yellow dirt road, and the vibrant mix of colors against a clear, blue sky is breathtaking.

The clinic serves a wide area, and there's a queue of patients waiting. Most can be treated by the MOH nurses who run the service, but serious cases are referred to Isabel and Emmanuel for possible admission to Kambia Hospital. Emmanuel takes the lead.

His first patient is Amie Turay. She's thirty-eight weeks pregnant and has been brought to the clinic by her elderly husband after complaining of pains in her abdomen. They've walked an hour to be here. She's an epileptic with a withered left hand and some paralysis of her left leg.

Amie is Mr. Turay's second wife, and this is her sixth pregnancy. She has two surviving children. Of the other three, the eldest was lost during the war, one was stillborn, and another died at two months old, probably of malaria.

Sierra Leone has the highest infant mortality rate in the world, with one in three children dying before their fifth birthdays. Malnutrition and respiratory diseases such as

> MSF provides its services free, relying on volunteer doctors and nurses from around the world to work six- or nine-month tours

TB and pneumonia are common, but the major killer is malaria. In sub-Saharan Africa 2,800 toddlers die each day from the disease, and Sierra Leone, the worst affected, is still using chloroquine, a first-generation remedy that no longer works because malaria parasites have developed a resistance to it.

Lengthy discussions between the Ministry of Health, the World Health Organization, and MSF to persuade the government to adopt ACT (Artemisinin-based Combination Therapies) in place of chloroquine have finally reached agreement, although the government can't implement the change until the end of 2006. MSF is ready to introduce the new drug into all of its clinics and hospitals as soon as it receives approval.

Mr. Turay agrees that Amie should return to Kambia with us, although he claims he won't be able to find a caretaker for her. I look at Amie and wonder what's frightening her. Does she think her husband will abandon her? I learn later that she's worried about the journey. She's never been farther than Tombo Wallah in her life and she doesn't know where Kambia is.

The next woman has edema (bloated legs and abdomen) and she's advised to come to the hospital as soon as she can arrange caretakers for herself and her five children. Her name's Asatu and she's very assertive. She tells Emmanuel that she doesn't like her husband, and she'll only admit herself to Kambia if the doctor will sterilize her without asking his permission. Otherwise she'll make a three-hour boat trip on the open sea and find someone in Freetown to do it. She's thirty-five years old, she's on her eighth pregnancy, and she doesn't want anymore children. With Emmanuel's reassurance, she agrees to come in on Saturday.

I wander down to the riverside with a troop of children in tow, and find Mr. and Mrs. Turay waiting patiently in the shade of a tree. We can't communicate because they don't understand English, but as I hand out baby wipes to the youngsters, the couple draws close out of curiosity. I offer a wipe to each of them. Amie takes hers to clean her hands, and Mr. Turay tucks his surreptitiously into her bag so that she can use it later. I like him for that and hope it means he'll find a caretaker for her. When we finally board the boat, he stands in the shallows and waves goodbye until we're out of sight.

No one who travels in an MSF vehicle can be in any doubt of the charity's high standing. Everywhere we go, people wave and chant: "Em-ess-eff . . . em-ess-eff."

I spent a week in Sierra Leone, talking to patients at Kambia and Magburaka, where MSF provides free health care for mothers and children in a one-hundred-bed MOH hospital. Under the supervision of Sarah Bush, an MSF midwife from Sheffield, all staff are now trained to record patients' histories, with numbers of pregnancies, stillbirths, and infant deaths. The figures bear out the WHO and UN mortality statistics for Sierra Leone, although records only exist for patients who seek help. No one knows how many deaths go unreported.

While I was at Magburaka, there were six emergency C-sections in one twenty-four-hour period. This is not unusual. Women can be left to struggle for two or three days before they're brought to hospital, which is why MSF places so much emphasis on its outreach programs.

MSF provides its services free, relying on volunteer doctors and nurses from around the world to work six- or nine-month tours.

Tragically, Wara's little son died after three days because he couldn't suck. His grandmother tried to keep him alive with milk from a spoon but, without specialist care in a premature baby unit, his chances were negligible. Wara recovered well from her surgery but it was a long time before her tongue healed. Her husband still has to repay the money he borrowed to get her to the hospital.

Mr. Turay surprised everyone by coming to Kambia himself to act as Amie's caretaker. Anne-Marie tells me he's looking after her well, and they seem happy together. I have a huge soft spot for Amie. Through a translator, I asked her the next day how she felt about her ride in the 4 x 4. She giggled. "I liked it," she told me. "It's the most exciting thing I've ever done."

Me too, I thought. ◆

Writing on the Edge *is published by Rizzoli International*

A global call to action: strengthen midwifery to save lives and promote health of women and newborns

Maternal mortality: still the greatest health and gender inequity in the world

We, midwives and other health professionals of the world and development partners, gathered here on the occasion of the Women Deliver Conference in Washington DC, June 2010, share the view that bold and unprecedented action is required to achieve Millennium Development Goal (MDG) 5: *Improve Maternal Health* and the newborn component of MDG 4: *Reduce child mortality*. Today 99 per cent of maternal and newborn deaths occur in developing countries. Each year more than two million women and newborns die needlessly due to preventable causes related to pregnancy, childbirth and post-partum conditions. Millions more suffer disabilities. When a woman dies, her children are less likely to receive nutritious food and education. Saving women's lives and improving their health are key to achieving all of the MDGs.

We know what to do – it is a cost-effective investment

There is international consensus on the set of evidence-based and cost-effective solutions required to ensure that *every pregnancy is wanted, every birth is safe and every newborn is healthy*. Central to these interventions is a high quality workforce supported by a functioning health system. Midwives, as part of this workforce, provide the continuum of care needed by pregnant women and their newborns from the community to the hospital level.

Midwives and midwifery services save lives and promote health

Up to 90 per cent of maternal deaths can be prevented when midwives and personnel with midwifery skills are authorized and supported by the health system to practice their full set of competencies, including basic emergency obstetric and newborn care. In addition midwives improve the sexual and reproductive health of individuals and couples, including adolescents, by providing family planning services and counseling, and HIV prevention, including the prevention of mother-to-child transmission of HIV. According to the World Health Organization (WHO), some *334,000 midwives* are needed to fill the gaps in high-mortality countries by 2015.

A call to action to strengthen midwifery services

We pledge to join forces with governments, civil society, and other partners to continue supporting implementation of World Health Assembly Resolution 59.27 on Strengthening nursing and midwifery and initiating a global movement to strengthen midwifery services. This will ensure rapid progress in achieving MDG 5 and contribute to the achievement of MDGs 4 and 6 (to reduce child mortality; and combat HIV/AIDS, malaria, and other diseases). In response to the UN Secretary General's Joint Action Plan for Women's and Children's Health, we call on all governments to increase investments in midwifery services now and to make this a high priority at the UN Summit on the Millennium Development Goals in September 2010 and beyond.

We call on governments to address the following vital areas:

1. **Education and training – Provide** education and training in the essential competencies for basic midwifery practice. Build institutional capacity, including strengthened clinical training, post-graduate programs and research. Increase South-South collaboration to expand the production of midwives with evidence-based quality training.
2. **Legislation and Regulation – Strengthen** legislative and regulatory frameworks to ensure midwives have appropriate standards of practice and are regulated to practice their full set of competencies as defined by the WHO and the International Confederation of Midwives (ICM). Also, ensure immediate notification of maternal deaths.
3. **Recruitment, retention and deployment – Implement** national, costed health workforce plans and strengthen management capacities of Ministries of Health regarding training, recruitment, retention and deployment of the midwifery workforce, as per The 2008 Kampala Declaration and Agenda for Global Action on Health Workers and which is vital to increasing access to midwifery services for poor and marginalized women.
4. **Association – Strengthen** national professional midwifery associations to promote the profession, improve standards of care, participate in policy making at regional and national levels, and establish closer collaboration with other professional organizations, especially obstetric and pediatric societies.

Finally, we call on development partners – particularly the G8 and G20 – to provide long-term support to countries seeking to strengthen midwifery services by investing in a midwifery workforce as a fundamental step towards a functioning primary health care system that can deliver for women and newborns, fostering a healthier future for all.

SPONSORED FEATURE

AstraZeneca: working with others to improve patient health

AstraZeneca is a global, innovation-driven biopharmaceutical business with a primary focus on the discovery, development and commercialisation of prescription medicines. Our goal is to make the most meaningful difference to patient health through great medicines. Backed by our 70-year track record of pharmaceutical innovation, we have a broad range of marketed medicines that continue to make a positive difference in important areas of healthcare. We are a leader in gastrointestinal, cardiovascular, neuroscience, respiratory and inflammation, oncology and infectious disease medicines.

Building relationships

Our medicines are testament to the combined skills of our people, our partners and our commitment to working closely with physicians, patients and others to understand what they need and what they value. Such relationships have helped us develop families of medicines, generation by generation. These include our hormone-based cancer treatments which have played a part in increasing the five year survival rate for women with breast cancer from under 70% 50 years ago to around 90% today.

Our collaborations are crucial to what we do and how we do it. Sharing skills, ideas and resources with our partners

increases the potential for successful innovation. For example, our programme of externalisation as well as internal project work has been at the heart of our efforts since 2006 to develop a world-class portfolio of diabetes medicines. From a position where we had no clinical projects, we now have a portfolio of medicines in development, including compounds we are developing in collaboration with Bristol-Myers Squibb. In 2009, this collaboration resulted in the approval of Onglyza™ for the treatment of Type 2 diabetes.

Maintaining a flow of innovation

We are committed to combining the best science with commercial excellence to deliver a flow of new medicines that meet patient needs and build value for our stakeholders. Breakthroughs in science are resulting in more new drug targets than ever before and globalisation is bringing millions more patients into the market for our medicines. In addition, ageing populations throughout the world mean an increased demand for healthcare.

Our focus is on identifying those research projects that offer the greatest chance of technical and commercial success. For example, by enhancing our predictive science capabilities on efficacy and safety, we can make decisions more quickly about which compounds to eliminate and which to progress as having the highest potential to become effective new medicines.

We are also strengthening other important capabilities, such as personalised healthcare, matching medicines to patient characteristics, often using diagnostic testing. This is good for the patient, good for the doctor and good for the people who pay for healthcare because it allows them to focus on those patients most likely to benefit and may also bring associated cost benefits.

Looking forward

Successful innovation and strong relationships have helped us deliver our goal of making a real difference to patient health. Looking ahead, our challenge is to ensure we continue that innovative drive: the drive both to explore new science and technology for opportunities to develop better medicines, and also to explore new ways of working together and with others.

AstraZeneca

www.astrazeneca.com

Climate change and global health: the time is now

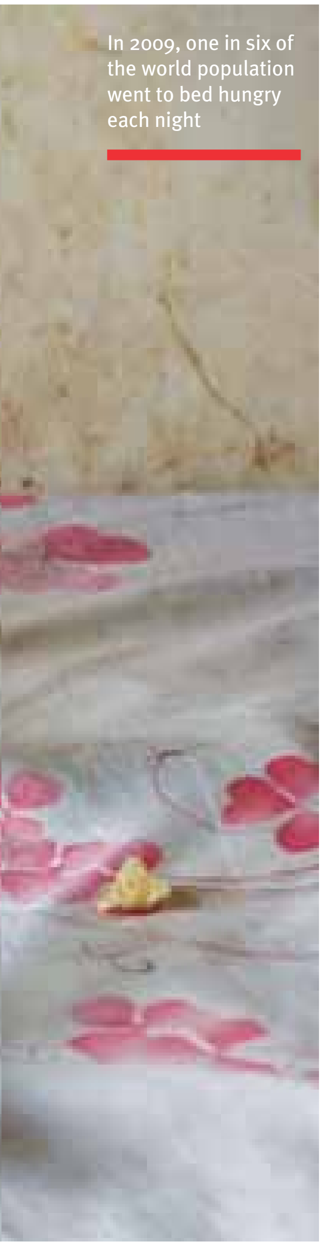
From food insecurity to a decline in global health, climate change is having a severe knock-on effect for billions of people around the world

By James Orbinski, co-director, Global Health Diplomacy Program, and Jenilee Guebert, director of research, Global Health Diplomacy Program

According to the world's leading medical journal, *The Lancet*, "climate change is the biggest global health threat of the 21st century." The primary and secondary effects of climate change – extreme climatic events, population migration, changing patterns of disease, water and food insecurity, vulnerable shelter and human settlements – are putting the lives and wellbeing of billions of people at increased risk.

Catastrophe denotes a reversal of what is expected and marks the end of a story. It overturns the social frameworks on which we depend for security, through which we make sense of the world, through which we imagine possibility and a future with one another. Add to the climate change crisis the triple global crises of food, fuel and the economy, and the perfect storm may still come, where the wrong kind of leadership could well be catastrophic.

Today's crises are complex and interdependent, have unexpected ramifications and pose real threats – perhaps also to humans' viability as a civilization or even as a species. Risks and events seem to defy control, old answers to new questions no longer suffice and yesterday is no longer a baseline for tomorrow. If nothing else, they reveal the tenuousness of the myth-story that we have used to explain ourselves. It can seem, to quote Yeats, *The Second Coming* – writing in the aftermath of the First World War – that as "things fall apart, the Centre cannot hold".



In 2009, one in six of the world population went to bed hungry each night

There is little doubt today that catastrophe looms large in the popular imagination, and not without reason. The world is not as it was. In 2008, the World Health Organization's Commission on Social Determinants of Health argued that "social injustice is killing people on a grand scale". In 2009, more than 100 million were added to the already 1 billion people – more than one in six on the planet – who go to bed hungry every night. On 19 June 2009, the World Food Programme's Josette Sheeran said that "a hungry world is a dangerous world. Without food, people have only three options: they riot, they emigrate or they die."

Climate change is happening with greater speed and intensity than initially predicted. The West Nile virus, never seen before 2000 in Canada and the United States, has already killed more than 800 people and infected more than 21,000. The consequences of climate change for the global economy, political stability and poverty reduction efforts are uncertain at best. It is climate change that drives competition for access to water and arable land in Darfur, and that leads to war crimes, crimes against humanity and to slow-motion genocide. The consequences of climate change will certainly worsen as the number of cars, for example, increases from today's 700 million to the 3 billion predicted by the International Monetary Fund by 2050. A decade from now, crop yields in some parts of Africa are expected to drop by 50 per cent, and water stress could affect as many as 250 million Africans. Globally, not only will the number and severity of droughts, floods and hurricanes increase, but, as climate change worsens, wars over water and arable land will also worsen. A June 2009 report by researchers at Columbia University warned of the largest migration in human history, with up to 700 million climate migrants by 2050.

Human beings are capable of extraordinary and yet always imperfect things. The same kind of bold leadership that has been marshalled to respond to the international financial crisis is required for a sustainable human and humane future. A coherent effort to address the multi-issue challenges of global health, climate change, food security, and economic and financial stability is mission-critical to a sustainable human future. This will require effective governance.

The world is searching for new and authentic forms of governance that are both legitimate and effective – that will not only rise to those complex challenges, but will seize the opportunity for a more just, fair, equitable world. More broadly, effective governance is able to identify the interdependence of cause-and-effect factors that cross traditional policy silos in order to frame morally acceptable, integrating strategies that emerge from policy convergence – rather than support continued divergence. This is the governance challenge for both the G8 and the G20. The G8 first acknowledged the "unacceptable impacts" of climate change on health at its Denver Summit in 1997. At the G20 Pittsburgh Summit in 2009, the G20 noted the importance of combating climate change, even in the face of the global economic crisis. We have had the words. Now we need to see the action.

The political failure of the United Nations Copenhagen conference must not be repeated at Cancun at the end of 2010. In Huntsville and Toronto, the G8 and the G20 must prepare the way for a viable and effective post-Kyoto strategy to radically reduce carbon dioxide emissions and to mitigate the effects of climate change on health. This must also mean bringing the climate and health policy constituencies together to formulate a strategy for establishing global public health systems that can adequately deal with the adverse outcomes of climate change.

The leaders must commit to bold, transformative initiatives to fund the necessary policy actions. Revenues from the proposed global levy on banks could be used to fund global health and climate change policy initiatives. Alternatively, or simultaneously, a global currency transaction tax could be similarly used, and would, in the words of former French president Jacques Chirac, be a "tax on the benefits of globalization". A 2008 study produced by the North-South Institute found that, if properly implemented, the currency transaction tax could generate a minimum of $33 billion per annum for the Millennium Development Goals without affecting foreign exchange markets. In 2006, France and many other governments launched an airplane ticket tax, with proceeds now going toward an international drug purchase facility to assist the campaign against pandemics. In 2004, more than 100 countries endorsed a proposal urging a similar type of financing. The time has come for this small levy on foreign exchange transactions.

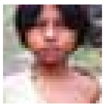
> "It is climate change that drives competition for access to water and arable land in Darfur, and that leads to war crimes, crimes against humanity"

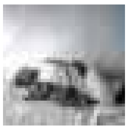
The very real health effects of climate change are sparking a global public health movement. This offers unprecedented opportunities to address myriad issues such as inadequate and inequitable access to healthcare, unsafe water, poor community sanitation and hygiene, air pollution, industrial and workplace safety, housing and land-use management, and poor urban design and environmental design of transport systems.

Today, necessity must be the mother of invention. It is time for bold leadership. For the G8 and the G20, the time is now. There may not be another. ◆

BASF uses smart initiatives to address multiple Millennium Development Goals, including poverty reduction.

From the simple to the sublime





There are times when resolving the most complex challenge starts with the simplest initiatives.

The UN Millennium Development Goals seem to pose an intractable challenge and serve as a case in point. Each goal is global in scope and complex in its own right. Yet the challenges posed by these eight goals overlap in a rippling cascade of cause and effect. Nonetheless, BASF has found that successfully addressing a linchpin issue can resolve numerous problems at once, effectively creating a reverse domino effect of positive consequences.

Consider the failing literacy program in the Jabote community in the Brazilian Amazon. For three consecutive years, malaria, which is endemic to the region, prevented children from attending class. In August 2007 alone, there were 64 registered cases of malaria in a community of 172 residents. A year later, there were only seven registered cases and, within six months, the school had achieved its literacy objectives.

The difference was a collaborative effort between a local government agency and BASF. The partnership distributed **Interceptor**® long-lasting, insecticide-treated mosquito nets (LLIN), developed by BASF, that prevented the mosquito-borne disease from afflicting children as they slept. With disease at bay, the children's attendance improved and literacy increased.

For more information, visit www.publichealth.basf.com

As a result of a collaborative public-health initiative, BASF helped a community to move forward in its efforts to mitigate a devastating disease and improve primary education, a key step towards the larger but often neglected goal of poverty reduction. In effect, a single, focused initiative moved a community along the path to fulfilling four Millennium Development Goals: goal 1) Eradicate extreme poverty and hunger, goal 2) Achieve universal primary education, goal 4) Reduce child mortality and goal 6) Combat HIV/AIDS, malaria and other diseases.

BASF works hard to ensure that communities like Jabote are not alone in their efforts to improve their quality of life. Working with local leaders and global partners, BASF has established extensive insect-control programs throughout Africa, South/Central America and Asia, seeking to eradicate malaria, dengue fever and guinea worm, diseases that are central elements in the vicious circle of poverty. As a result of such efforts, guinea worm disease is on the brink of eradication.

Adopting the right scale is critical to such success stories. In Myanmar, dengue fever afflicts both rural and urban dwellers and, like malaria, is spread by a mosquito vector. In two Myanmar townships, 2,000 Dengue Prevention Assistants and an extensive educational campaign have helped curb the disease.

Using **Abate**® larvicide from BASF and armed only with a metal teaspoon, a plastic cup and two plastic bags, the assistants have prevented literally millions of insects from proliferating. These simple tools are appropriate for the project and the locale, avoiding unnecessary logistic and technical challenges. At the same time, using the indoor residual spray **Fendona**® insecticide, the assistants have protected people in their homes by effectively controlling mosquitoes 24 hours a day for several months. The net result is fewer sick people, a workforce better able to sustain itself, and healthier students prepared to learn and a brighter future.

Of course, the ultimate challenge is to ensure that the achievement of the Millennium Development Goals is a sustainable achievement. Here, too, BASF is looking ahead.

Working with with Professor Muhammad Yunus, Nobel Peace Prize Laureate and Managing Director of Grameen Bank, BASF established a joint venture called BASF Grameen Ltd. The goal of this social-business venture is to enable local entrepreneurs to sell public health products – initially, BASF **Interceptor** LLIN and dietary supplements. The result will be improved public health and sustainable business enterprises that foster community development and capacity, all critical pillars in the elimination of poverty.

The result will be improved public health and sustainable business enterprises that foster community development and capacity, all critical pillars in the elimination of poverty.

BASF recognizes that social responsibility is central to its own long-term growth. And it has been recognized, in turn, for its social leadership. For the ninth consecutive year, BASF was included in the Dow Jones Sustainability World Index, and in the Global 100 listing of the world's most sustainable companies for the third year running. For BASF, these accolades are not an end in themselves, but a validation of its commitment to achieving the eight UN Millennium Development Goals.

BASF
The Chemical Company

Always read and follow label directions.

Development innovation: Grand Challenges Canada

Science, finance and innovation – Grand Challenges Canada's answer to a better world

By Peter A. Singer, chief executive officer, Grand Challenges Canada, director, McLaughlin-Rotman Centre for Global Health, and David Crane, consultant

Fighting disease, improving health and meeting the Millennium Development Goals (MDGs) in the developing world, where some 9 million children die each year before their fifth birthday, poses an enormous challenge. But there is also great potential to find solutions by giving science and innovation a major new role in international development assistance.

This is what Grand Challenges Canada is trying to do. It represents a new way to help create a better world, using wealth, knowledge and human energy to find new solutions to the costly and debilitating diseases that destroy lives, weaken economies and impose costly burdens in the developing world.

Grand Challenges Canada, a new not-for-profit corporation launched by Jim Flaherty, Canada's minister of finance, on 3 May 2010, is funded at $225 million over five years out of the Government of Canada's Development Innovation Fund, which was unveiled in the 2008 budget. As the budget stated: "Scientific innovation has the potential to improve the lives of the world's poor. For example, new vaccines and cures could save millions of lives lost to tropical diseases."

Grand Challenges Canada, which is working with the International Development Research Centre and the Canadian Institutes of Health Research and based at the McLaughlin-Rotman Centre for Global Health, is the instrument that will deliver this commitment of

Canada to the people of the developing world. It operates independently but is linked to Canada's international development assistance strategy.

This new organisation aims to improve the health and wellbeing of people in the developing world not only by pursuing good science, but also by focusing on ways to effectively commercialise, distribute and implement new scientific solutions to disease. It is not enough to achieve successful science to combat malaria and other diseases. All the other necessary ingredients for effective results must be delivered – how to commercialise scientific results into marketable products, how to ensure that health systems take up these solutions, and how to be certain that these new technologies will actually reach those who need them.

This is integrated innovation, meaning that all of the necessary steps – from the lab to the village – must be considered if there is to be a real difference to human health and improvement in the life chances in the developing world. Integrated innovation is not only about scientific and technological innovation, but also business and social innovation, which are essential to delivering not simply inventions, but solutions and results as well.

Grand Challenges Canada is also strongly committed to working with scientists, policymakers, entrepreneurs and health agencies in the developing world. The goal is to draw on the talents in the South to develop solutions to their own health problems. Innovators in the developing world have a rich understanding of the challenges they face and the conditions and culture that will determine success. They also have great potential for innovative solutions. That is why the Scientific Advisory Board of Grand Challenges Canada has strong participation from the developing world.

Canada's finance minister Jim Flaherty receives a microscope from Grand Challenges Canada CEO Peter Singer after announcing the Government of Canada's support to the programme

"Innovation saves lives, and domestic innovation is how developing countries escape poverty"

By working in partnership, the organisation's goal is to help energise that potential. In this way, by developing local capabilities and solutions, dependency can be reduced and a path out of poverty can be charted.

Five grand challenges will be identified and supported during the next five years. A grand challenge is one that presents a big barrier that, if overcome, would help solve an urgent health problem in the developing world with the likelihood of global impact through widespread implementation.

In fact, the first grand challenge has already been identified: to develop point-of-care diagnostics that can significantly improve the ability of health workers to rapidly, accurately and affordably identify diseases that individuals may have. In 2006, *Nature* magazine reported that more than 100,000 deaths a year from malaria could be prevented through point-of-care diagnostics and 365 million unnecessary treatments for the disease could be avoided. These unnecessary treatments represent a waste of scarce medical resources and also build drug resistance in patients.

Grand Challenges Canada will be working with the Bill and Melinda Gates Foundation on its first endeavour. This grand challenge, like the others the organisation will pursue, will provide an opportunity for close collaboration between scientists, research institutes and companies in the South and North.

Grand Challenges Canada is an example of how the rich and fortunate countries can play a useful role in the world, in this case by bringing innovation into a central place in development assistance. Innovation – which means doing valued things better – can bring some hope that a decade from now development dollars will not be doing the same thing they are doing today. Innovation saves lives, and domestic innovation is how developing countries escape poverty.

The focus today is on grand challenges in health. But it is clear that innovation has a much greater role to play in creating a more sustainable and equitable world.

With global population projected to reach about 9 billion people in 2050, compared to about 6.7 billion people today, and with the legitimate desire of the developing world for a much higher standard of living, the world will face significant challenges. Health is one. But others include the transition to a low-carbon energy system to avert the harsh consequences of climate change, access to adequate water for human consumption and agriculture, and advances in agricultural productivity to help feed a much larger global population.

In all of these areas, innovation has an essential role to play. Grand Challenges Canada offers a potential model for bringing science and integrated innovation into international development assistance to address many of the grand challenges the world will face in the 21st century. Our hope is that other G20 countries will see the potential of this approach, with different countries from around the world cooperating on specific grand challenges. ◆

In Zambia, young mother Mimi Matibenga was very frightened when her 1-year-old son, Layton, caught malaria. Initially he was given chloroquine, but failed to recover. It was only when he was given the ACT* artemether-lumefantrine that the danger finally passed and he became well again.

This was in 2003, the year that Zambia adopted ACTs as first-line treatment for malaria. Many countries have since followed suit. Zambia is one of the countries that has reported a dramatic reduction in malaria mortality (>60%).[1] The right treatment at the right time is a key success factor in the fight against malaria, in addition to protecting from mosquito bites by sleeping under insecticide-treated bed nets and, where applicable, the use of indoor residual spraying.

*Artemisinin-based combination therapy

1. Chizema-Kawesha E, Mukonka V, Mwanza M *et al.* World Health Organization, Zambia 19–23 January 2009. Impact Evaluation Mission Report.

Health is everybody's business

There is much to do to achieve the Millennium Development Goals for health. Both the public and private sectors can make significant contributions

By Jeffrey L. Sturchio, president and chief executive officer, Global Health Council

The private sector is directly affected by trends in global health. It also plays a potentially important role in developing sustainable solutions to the challenges facing the world. Involving the private sector in the global health agenda assists international institutions in accomplishing the goal of improving the health of people living in the least developed countries and emerging markets. What are the best contributions the business community can make to promoting global health?

First, why should the private sector care about global health? As noted in *Health Is Global: A UK Government Strategy for 2008-13*, "improving the health of the world's population can make a strong contribution towards promoting a sustainable and prosperous global economy– and reduce poverty and inequality". Because "disease is destabilising", as Robert Mallett once aptly observed, addressing global health challenges is also in business's own interests. For companies operating in countries with a high burden of disease, the state of health affects employee productivity, expenses of training and development, healthcare costs, the extent and purchasing power of consumer markets, and the infrastructure in which businesses operate. Weak health systems and scarce human resources in health impose costs on multinational corporations. As social partners in these countries, the private sector has a clear interest in working to improve global health – for the benefit of employees and their families, their business partners, and the communities where they live and work.

From the public sector point of view, is there value in business engagement in global health? The answer is clearly yes. The challenges of ill health and poverty are so complex and resource intensive that states and other stakeholders cannot tackle them on their own. Despite progress in some areas, the global community faces a steep hill to climb in achieving the Millennium Development Goals (MDGs) by 2015. Industry can help with the health-related MDGs directly – by providing healthcare for employees and their families, by supporting community-based initiatives, or by helping to enhance public sector programmes with their unique expertise in marketing, communications, distribution and logistics. Companies can also help by working in global partnerships to bring complementary resources and expertise to bear on global health problems. The private sector has a common interest with the public sector in global health matters – in stopping avoidable illness and death and in improving living conditions for individuals and populations – which will promote economic growth and development, with obvious benefits for the conditions under which firms operate.

As the G8 and G20 leaders converge on Canada for their meetings in June 2010, it is appropriate to reflect on the progress made on their commitments to health, particularly maternal and children's health, which Canadian prime minister Stephen Harper has pledged to make a priority of the G8 agenda in Muskoka. This focus

is not surprising – nowhere is the potential benefit in terms of lives saved more evident than in the case of MDGs 4 and 5, dealing with under-five child mortality and maternal mortality. A child dies unnecessarily every few seconds around the world. Two or three women die every minute from complications during pregnancy or childbirth, 99 per cent of them are in developing countries. The disparity in outcomes is striking and unacceptable: a woman in Niger faces a one-in-seven chance of dying in her lifetime from complications during pregnancy or childbirth, while her counterpart born in Sweden faces only a one-in-17,400 chance of the same outcome.

There is encouraging momentum to implement programmes to improve maternal and children's health outcomes. Thanks to an active global coalition – the Partnership for Maternal, Newborn and Child Health and the Maternal Mortality Campaign, among others – a clear consensus exists on what needs to be done to ensure that "every pregnancy is wanted, every birth safe and every newborn and child is healthy" by 2015. In a nutshell, progress requires political leadership and community mobilisation, effective health systems that can deliver a package of key interventions along the continuum of care, the removal of barriers to care (eg, user fees), skilled and motivated health workers in the right place at the right time and accountability for results throughout the system.

Increasingly, companies outside the health sector are doing more to enhance global health. Philips partnered with the Chinese Red Cross Foundation to launch its Rural Healthcare programme, educating 300 village doctors in Beijing, Shanghai and Guangzhou

Thanks to efforts such as Countdown to 2015, it is possible to measure progress toward MDGs 4 and 5 (to reduce by two thirds the mortality rate of children under five and to reduce by three quarters the maternal

Grolsch is owned by SABMiller, which is one of the many companies already involved in schemes contributing to the improvement of global health

mortality rate, both by 2015). And the focused efforts of the High Level Taskforce on Innovative International Financing for Health Systems (led by Gordon Brown and Robert Zoellick) have produced pledges of an additional $5.3 billion for maternal and child health. However, in the months since the statement of support for 'Healthy Women, Healthy Children: Investing in Our Common Future' at the United Nations General Assembly in September 2009, there has been slow progress toward the additional $30 billion that the experts estimate is needed to meet MDGs 4 and 5. While they have certainly 'talked the talk', the G8 and G20 leaders have not yet 'walked the walk'.

To bridge the gap between the best intentions and effective action, the G8 and the G20 should bring in civil society – including non-governmental organisations, universities and the private sector – as true partners, rather than seeing them merely as supplicants or potential donors. This is fully consistent with new trends in global governance suited to an increasingly interdependent world in which transnational networks of non-state actors play an important role in shaping and delivering the policy agenda.

Businesses are already beginning to work along these lines, and public-private partnerships are important catalysts for action. Successful examples abound, as corporations see and act on opportunities to create shared value. There are more and more efforts by businesses outside the health sector as well, with examples across the globe. Companies such as Abbott, Anglo-American, BD, Bristol-Myers Squibb, Coca-Cola, Chevron, Exxon Mobil, General Electric, Johnson & Johnson, Pfizer, Philips, Procter & Gamble, Merck & Co., Inc., Novartis, SABMiller, Unilever and ViiV Healthcare, to name just a few, are engaging with partners in government and civil society on issues ranging from the prevention of rotavirus infection or mother-to-child transmission of HIV, to improving health system infrastructure, to working at the community level to ensure that women do not die unnecessarily from childbirth or its complications.

By doing so in a manner that builds on country ownership and helps to develop country capacity, the private sector indeed has an important role to play in improving global health. Working together, we can make a real difference by bringing together the pieces of a complex puzzle in tackling global health challenges – with important and measurable improvements in the health and lives of people living in poverty around the world. ◆

G8 – say goodbye to malaria

Global decision-makers looking for solutions to the many challenges the world is facing today should remain focused on a historic opportunity. Enormous progress is being made towards the possibility of eliminating malaria, a disease that has thwarted human development for centuries. Whether malaria goes the way of smallpox, or continues to slow economic and human progress indefinitely, however, will depend in large part on the resources that are committed over the next decade to the current global effort to end the disease.

Transmitted by a simple mosquito bite, malaria plagued Europe and the US as recently as 60 years ago. Targeted public health measures were crucial to eliminating the disease and helping those regions achieve growth, prosperity, stability and better life quality.

Controlling malaria today would go a long way towards achieving the same benefits in 108 countries in Asia, Latin America and Africa – home to 3.3 billion people still at risk of the disease.

Increased international funding over the last decade, mainly directed through the Global Fund at Africa, where the majority of global malaria deaths occur, has allowed widespread application of effective measures and has brought about heartening results. Through mass distribution of long-lasting, insecticide-treated bed nets, targeted indoor spraying, effective malaria treatment, and training of community-level health workers, countries such as Eritrea, Ethiopia, Equatorial Guinea, Rwanda, Swaziland, and Zambia have slashed malaria cases and deaths by half.

A continued donor focus on malaria is particularly crucial at a time when malaria-endemic countries, together with the Roll Back Malaria Partnership, are mobilizing unprecedented efforts to provide universal access to prevention, diagnosis and treatment by the end of 2010, as called for by the UN Secretary-General Ban-Ki Moon.

Investing in malaria-control interventions today can produce broad and significant gains in multiple areas of health and human development.

First, malaria places an enormous burden on Africa's struggling health systems, accounting for 40 percent of health spending in some endemic countries. Reducing malaria could significantly strengthen efforts to build and sustain functioning systems to address the multiple health challenges that slow Africa's development.

Second, malaria keeps children out of school, keeps parents out of work, and is a major cause of child and maternal mortality. Recent studies have demonstrated a direct and rapid correlation between increases in international development aid invested in malaria control, and dramatic reductions in maternal and child mortality.

Third, African countries, whose economies loose more than US$ 12 billion every year, cannot make lasting strides towards economic or social prosperity without also making significant progress towards eliminating this life-draining disease from the continent.

All of this suggests that reducing the impact of malaria would significantly propel efforts to reach the Millennium Development Goals. These include not only the goal of significantly reducing the disease itself, but also goals related to women's and children's health, access to education, and the reduction of hunger and extreme poverty.

Bonnie Gillespie / Johns Hopkins University

In the first decade of RBM, there has been unprecedented increase in global financing for malaria control, particularly in sub-Saharan Africa. Malaria-control funding commitments have increased steadily each year from 2003 (approx. US$ 100 million) through 2009 (approx. US$ 1.6 billion)

Achieving this vision, however, requires continued political commitment and financing. While international funding for malaria has increased twenty-fold in the past decade, in 2010, it is hovering under US$ 2 billion, only a third of the US$ 5-6 billion needed annually.

Today, more than ever, political leadership is needed to sustain and multiply the progress that has been made in malaria control in the past few years.

Among the many issues leaders will consider in the coming months, making global progress against malaria is not only an important one – it is also among the most straightforward. The impact of the disease is clear. The tools to control it are in hand. The benefits of taking action are evident. What is needed now is sustained focus to make the centuries-old goal of malaria elimination a reality.

By Professor Awa Marie Coll-Seck, Executive Director, Roll Back Malaria Partnership

ROLL BACK MALARIA

www.rollbackmalaria.org

SPONSORED FEATURE

Lymphatic Filariasis elimination: a public health success and development opportunity

A global public health effort that is:

- Expanding rapidly to achieve global reach.
- Addressing the health of a billion of the poorest.
- Supporting the achievement of several MDGs.
- Achieving elimination goals and strengthening health systems.
- Learning from experience and building on scientific progress.
- Building a solid partnership through representation and constituency building.

Lymphatic Filariasis (LF, often called elephantiasis) is recognised by the World Health Organization (WHO) as one of the world's most disabling and stigmatising diseases. The disease is caused by a parasitic worm infection spread by mosquitoes that can lead to massive swelling of limbs, breasts and genitals. Considered a neglected tropical disease, LF almost exclusively affects the world's poorest people. The disease is found is more than 80 countries throughout the global tropics. Some 120 million people are infected with around one billion at risk of acquiring the infection.

In 1997, the World Health Assembly passed Resolution 50.29 calling for the elimination of LF as a public health problem. This resolution was based on research findings which showed that a combination of two medicines given annually could interrupt transmission between humans and mosquitoes. The drugs used were a co-administration of albendazole and ivermectin for Africa, or albendazole and diethylcarbamazine (DEC) outside Africa.

Following the World Health Assembly resolution, two key events provided momentum to the global elimination effort. The first was the commitment of GlaxoSmithKline (GSK) to donate the drug albendazole to WHO for use by every country that needs it until LF is eliminated. The GSK donation announcement was followed by Merck & Co. Inc., with a commitment to expand the Mectizan Donation Program established for the control of river blindness (onchocerciasis) in 1988 to cover countries that had both LF and river blindness.

Mass drug administration (MDA) of annual treatments has expanded rapidly with spectacular results. WHO reports that over 50 countries have active programmes and some 497 million people were treated in 2008. The total number of treatments delivered now exceeds 2 billion. Several countries and regions — Egypt, Zanzibar, Sri Lanka, Togo, Vanuatu and other Pacific Island nations — have now completed MDA and moved into a post MDA surveillance phase. In the meantime, evaluation of programmes in China, Republic of Korea, Suriname, Costa Rica, Trinidad and Tobago and the Solomon Islands show that previous interventions have successfully reached a stage where elimination has been permanently achieved.

Building a global partnership

During the early part of the LF movement it was recognised that there was a need to create a partnership of the different constituencies interested in the elimination of the disease. This resulted in the formation of the Global Alliance to Eliminate Lymphatic Filariasis (GAELF) in 2000. At the first meeting in Santiago de Compostela, Spanish representatives from endemic countries, international agencies, non governmental development organisations (NGDOs), academia, bilateral donors and the pharmaceutical industry donors endorsed the WHO plan for the first phase of the programme.

The Alliance has met every two years and created a loose governance structure which facilitates representation of all interested constituencies. The Alliance Secretariat, supported by the UK Department for International Development and based in the Liverpool Centre for Neglected Tropical Diseases, works closely with WHO and through an Executive Group to run Alliance affairs on behalf of all partners.

Helping LF patients and preventing disability

A highly important aspect of the Global Programme is the need to address the effects of the disease on those who currently show symptoms. In addition to the strategy of mass drug

administration which interrupts transmission and hence prevents further infection and symptoms, those disabled by elephantiasis and genital deformity require supplementary care ranging from simple washing and hygiene to surgery for hydrocele. In addition, there is some evidence indicating that drugs can alleviate or reduce disease symptoms including the frequency of filarial fevers. Financial and other resource constraints currently constrain the expansion of this component of the programme.

Health impact and economic benefits

Detailed analysis show the overall health benefits since the programme began are remarkable and the annual costs of programme delivery are modest, in light of what even the least developed countries can afford. Costs vary, but in general are less than US$1 per person with costs as low as US$0.10 in Burkina Faso.

A recent analysis of the health impact of the Global Programme indicates that the 1.9 billion treatments delivered to the end of 2007 resulted in some 56.6 million children having been treated with albendazole and 66 million babies having been born into areas protected from LF transmission as a result of the ongoing MDA programmes. Around 560 million individuals have been treated for LF in endemic areas preventing in future 9 million cases of hydrocoele, 5 million cases of elephantiasis and 27 million cases of sub-clinical lymphatic damage.

Worldwide, hundreds of millions of people are infected with intestinal parasites. In addition to playing a role in fighting LF, albendazole and ivermectin can prevent the ravages of intestinal parasites as well. So far over 310 million treatments of albendazole were delivered to women of child bearing age and school age children, providing relief from the consequences of intestinal parasites that include malnutrition, maternal anaemia, low birth weight in newborns, excess infant mortality, stunted growth and development, and diminished cognitive performance.

The LF programme has a much wider reach, therefore, than its focus on interrupting the transmission of one of the most disabling diseases. The programme makes a major contribution to the progress of other Millennium Develop Goals (MDGs) – children's health, maternal health, education, partnership as well as the other diseases of MDG 6.

A public health opportunity

Few interventions in the area of health have this reach and are so cost effective. The LF programme has been described as a best health buy in global health.

What has emerged is that there is country commitment to the programme, that the intervention has wider health benefits in relation to the MDGs, that LF is the key platform for the broader Neglected Tropical Disease agenda as it emerges increasingly as a global health priority, and that it has been the programme with the greatest reach over the past decade in terms of delivering quality drugs to poor people.

With a goal of global elimination of LF by the year 2020, the programme is at the half way point. A future free of LF will reduce poverty and bring better health to poor people, prevent disability, strengthen health systems and build partnerships. The programme is an unheralded global health success story based on country ownership, loose governance of a representative partnership, well monitored programmes and ongoing science related to programmatic needs.

To build on this success now is the time for more donors to join the fight to eliminate LF by 2020 and spare future generations from this disease.

David H Molyneux
Global Alliance to Eliminate Lymphatic Filariasis

A nuclear-free world and Korea

Non-proliferation, disarmament and the peaceful use of nuclear energy are the goals being worked toward by the US. And as host of the next Nuclear Security Summit, Korea is in the spotlight

By Lee Dong-hwi, Institute of Foreign Affairs and National Security, Ministry of Foreign Affairs and Trade of the Republic of Korea

The first nuclear security summit was held in Washington DC on 12-13 April 2010. Topping the agenda was how to prevent nuclear proliferation and nuclear terrorism. Leaders from 47 countries and three international organisations, including the United Nations, expressed the international community's resolve to build a "nuclear-free world".

The international community's efforts to mitigate the danger of nuclear proliferation while enabling the peaceful use of nuclear energy began in January 1946, when the UN General Assembly adopted a resolution to establish the UN Atomic Energy Commission. The initiative was never realised, but US president Dwight Eisenhower's 1953 'Atoms for Peace' speech resulted in the creation of the International Atomic Energy Agency (IAEA) in 1957 and the launch of the Nuclear Non-Proliferation Treaty (NPT) in 1968. The Nuclear Suppliers Group launched in 1974 has also contributed to international non-proliferation efforts by operating as a nuclear-related export control mechanism.

While such continued non-proliferation endeavours have succeeded in limiting the number of states with nuclear weapons, the threat of nuclear proliferation has

increased since the end of the Cold War. This increase can be ascribed to two changes. The first is the collapse of the Cold War structure and the ensuing multipolarisation. The Cold War was marked by a confrontation between two camps. The use of nuclear weapons was strictly controlled, which in turn made proliferation difficult. In contrast, multipolarity in the post–Cold War era has diluted these structural constraints. Feeling vulnerable because of changes in the post–Cold War international security environment, some countries have continued to pursue nuclear programmes, mistakenly believing that the possession of nuclear weapons will bolster their national security.

Second, rapid advances in information technology and in the means of transport have accelerated globalisation. Consequently, today's physical conditions facilitate the cross-border transit of and trade in equipment, materials and technologies that can be used for nuclear development. These developments call for an international control mechanism for non-proliferation. The new mobility brought by globalisation becomes much more serious when it joins up with terrorism, which has emerged as a security threat since the end of the Cold War.

The nuclear-free debate gained momentum in 2007 and 2008, when Henry Kissinger, George Schultz, William Perry and Sam Nunn contributed articles to the *Wall Street Journal* on the issue. It surfaced again as an urgent task after US president Barack Obama's speech in Prague in April 2009 and a UN Security Council meeting in September 2009. Against this backdrop, the United States hosted the First Nuclear Security Summit in April 2010 with four goals: 1) to lead a global effort to secure all nuclear weapons materials at vulnerable sites within

"As a top-ranking atomic energy state, Korea has operated nuclear power plants more safely and stably than any other country"

four years; 2) to set new standards and partnerships to lock down sensitive nuclear materials; 3) to turn ad-hoc efforts, such as the Proliferation Security Initiative (PSI) and the Global Initiative to Combat Nuclear Terrorism, into international institutions; and 4) to build on efforts to break up black markets, detect and intercept materials in transit, and use financial tools to disrupt dangerous trade.

US efforts to curb nuclear proliferation are also reflected in the recently issued 2010 Nuclear Posture Review. In the report, the US emphasises its resolve to prevent nuclear terrorism and attempts to reduce the possibility of nuclear development from threat perceptions by pledging "negative security assurances" to countries that adhere to non-proliferation obligations, which exclude Iran and North Korea.

US efforts toward non-proliferation and preventing nuclear terrorism ran in parallel with its nuclear reduction initiatives. On 8 April, a few days before the nuclear security summit, Washington concluded a new Strategic Arms Reduction Treaty (START) with Moscow. As the US has the largest nuclear weapons arsenal, this latest move will contribute substantially to reinforcing the NPT regime, which has three pillars: non-proliferation, disarmament and the peaceful use of nuclear energy.

The peaceful use of nuclear energy, along with non-proliferation, shows the dual nature of the nuclear issue. New emerging economies are often mentioned as the greatest change on the 21st-century international political and economic scene. Their rapid development is linked to the current global financial crisis. Furthermore, they are major players in global energy supply–and–demand and in the international response to climate change. These issues naturally give rise to calls for increased supplies of nuclear energy, which in turn raise the need to establish new global governance over the peaceful use of nuclear energy. The international community is thus faced with the twin challenges of non-proliferation and peaceful use of nuclear energy.

The participants in the Washington Nuclear Security Summit decided to meet in Seoul for a second summit in 2012. Korea, which will also host the fifth G20 summit in November 2010, is emerging as an important focal point in efforts to manage international political and economic realities.

The fact that a follow-on nuclear summit will be held is itself significant for continuing efforts to build a nuclear-free world. However, it is even more remarkable that Korea was named the host of the next summit, for the following reasons.

First, the Korean peninsula is susceptible to global non-proliferation efforts due to North Korea's continued nuclear development programme. Although the parties to the Six-Party Talks have continued to work toward Pyongyang's denuclearisation, there are too many stumbling blocks for a positive outcome. That the second nuclear security summit will be held in Seoul under these circumstances indicates that the North Korean nuclear issue has surfaced as the core of global non-proliferation efforts. At the same time, it raises the expectation that the summit might exert international pressure in a positive way to expedite the resolution of the North Korean nuclear issue.

In particular, a number of political events in neighbouring countries may create a security vacuum in 2012. It would not be an overstatement to say that the summit will contribute to peace and stability in this region, given the weight that the summit carries from an international security perspective.

Second, the second nuclear summit may reaffirm the international community's confidence in and expectation of Korea's peaceful use of nuclear energy. This stands in stark contrast to North Korea's moves to develop nuclear weapons. This is an easy conclusion to reach, considering that Seoul's hosting of the next nuclear summit would have been impossible without international confidence in Korea, which has faithfully observed the norms of major nuclear-related international regimes such as the NPT and the IAEA. As a top-ranking atomic energy state, Korea has operated nuclear power plants more safely and stably than any other country. Based on this experience, it has become a key exporter of nuclear-generating equipment and technologies. The Seoul nuclear summit will be an opportunity to give further publicity to these facts. All in all, the summit will enhance Korea's international status and bring it greater economic benefits. In addition, the Seoul nuclear summit will have positive implications for the resolution of nuclear-related issues in the 21st century – building a nuclear-free world for global security and attaining more free nuclear energy for the global economy.

In this vein, just as the G20 Seoul Summit will serve as the latitude for broadening the horizons of Korean diplomacy in the 21st century, the Seoul nuclear security summit in 2012 will provide the longitude for it. ◆

US president Barack Obama with Korea's president Lee Myung-bak at the nuclear security summit in Washington, DC, 12 April 2010

A bigger table, a broader agenda

The global financial crisis sparked action. It's time to apply that same urgency to political and security challenges

By David Shorr, program officer, The Stanley Foundation

A US soldier talks to children in Afghanistan during a patrol. Strengthening immigration controls at the Afghanistan-Pakistan border will be a key security focus at the Canadian summit

The commitment by the G20 countries to hold regular meetings of their heads of state and government – after the first three G20 summits were convened ad hoc – was a watershed moment for global diplomacy. The move signalled that a new set of global and regional powers had now arrived as members of the exclusive 'in crowd' of international policy making. The West and the rest (some of them, at least) would now share closer quarters. The meetings where leading countries consult and coordinate had been thoroughly retooled to reflect 21st-century power realities. Or had they?

In fact, the key passage of the communiqué issued by the leaders at Pittsburgh in September 2009 was tailored more narrowly, designating the G20 as the "premier forum for international economic cooperation". In other words, there would be more seats at the high table dealing with a portion of the global agenda, albeit an extremely important one. The established powers' traditional G8 club would remain the venue for addressing political and security matters such as fragile states, nuclear proliferation and terrorism.

This division of diplomatic labour is an important backdrop not only for the items that G8 leaders will discuss in Muskoka, but also more broadly for the political and security agenda that confronts the world community. As the G20 brings a broad spectrum of countries together to promote global economic stability, the more closely aligned G8 countries are also combining efforts to help reduce sources of conflict and boost political and social conditions.

Whatever the issue or goal, in assessing the groupings' multilateral efforts, the same basic calculus applies as in any collective endeavour: what a given group can accomplish depends on who is at the table. The major political challenges of today – fragile states, poverty reduction, and the terrorist and nuclear threats – need to be tackled in multiple dimensions. A like-minded group of western powers (plus Russia) such as the G8 is well suited to tackle these problems at some levels. But to deal with the politically sensitive dimensions, a more diverse group such as the G20 is needed.

To a great extent, the G8 countries approach political and security affairs as development assistance donors – a natural focus for a group of the world's wealthiest countries. The July 2009 summit in L'Aquila, Italy, launched a major food security initiative to support long-term agricultural development, good nutrition and systems to respond to sudden spikes in food prices. This year, the Canadian host government has given maternal and children's health, supporting two of the Millennium Development Goals, a prominent place on the agenda. Haiti and its recovery from the January earthquake will be another development topic.

Much of the rest of the G8's political and security agenda has the leaders work in a related development assistance mode: supporting governmental capacity building. This is entirely appropriate, since the world needs national governments to be capable of carrying out key security functions, dealing with sources of vulnerability and, in the extreme, keeping their territory from devolving into ungoverned spaces.

On the Muskoka agenda, and more broadly, Afghanistan is the quintessential case. Tracing the past 30 years of Afghanistan's history is like reading a kind of medical text on the pathology of chronic instability. Beginning with the 1979 Soviet invasion, Afghanistan has been beset by a proxy war between Cold War rivals, a civil war, misrule by religious fanatics, a major training and operational base for a global terror network, another invasion and civil war, competition between traditional and modern forms of political authority, economic

> The intensive statecraft surrounding the Iranian and North Korean nuclear programmes stems from deeper divisions

dependence on opium poppies as a cash crop and government corruption – with many of these afflictions feeding one another.

While the US-led coalition in Afghanistan 'talks the talk' of patiently cultivating legitimate and capable governance, its day-to-day effort to stabilise the country often opts for dubious partnerships of convenience. As the G8's potential contribution, the planners of the Canadian summit have focused on strengthening customs and immigration controls at the Afghanistan-Pakistan border. Given how important cross-border movement is for the Afghan Taliban and its Pakistani supporters – and how remote the region is geographically – this is clearly much more than a typical capacity-building project. It involves just the sort of diplomatic heavy lifting that demands a broader set of stakeholders than the G8.

Therein lies the essential question for the future G8 role in political and security affairs. As a group that represents just a slice of the global political spectrum, will it be confined mainly to sponsoring work that, while valuable, is essentially technical and relatively uncontroversial? What contribution can a group of like-minded countries make toward the really sensitive and polarising challenges on the international agenda?

The nuclear proliferation agenda further illustrates the problem. US president Barack Obama's Nuclear Security Summit in April brought together leaders from more than 45 countries to deal with one of the most urgent security challenges of our time: keeping key nuclear components and ingredients safely locked away and out of reach of terror networks. It was an impressive display of international cooperation and will contribute palpably to a safer world.

Sure enough, two important operational elements in this area are creatures of the G8: the Global Initiative to Counter Nuclear Terrorism and the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. But while the global community shares a near universal commitment to keeping dangerous material and technology away from non-state actors, there is no such consensus about measures to keep more nation-states from acquiring nuclear weapons. The intensive statecraft surrounding the Iranian and North Korean nuclear programmes stems from deeper divisions regarding whether and how to enforce non-proliferation, despite its being a basic norm of the international system. The question for the G8 is whether it will work at just one or both of these diplomatic levels.

World leaders shifted to focus on the G20 as an economic policy forum once they realised that more key international players were needed to deal with the challenges. This raises the question: don't the political problems on the global agenda also need to have the rising powers at the table? ◆

UNIVERSITY OF TORONTO

MUNK SCHOOL OF GLOBAL AFFAIRS

Join the Global Conversation

G20 Research Group

In the rapidly globalizing world of the 21st century, the Group of Twenty systemically significant countries, created at the level of finance ministers and central bank governors in 1999 and elevated to the leaders' level in 2008, seeks to serve as the premier permanent centre of international economic cooperation. Its members, consisting of the Group of Eight, emerging countries and the European Union, work to provide financial stability, sustainable growth and openness that benefit all.

The G20 Research Group is a global network of scholars, students and professionals in the academic, research, business, non-governmental and other communities who follow the work of the G20 leaders, finance ministers and central bank governors. It is directed from the Munk School of Global Affairs at Trinity College in the University of Toronto, also the home of the G8 Research Group.

Our mission is to serve as the world's leading independent source of information and analysis on the G20. As **scholars**, we accurately describe, parsimoniously explain and reflectively interpret what the G20 and its members do, and, on this basis, responsibly predict what they will do. As **teachers and public educators**, we present to the global community and G20 governments the results of our research as well as others' research, ways to learn about the G20 and information about the G20. As **citizens**, we foster transparency and accountability in G20 governance, and the connection between civil society and G20 governors. And as **professionals**, we offer policy advice about G20 governance, but do not engage in advocacy for or about the G20 or the issues it might address.

The G20 Information Centre
(www.g20.utoronto.ca)

The G20 Information Centre is a multilingual, comprehensive permanent collection of information and analysis on the G20 available online at no charge. It complements the G8 Information Centre, which houses publicly available archives on the G20 as well as the G7 and G8.

Research and Publications

Among the material available on the G20 Information Centre is a document detailing the **Plans and Prospects** for the G20's agenda, updated frequently. Also available are compliance reports and performance assessments, as well as online publications such as *Growth, Innovation, Inclusion: The G20 at Ten*, *The G20 London Summit: Growth, Stability, Jobs* and *The G20 Pittsburgh Summit 2009*, edited by John Kirton and Madeline Koch.

Key Publications

- ***Making Global Economic Governance Effective***, John Kirton, Marina Larionova and Paolo Savona, eds. (Ashgate Publishing)
- ***Rising States, Rising Institutions***, Alan S. Alexandroff and Andrew F. Cooper, eds. (Brookings Institution)
- ***The G8 against Transnational Organized Crime***, Amandine Scherrer (Ashgate Publishing)
- ***Elements of the Euro Area***, Jesper Berg, Mauro Grande and Francesco Paolo Mongelli (Ashgate Publishing)
- ***Global Financial Crime***, Donato Masciandaro (Ashgate Publishing)
- ***The G8 System and the G20***, Peter I. Hajnal (Ashgate Publishing)
- ***Governing Global Banking***, Duncan Wood (Ashgate Publishing)
- ***Governing Global Derivatives***, Chiara Oldani (Ashgate Publishing)
- ***Reforming from the Top***, John English, Ramesh Thakur and Andrew F. Cooper, eds. (Wilfrid Laurier University Press)

G20 Research Group
Munk School of Global Affairs, 1 Devonshire Place, Room 209N, Toronto, Ontario M5S 3K7 Canada
Telephone 416-946-8953 • Fax 416-936-8957 • E-mail g20@utoronto.ca
www.g20.utoronto.ca

Hosting successful summits: the Muskoka model

The Muskoka Summit model takes into account the environment and aims to make a positive impact on the community

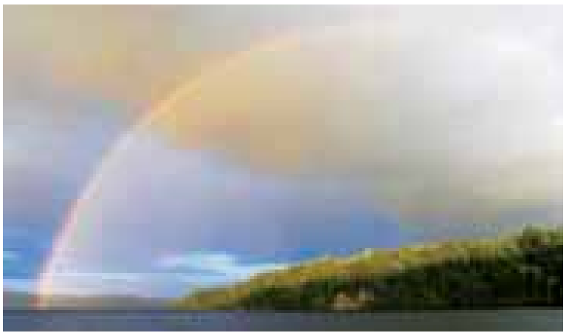
By Ella Kokotsis, director of external relations, G8 and G20 Research Groups

When the government of Canada announced in June 2008 that Muskoka would host the 2010 G8, community inclusion and stakeholder engagement immediately became integral components of summit preparations. Recognising that open and transparent lines of communication were key to ensuring a successful G8 summit, Canada made a concerted effort to strengthen partnerships with local residents, community organisations, businesses and municipal government agencies. Summit planners undertook innovative measures to ensure that the views and values of all stakeholders across the region of Parry Sound–Muskoka and surrounding areas were taken into account in developing their environmental, security and community engagement strategies for the 2010 G8.

As one of Canada's iconic tourist destinations, Muskoka boasts a rich natural heritage, with unparalleled freshwater and wilderness areas. Maintaining the region's environmental equilibrium was a top priority, with community partners and experts involved at every stage in planning ways to preserve and protect this delicate ecosystem. The end result will be a carbon-neutral summit with a strong environmental legacy that builds on best practices from past host countries including Canada's own successfully green summit at Kananaskis in 2002. The centrepiece is the establishment of a world-class ecological research facility in the town of Huntsville.

But this project will go one step further. Used to support summit initiatives during the G8 summit itself, this research facility will be ready for full-time student and researcher occupancy by the University of Waterloo in the fall of 2010.

Recognising the value of community inclusion, summit planners developed a robust outreach programme aimed at fostering local ownership and pride in the Muskoka Summit. It included local town hall meetings and an innovative youth engagement strategy (involving a multimedia competition and a model G8). The Investment/Branding Advisory Board – consisting of federal, provincial, regional and local stakeholders – partnered to create a unique strategy to leverage the summit for the benefit of regional tourism and potential investment opportunities. Based on consensus decision-making, this group is collaborating on novel ideas to further promote the Parry Sound–Muskoka brand.



On the security front, provincial and regional outreach as well as protestor engagement became a key element of the work of the Community Relations Group. Dedicated to providing open dialogue with the public, local businesses and activist groups, this partnership between the Royal Canadian Mounted Police, the Ontario Provincial Police, the Canadian Forces and other security and law enforcement experts established from the outset a consultation process crucial to ensuring that the community's views were taken into account in planning security. All security planning and operational responses have been done with careful consideration of the region's environmental sensitivities, in addition to protecting the safety of people and property.

A lasting legacy

Leaving a lasting summit legacy in Muskoka is the cornerstone of Canada's $50 million G8 Infrastructure Fund, which aims to encourage short-term economic growth. The fund provided strategic investments in a variety of local infrastructure projects with a clear, long-term gain to the community. The expansion of the Huntsville community centre is just one example of how government-community partnerships can encourage input from diverse community groups to work together to build a multi-purpose, cross-generational sports complex and recreational facility for use long after the G8 leaders have left. The construction of the building used the latest green technologies and practices, contributing to the Muskoka Summit's small carbon footprint.

What lessons might the Muskoka model hold for future summits? The value and importance of open, two-way communications strategies and active engagement with all community levels through every aspect of summit preparation are key. Future summit planners will look to Muskoka as a first-rate example of how stakeholder engagement and government-community partnerships can ensure a successful summit legacy. ◆

The G8-G20 partnership

A new form of partnership is evolving between the G20 and the G8 that offers both institutions opportunities for cooperative interaction

By Andrew F. Cooper, associate director and distinguished fellow, The Centre for International Governance Innovation, professor of political science, University of Waterloo

The stage is now set for the back-to-back Muskoka G8 Summit and Toronto G20 Summit. While this duality allows for some rationalisation of the process and scheduling, it also amplifies gaps in the G8 and G20 relationship and underscores the need to settle the evolving global architecture.

The relationship between the G8 and the G20 can be seen from a few angles. From one point of view, by their institutional nature, the two forums are bound to be highly distinct and competitive. This view highlights the very different compositional character that separates them. The G8 has many cultural attributes of a like-minded club with a shared history, identity and method of doing things. Although the agenda has become increasingly stretched, the G8's style continues to be informal, with some considerable space for unscripted policy discussions. By way of contrast, the core of the G20's personality rests on the image of crisis readiness and of enhanced legitimacy via representation including both the traditional world powers and a cluster of 'rising' states from the global South.

From the other point of view, the G8 and G20 can be seen as being, at least to some measure, complementary. This interpretation places great emphasis on the functional niches of the two forums. The importance of the G20 is attributed to its ascendancy since the Pittsburgh Summit in September 2009 as the premier institution for international economic cooperation. The champions of the G8 point to the smaller group's ability to multi-task on a much wider array of issues. It can bridge the security and social dimensions, deal with geopolitical stalemates on the same day as cancelling debt and pushing global vaccine initiatives.

Although both of these perspectives retain some credence, it is unlikely that either configuration will be sustained over the long term. It is possible that the G20 summit could fade away, reverting in shape back to a forum of finance ministers and supplementary experts. After all, the G20's elevation to the leaders' level in November 2008 was due to a highly complex and startling series of economic shocks. Much of its work continues to be highly technical in nature. Such an agenda grabs the attention of leaders only under crisis conditions. But with a return to normalcy, the basic instinct of leaders will be to widen the parameters of discussion, to sustain their interest and leave the technicalities to others. It may be a question then – at least at the leadership level – for the G20 to either go big or go away.

'Going big' on the agenda, at first glance, would appear to exacerbate the tensions between the G20 and the G8. Certainly the privileging of like-mindedness would be eroded by any expansion of the G20's ambit into areas of hard security, or even climate change.

Yet, if contentious and difficult, the logic of moving in this direction appears to be unassailable. No less than on sensitive economic issues the core countries from the global South – China, India, Brazil – need to be at the table when a wider agenda is discussed. And the G8's own experience with the entry of Russia demonstrates that additions to the club need not make it dysfunctional.

Moreover, there are signs that the institutionalisation of a broader concert of powers could allow for some forms of flexibility and consensus building. The months leading up to the Canadian summits have revealed an escalation between the United States and China on a number of specific issues such as climate change and currency valuation. Yet, on other issues – such as Iran and nuclear issues – there equally appears to be some room for cooperation. Dealing with an expanded agenda formally – or on the sidelines – in one hub summit may, therefore, speed up the possibility of such agreements.

Such a move would downgrade the G8 from its traditional role as a putative steering committee. It does not, nevertheless, inevitably mean that the G8 is

Africa Action protesters dressed as bankers in Washington, DC, urge G20 ministers to enact a financial speculation tax

> The G8 countries still project the major voices and responsibilities on the G20's technical agenda

obsolete. In both function and form, the G8 continues to have some degree of collective salience and resilience. The G8 countries still project the major voices and responsibilities on the G20's technical agenda. This is in part due to the fact that the 2008-09 shocks originated at the core of the neo-liberal economic system, but also because the G8 countries remain the pivots of the financial and regulatory system.

The common and sustained interests of the G8 countries signal a new configuration of caucuses, or negotiation blocs, within the G20. There is an emerging debate about whether there should be established an Asian caucus to develop united positions. Indeed, a similar caucus system has developed informally through the South African initiative via the regional 'Committee of Ten' finance ministers to allow a cluster of African countries at least indirect access to the G20. This creative approach overlaps with the system of outreach developed through the G8 for many years.

Such an evolution facilitates a new form of partnership between the G20 and the G8 based not on avoidance (with respect to overlap) but on constructive engagement. The G8 brings a wealth of experience and expertise that can be tapped into now and into the future. These embedded sources of strength come out not only on security and economic issues, but also on the social agenda. An especially good example is global health. Although pushed to do more by non-governmental organisations, the G8 deserves credit for its efforts in a variety of areas such as the initiatives through the Global Fund to Fight AIDS, Tuberculosis and Malaria and the Global Alliance for Vaccines and Immunisation.

What is more, the benefits of such focused efforts spill over into other dimensions. Procedurally, they facilitate the establishment of a rich and deep 'partnership' group within civil society. Amid the heavy criticism, a deep connection between the G8 process and civil society has been established. Such ties have not been evident in the G20, although Korea as host for the November 2010 summit is initiating plans for heavier links between state and non-state actors. One highlight is to have Bill Gates chair a G20 business forum on corporate social responsibility.

Another benefit could be a push for greater accountability. In recent years, the G8 countries have developed a process for monitoring their commitments and reporting progress at successive meetings. Carrying this framework into the G20 will not only firm up its efficiency but its legitimacy. Such monitoring allows for sharing best practices not only by the traditional G8 countries, but also the rising countries from the global South. A system for compliance monitoring will also encourage greater transparency from the entrant countries and bolster the G20's mutual assessment experiment.

All of this leaves an uneven and perhaps awkward design for the future of the G20-G8 interactive process. Rather than some decisive new form of global settlement, the evolution of summit processes will proceed though improvised dynamics. In such an environment, there is ample opportunity for tensions. What is striking, nonetheless, are the opportunities for cooperative interaction between the G20 and the G8. On some issues the G8 will provide a valuable sounding board. On other issues, it will act as a model and a catalyst for setting out innovative paths for the G20 in its long moment of transition from a crisis committee to a new, more comprehensive, steering committee. ◆

Inspired leadership

Civil society's contribution to G8 and G20 summitry

By The Reverend Doctor Karen Hamilton, chair, 2010 InterFaith Partnership, general secretary, Canadian Council of Churches

To be or not to be an integral part of civil society: that is sometimes both a question posed by members of faith communities and a lens through which sectors of civil society view faith communities.

It is, however, a question that is disconnected from historical and theological realities. The faith communities of Canada and of the world, be they Hindu, Jewish, Christian, Muslim, Sikh, Buddhist, Baha'i or First Nations traditions, are not only a part of civil society but are also grounded in divine imperatives to be so for the sake of the world's peoples and indeed for the sake of the globe itself.

Throughout millennia, particularly in recent years, faith communities have been engaged as leaders and on the ground working on poverty relief, debt cancellation for developing countries, broad and just access to healthcare, the implementation of universal education and the care of creation. Given the global realities of governance, this work has, in recent decades, meant engagement with the G8. One example of this engagement – and many could be named – is the letter published in June 2008 by the Catholic Episcopal Conferences of the G8 countries and sent to the G8 political leadership.

Since 2005, this engagement of faith communities with the G8 political leadership has taken on a new and very particular form. In parallel to the Gleneagles G8 political leaders' summit, a religious leaders' summit brought together faith leaders who then agreed upon a statement calling for substantive progress in such vital areas as the fulfilment of the Millennium Development Goals (MDGs). In each subsequent year, there has been an InterFaith Leaders' summit held prior to the G8 summit. Through consensus a statement on the dire need for addressing extreme global poverty, caring for creation and investing in peace and security has been issued by senior, accountable and representative faith leaders of the G8 countries and beyond, and then presented to the G8 leaders.

There has been significant, persistent and consistent engagement of the InterFaith Leaders' Summit with the Canadian G8 office. Since 2007 there has been ongoing dialogue on the content and imperative of the yearly InterFaith Leaders' statements.

In 2010, Canada, through the new and unique national body of the 2010 InterFaith Partnership, will host the World Religions Summit 2010: InterFaith Leaders in the G8 Nations, the sixth such meeting. From 21-23 June the partnership and the University of Winnipeg will host the faith leaders of the G8 countries and the regions of the world, thus including the G20 members as well. Along with the statement of the faith leaders of all the world's religious traditions, a draft version of which has been available since October 2009 (at www.faithchallengeg8.com), the planning for the 2010 Canadian faith leaders summit has included a public engagement campaign. This campaign, both national and international, presents a petition on the themes of the statement – Addressing Extreme Poverty, Care for Creation and Investing in Peace – and encourages timely dialogue and engagement on those issues with parliamentarians.

Time is short. The MDGs are far from fulfilment. Lives hang in the balance. United, inspired leadership and action are both the call and the imperative. ◆

Are promises kept?

The G20 and G8 have made thousands of promises over the years, but what the global community really wants is accountability and higher compliance scores

By Jenilee Guebert, director of research, G8 and G20 Research Groups, and Erin Fitzgerald, student chair, G8 Research Group

Are the Group of Eight and Group of Twenty accountable? Measuring the effectiveness, efficiency, legitimacy and credibility of such groups is inextricably tied to this question. Accountability validates the existence of these compact centres of global governance. It keeps the work of the members transparent. It ensures that promises made are promises kept.

Since 1975 the G8 has made over 3,000 commitments. They have covered a wide range of issues including the economy, development, environment, non-proliferation and human rights. In less than two years, and in only three summits, the G20 leaders have also made hundreds of commitments. These pledges have focused mostly on tackling the economic and financial crisis, but they have also covered climate change, energy and development.

G8 and G20 accountability matters. It matters to the mothers and children around the world who are dying unnecessarily. It matters to those who are suffering with HIV/AIDS. It matters to the struggling countries and their citizens who depend on the clean water and food aid that they have been promised. And it matters to the emerging economies that have long been waiting for more voice and fairer representation in institutions such as the International Monetary Fund and World Bank.

The G8 and G20 know how much their accountability counts. Canada – host of the G8 summit and co-host of the G20 summit in June 2010 – promoted accountability back when it hosted the G7's Halifax Summit in 1995. The G8 issued an accountability report on its anti-corruption commitments in 2008 and on more subjects in 2009. At London and Pittsburgh, the G20 reconfirmed its commitment to the Millennium Development Goals (MDGs) and the importance of meeting them by their 2015 deadline. And at the 2009 L'Aquila Summit, G8 members declared: "We are determined to fully take on our responsibilities, and are committed to implementing our decisions, and to adopting a full and comprehensive accountability mechanism by 2010 to monitor progress and strengthen the effectiveness of our actions."

The available evidence indicates that G8 and G20 members do keep their commitments to a significant degree. Canada, Germany, the United Kingdom and the United States have done the best. Commitments on terrorism and energy have scored higher compliance than those on economics and trade. Between 1997 and 2008, on a scale ranging from –1 to +1, the G8 members complied with their commitments +0.49 of the time, or approximately 75 per cent on the more familiar 100-point scale. This score, while not disappointing, leaves room for needed improvement. And the newer G20 has even more room to improve.

> "Making substantial progress on pledges will be critical"

Canada has identified accountability as the defining feature of the June 2010 summits. Making substantial progress on pledges will be critical if the world is to move closer to achieving the MDGs and preventing further economic disruption. But the institutional fate of the older G8 and newer G20 may itself also depend on their members' accountability – whether or not they can prove that their promises made are promises kept and thus that "G" summitry is working and worth doing.

More information about the G8, the G20 and their compliance records is available at the G8 Information Centre at www.g8.utoronto.ca and the G20 Information Centre www.g20.utoronto.ca ◆

G8 compliance from 1996 to 2009

Summit	Lyon 1996	Denver 1997	Birmingham 1998	Cologne 1999	Okinawa 2000	Genoa 2001	Kananaskis 2002		Evian 2003	
Report type	Final	Final	Final	Final	Final	Final	Interim	Final	Interim	Final
G8 + EU	0.40	0.27	0.45	0.39	0.78	0.53	0.27	0.33	0.48	0.51
No. of Commitments	19	6	7	6	12	9	13	11	12	12

Summit	Sea Island 2004		Gleneagles 2005		St Petersburg 2006		Heiligendamm 2007		Hokkaido 2008		L'Aquila 2009
Report Type	Interim	Final	Interim	Final	Interim	Final	Interim	Final	Interim	Final	Interim
G8 + EU	0.39	0.54	0.47	0.65	0.35	0.47	0.33	0.51	0.16	0.48	0.34
No. of Commitments	18	18	21	21	20	20	23	23	20	20	24

ARGENTINA

Cristina Fernández de Kirchner

Cristina Fernández de Kirchner became president of Argentina in December 2007 after winning the general election in October. She replaced her husband, Néstor Kirchner, who had been president since May 2003. She is Argentina's second female president, but the first to be elected. Prior to her current position, she was a senator for the provinces of Buenos Aires and Santa Cruz. She was first elected to the Senate in 1995, and in 1997 to the Chamber of Deputies. In 2001 she won a seat in the Senate again. Born on 19 February 1954 in La Plata, Buenos Aires, Kirchner studied law at the National University of La Plata. She and her husband have two children. This will be Kirchner's fourth G20 summit.

Finance minister: Amado Boudou
Central bank governor: Mercedes Marcó del Pont
G20 sherpa: Hector Timerman

AUSTRALIA

Kevin Rudd

Kevin Rudd became prime minister of Australia in December 2007, replacing John Howard who had held the position since 1996. Before entering politics, Rudd worked for the Department of Foreign Affairs, where he held posts in Stockholm, Sweden and China. He also spent time as a political staffer and held positions that included chief of staff for the premier of Queensland and director general of the office of the Queensland cabinet. Since his first election in 1998, Rudd has served in various positions including shadow minister of foreign affairs and leader of the opposition. He was born in Nambour, Queensland, on 21 September 1957. He earned a bachelor's degree in Asian studies at Australian National University in 1981, where he focused on Chinese language and history. He and his wife, Thérèse Rein, have three children. This will be the fourth G20 summit that Rudd has attended.

Finance minister: Wayne Swan
Central bank governor: Glenn Stevens
G20 sherpa: Andrew Charlton

BRAZIL

Luiz Inácio Lula da Silva

Luiz Inácio Lula da Silva first assumed the office of the president in January 2003, after being elected in October 2002. He was re-elected in October 2006, extending his term until January 2011. Lula first ran for office in 1982 in the state of São Paulo and was elected to congress in 1986. Instead of running for re-election in 1990, he became more involved in the Workers' Party, where he continued to run for the office of president. Lula was born in Caetés, Pernambuco, on 27 October 1945. He received no formal education and began working in a copper pressing factory at the age of 14. He became heavily involved in the unions at a young age. He is married to Marisa Letícia and has five children. This will be the fourth summit that Lula has attended.

Finance minister: Guido Mantega
Central bank governor: Henrique de Campos Meirelles
G20 sherpa: Pedro Luiz Carneiro de Mendonça

CANADA

Stephen Harper

Stephen Harper was elected prime minister of Canada with a minority government in January 2006, replacing Paul Martin. Harper ran for re-election in October 2008 and returned to the House of Commons with a stronger minority. Before running for politics he served as a policy adviser for the Reform Party. Harper was first elected as a member of parliament in 1993. He served as leader of the opposition for several years before becoming prime minister. Harper was born in Toronto, Ontario, on 30 April 1959. He studied at the University of Toronto and the University of Calgary, earning his master's degree in economics in 1991. He and his wife, Laureen Harper, have two children. This will be the fifth G8 summit that Harper has attended and his first as host. It will be his fourth G20 summit and his first as host.

Finance minister: James Flaherty
Central bank governor: Mark Carney
G8 and G20 sherpa: Leonard J. Edwards

CHINA

Hu Jintao

Hu Jintao has been president of the People's Republic of China since March 2003. He replaced Jiang Zemin, who had held the position since 1989. Hu also serves as general secretary of the Central Committee of the Communist Party of China (CPC) and chair of the Central Military Commission. An engineer, he joined the CPC in April 1964 and began working with the party in 1968. In 1992, he was elected to the Standing Committee of the Political Bureau of the CPC Central Committee and was re-elected in 1997. He became vice-president of China in March 1998 and vice-chair of the Central Military Commission in 1999. Born in Jiangyan, Jiangsu, on 21 December 1942, he received his engineering degree from Tsinghua University in 1965. He and Lui Yongqing have two children. This will be the fourth G20 summit that Hu has attended.

Finance minister: Xie Xuren
Central bank governor: Zhou Xiaochuan
G20 sherpa: Tiankai Cui, vice minister

FRANCE *Nicolas Sarkozy*

Nicolas Sarkozy became president of France in May 2007, taking over from Jacques Chirac, who had held the position since 1995. Sarkozy worked as a lawyer while he pursued politics. From 1983 to 2002, he was mayor of Neuilly-sur-Seine. He has been president of the Union pour un Mouvement Populaire since 2004. During his time in parliament he has held a number of cabinet portfolios including minister of state of the economy, finance and industry, minister of the budget and minister of the interior. Sarkozy was born in Paris on 28 January 1955 and received his law degree from the Université de Paris in 1978. He is married to Carla Bruni and has three children from two previous marriages. This will be the fourth G8 and G20 summit that Sarkozy has attended.

Finance minister: Christine Lagarde
Central bank governor: Christian Noyer
G8 sherpa: Jean-David Levitte
G20 sherpa: Xavier Musca

GERMANY *Angela Merkel*

Angela Merkel became chancellor of Germany in November 2005, replacing Gerhard Schröder, who had been in power since 1998. Before entering politics she worked as a researcher and physicist. She was first elected to the Bundestag in 1990 and has held the cabinet portfolios for women and youth, environment, nature conservation and nuclear safety. She was born in Hamburg on 17 July 1956 and received her doctorate in physics from the University of Leipzig in 1978. She is married to Joachim Sauer and has no children. This will be Merkel's fifth G8 summit and fourth G20 summit.

Finance minister: Wolfgang Schäuble
Central bank governor: Axel Weber
G8 and G20 sherpa: Jens Weidmann

INDIA *Manmohan Singh*

Manmohan Singh became prime minister of India in May 2004, replacing Atal Bihari Vajpayee, who held the position from 1998 to 2004 and also for a short period in 1996. Singh was re-elected in May 2009. Previously he worked as an economist, including for the International Monetary Fund. He was governor of the Reserve Bank of India from 1982 to 1985. Singh was first elected to the upper house in 1995 and re-elected in 2001 and 2007. He has held cabinet positions including finance and external affairs. Singh also served as minister of finance from November 2008 to January 2009. He was born in Gah, Punjab (now known as Chakwal district, Pakistan), on 26 September 1932. He received his bachelor's and master's degrees from Punjab University in 1952 and 1954. He also received an additional undergraduate degree from Cambridge University in 1957 and a doctorate from Oxford University in 1962. He and his wife, Gursharan Kaur, have three children. This will be Singh's fourth G20 summit.

Finance minister: Pranab Mukherjee
Central bank governor: Duvvuri Subbarao
G20 sherpa: Montek Ahluwalia

INDONESIA *Susilo Bambang Yudhoyono*

Susilo Bambang Yudhoyono assumed the presidency in October 2004, replacing the incumbent Megawato Sukarnoputri. He was re-elected for a second term in July 2009. Before entering politics, he served as a lecturer and a military general. His first experience in politics came when he was appointed minister of mines and energy in 1999. Yudhoyono later served as coordinating minister for politics and security. He was born on 9 September 1949 in Pacitan, East Java. He received his doctorate in agricultural economics from the Bogor Institute of Agriculture in 2004. He and his wife, Kristiani Herawati, have two children. This will be Yudhoyono's fourth G20 summit.

Finance minister: Sri Mulyani Indrawati
Central bank governor: Darmin Nasution (acting)
G20 sherpa: Mahendra Siregar

ITALY *Silvio Berlusconi*

Silvio Berlusconi became prime minister of Italy for the third time after winning the April 2008 election. Before entering politics, he started his career as a building contractor. In 1980, he established Canale 5, the first private national television network in Italy. He also became a leading Italian publisher with Mondadori. In 1994 he resigned from Gruppo Fininvest in order to establish the political movement Forza Italia. In the same year, he became president of the Council of Ministers. In June 2001 Berlusconi became prime minister again, an office he held until 2006. Born in Milan on 29 September 1936, he received his law degree from the University of Milan. He is married to Veronica Lario and has five children. This will be the ninth G8 summit and fourth G20 summit that Berlusconi has attended.

Finance minister: Giulio Tremonti
Central bank governor: Mario Draghi
G8 and G20 sherpa: Bruno Archi

JAPAN

Naoto Kan

Naoto Kan became prime minister of Japan on 8 June 2010, replacing Yukio Hatoyama, who held the position since September 2009. Kan was first elected to the House of Representatives in 1980 and elected president of the Democratic Party of Japan in 2006. He served as minister of health and welfare, minister of state for science and technology and, most recently, deputy prime minister and minister of finance. Kan was born in Ube City, Yamaguchi Prefecture on 10 October 1946. He graduated from the Tokyo Institute of Technology in 1970 and opened a patent office in 1974. Kan is married and has two children. This will be the first G8 and G20 summit that he has attended.
Finance minister: Yoshihiko Noda
Central bank governor: Masaaki Shirakawa
G8 and G20 sherpa: Yoichi Otabe

KOREA

Lee Myung-bak

Lee Myung-bak became president of Korea on 25 February 2008, replacing Roh Moo-hyun, who had occupied the position since 2003. Lee joined the Hyundai Construction Company in 1965 and eventually became chief executive officer of the Hyundai Group before being elected to the Korean National Assembly in 1992. In 2002 he was elected mayor of Seoul, a position he held until 2006. He was born in Kirano, Osaka, Japan, on 19 December 1941. He received a degree in business administration from Korea University in 1965. Lee and his wife, Kim Yun-ok, have four children. This will be his fourth G20 summit.
Finance minister: Yoon Jeung-hyun
Central bank governor: Lee Seongtae
G20 sherpa: Rhee Changyong

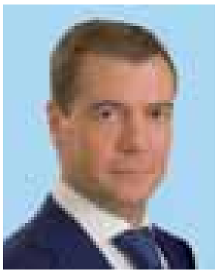
MEXICO

Felipe Calderón Hinojosa

Felipe Calderón became president of Mexico in December 2006, replacing Vicente Fox, who had held the position since 2000. Calderón was president of the youth movement of the National Action Party and later served as a local representative in the legislative assembly in the federal chamber of deputies. In 1995 he ran for governor of Michaocán. He served as secretary of energy from 2003 to 2004. Born in Morelia, Michoacán, on 18 August 1962, Calderón received his bachelor's degree in law from Escuela Libre de Derecho in Mexico City. He later received a master's degree in economics from the Instituto Tecnológico Autónomo de México, as well as a master's degree in public administration from Harvard University. He and his wife, Margarita Zavala, have three children. This will be Calderón's fourth G20 summit.
Finance minister: Ernesto J. Cordero
Central bank governor: Agustín Carstens
G20 sherpa: Lourdes Aranda

RUSSIA

Dmitry Medvedev



Dmitry Medvedev became president of Russia on 7 May 2008, after winning the presidential election in March and replacing Vladimir Putin, whose term in office had expired. Before entering politics, Medvedev worked as a legal expert and lawyer. He served as deputy prime minister from 2005 to 2008. He was born in Leningrad (now St. Petersburg) on 14 September 1965 and earned a degree in law in 1987 and a doctorate in private law in 1990 from Leningrad State University. He is married to Svetlana Medvedeva and they have one child. This will be the third G8 summit and fourth G20 summit that Medvedev has attended.
Finance minister: Alexei Leonidovich Kudrin
Central bank governor: Sergey Ignatiev
G8 and G20 sherpa: Arkady Dvorkovich

SAUDI ARABIA

Abdullah bin Abdul Aziz Al Saud

King Abdullah bin Adbul Aziz Al Saud has been in power since August 2005. He replaced Fahd bin Abdul Aziz Al Saud, who had reigned since June 1982. As crown prince since 1987, after Fahd was debilitated by a stroke, Abdullah became de facto regent and thus ruler since 1 January 1996. He was formally enthroned on 3 August 2005. He is also prime minister of Saudi Arabia and commander of the National Guard. Abdullah is chair of the supreme economic council, president of the High Council for Petroleum and Minerals, president of the King Abdulaziz Centre for National Dialogue, chair of the Council of Civil Service and head of the Military Service Council. He was born 1 August 1924 in Riyadh and has several wives and children. This will be the fourth G20 summit the king has attended.
Finance minister: Ibrahim Abulaziz Al-Assaf
Central bank governor: Muhammad Al-Jasser
G20 sherpa: Hamad Al Bazai

SOUTH AFRICA

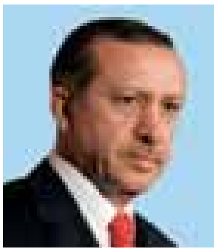
Jacob Zuma

Jacob Zuma became president of South Africa on 9 May 2009, succeeding Petrus Kgalema Motlanthe, who had held the position since September 2008. Zuma joined the African National Congress (ANC) in 1958 and joined the ANC's National Executive in 1977. In 1994, he was elected National Chair of the ANC and chair of the ANC in KwaZulu-Natal. He was re-elected to the latter position in 1996 and selected as the deputy president in December 1997. Zuma was executive deputy president of South Africa from 1999 until 2005. He was elected ANC president at the end of 2007. Born on 12 April 1949 in Inkandla, KwaZulu-Natal Province, he has received numerous honorary degrees. He has three wives and several children. This will be Zuma's second G20 summit.

Finance minister: Pravin Jamnadas Gordhan
Central bank governor: Tito Mboweni
G20 sherpa: Mandisi Mpahlwa

TURKEY

Recep Tayyip Erdoğan



Recep Tayyip Erdoğan became prime minister of Turkey in March 2003, replacing Abdullah Gül, in office since 2002. Previously, Erdoğan was mayor of Istabul from 1994 to 1998. He was born on 26 February 1954 in Rize, Turkey, and studied management at Marmar University's faculty of economics and administrative sciences. He and Emine Erdoğan have two children. This will be the fourth G20 summit Erdogan has attended.

Finance minister: Mehmet Şimşek
Central bank governor: Durmuş Yılmaz
G20 sherpa: Hakkı Akil

UNITED KINGDOM

David Cameron

David Cameron became prime minister of the United Kingdom of Great Britain and Northern Ireland with a hung (coalition) government in May 2010, after striking a deal with Nick Clegg, head of the Liberal Democratic Party. He was first elected to parliament in 2001 as representative for Witney. Cameron previously worked for the Conservative Research Department and was a political strategist and adviser to the Conservative Party. He has served as party leader since December 2005. Born in London, England, on 9 October 1966, Cameron received a bachelor's degree in philosophy, politics and economics at the University of Oxford. He is married to Samantha Sheffield. They have two children and are expecting a third. This will be Cameron's first G8 and G20 summit.

Finance minister: George Osborne
Central bank governor: Mervyn King
G8 and G20 sherpa: Jonathan Cunliffe

UNITED STATES OF AMERICA

Barack Obama

Barack Obama became president of the United States in January 2009, replacing George W. Bush, who had held the presidency since 2002. In 2005 Obama was elected to the Senate, having previously worked as a community organiser, a civil rights lawyer and a state legislator for Illinois. He was born on 4 August 1961 in Honolulu, Hawaii, to a Kenyan father and American mother. He received his bachelor's degree from Columbia University in 1983 and a law degree from Harvard University in 1991. Obama and Michelle Obama have two children. This will be the second G8 and third G20 summit that Obama has attended.

Finance minister: Timothy Geithner
Central bank governor: Ben Bernanke
G8 and G20 sherpa: Michael Froman

EUROPEAN UNION

Herman Van Rompuy

Herman Van Rompuy was elected by the members of the European Council as the first permanent president of the European Council in 2009. A Belgian politician of the Christian Democratic and Flemish party, he served as prime minister of Belgium from 2008 to 2009, and previously as minister of the budget and president of the Belgian Chamber of Representatives, as well as a senator. Born on 31 October 1947 in Etterbeek, Belgium, he and his wife, Geertrui Windels, have four children. This will be the first G8 and G20 summits Van Rompuy has attended.

José Manuel Barroso

José Manuel Barroso became president of the European Commission in November 2004. Previously, he was prime minister of Portugal from 2002 to 2004. Before entering politics Barroso was an academic. He studied law at the University of Lisbon, holds a master's degree in economics and social sciences from the University of Geneva and received his doctorate from Georgetown University in 1998. He is married to Maria Margarida Pinto Ribeiro de Sousa Uva and has three children. This is Barroso's sixth G8 and fourth G20 summit.

Central bank governor: Jean-Claude Trichet
G8 sherpa: Joao Vale de Almeida
G20 sherpa: Franciskus van Daele