

## 6. Energy Efficiency [59]

### Commitment:

“We recognize the importance of setting mid-term, aspirational goals for energy efficiency. In national goals and objectives, as well as in country specific action plans, we will maximize implementation of the IEA’s 25 recommendations on energy efficiency.”

*G8 Leaders Declaration on the Environment and Climate Change*

### Assessment:

#### Compliance Score

Country	Lack of Compliance	Work in Progress	Full Compliance
	-1	0	+1
Canada			+1
France			+1
Germany		0	
Italy		0	
Japan	-1		
Russia			+1
United Kingdom			+1
United States			+1
European Union			+1
<b>Average Score</b>			<b>+0.56</b>

### Background:

Established in 1973, the International Energy Agency (IEA) is an autonomous body within the OECD.<sup>473</sup> The IEA was founded to coordinate international action during energy supply crises, but its mandate has since broadened.<sup>474</sup> The Agency now carries out energy research, collects and analyzes data, and advises members on energy policy.<sup>475</sup> All G8 member states are members of the IEA.<sup>476</sup>

At the 2005 Gleneagles Summit, G8 leaders released a Plan of Action on climate change, energy and sustainable development.<sup>477</sup> They asked for the IEA to “advise on alternative energy scenarios and strategies aimed at a clean, clever and competitive energy

<sup>473</sup> IEA Member Countries, International Energy Agency (Paris). Date of Access: 22 January 2009.

<http://www.iea.org/about/membercountries.asp>.

<sup>474</sup> About the IEA, International Energy Agency (Paris). Date of Access: 22 January 2009.

<http://www.iea.org/about/index.asp>.

<sup>475</sup> About the IEA, International Energy Agency (Paris). Date of Access: 22 January 2009.

<http://www.iea.org/about/index.asp>.

<sup>476</sup> IEA Member Countries, International Energy Agency (Paris). Date of Access: 22 January 2009.

<http://www.iea.org/about/membercountries.asp>.

<sup>477</sup> Climate Change, Clean Energy and Sustainable Development, IEA’s G8 Gleneagles Programme. Date of Access: 22 January 2009. [http://www.iea.org/G8/docs/G8\\_Leaflet.pdf](http://www.iea.org/G8/docs/G8_Leaflet.pdf).

future.”<sup>478</sup> The G8 and IEA would focus on six areas: alternative energy scenarios and strategies; energy efficiency in buildings, appliances, transport and industry; cleaner fossil fuels; carbon capture and storage; renewable energy; and enhanced international cooperation.<sup>479</sup> The IEA was to deliver recommendations to the Hokkaido-Toyako Summit on how to achieve improved energy efficiency.

The G8 reaffirmed its commitment to the Gleneagles Plan of Action at both the St Petersburg and the Heiligendamm Summits, in 2006 and 2007 respectively. In the St Petersburg communiqué on Global Energy Security, the G8 promised to “move forward with timely implementation of the Gleneagles Plan of Action” and to report the outcomes of the Dialogue on Climate Change, Clean Energy and Sustainable Development to the G8 Summit in 2008.<sup>480</sup> A year later, the G8 once again stated their dedication to the Gleneagles Action Plan, also noting the importance of “retaining and supporting the IEA’s close involvement.”<sup>481</sup>

At the Hokkaido-Toyako Summit, the IEA recommended 25 domestic policies that could improve energy efficiency and reduce energy use. The recommendations span several sectors of the economy, and concern buildings, appliances, equipment, lighting, transport, industry, and energy utilities. Based on IEA analysis, as of July 2008, no country appears to have fully implemented the energy efficiency policy recommendations, so there is significant progress to be made.<sup>482</sup>

### **Commitment Features:**

G8 members have agreed to implement the IEA’s 25 recommendations. The commitment does not specify exactly how many policies should be implemented, but the first part of the commitment says that goals for energy efficiency are to be “mid-term” and “aspirational.” The commitment, therefore, does not call for full and immediate implementation of all 25 IEA recommendations. Rather, each member state must take steps to implement some IEA recommendations, moving closer to full implementation.

The recommendations are diverse and comprehensive, and it is not feasible to evaluate compliance with all 25 in one year. We will evaluate compliance based on five representative policy recommendations. For specifics on each of these policies, refer to the IEA’s recommendations directly, available at [http://www.iea.org/G8/2008/G8\\_EE\\_recommendations.pdf](http://www.iea.org/G8/2008/G8_EE_recommendations.pdf).

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<sup>478</sup> Climate Change, Clean Energy and Sustainable Development, IEA’s G8 Gleneagles Programme. Date of Access: 22 January 2009. [http://www.iea.org/G8/docs/G8\\_Leaflet.pdf](http://www.iea.org/G8/docs/G8_Leaflet.pdf).

<sup>479</sup> 2005 Gleneagles Plan of Action on Climate Change, Clean Energy and Sustainable Development, G8 Information Centre (Toronto) 8 July 2005. Date of Access: 12 December 2008. <http://www.g7.utoronto.ca/summit/2005gleneagles/climatechangeplan.pdf>.

<sup>480</sup> 2006 St Petersburg Summit Plan of Action on Global Energy Security, G8 Information Centre (Toronto) 16 July 2006. Date of Access: 20 December 2008. <http://www.g7.utoronto.ca/summit/2006stpetersburg/energy.html>.

<sup>481</sup> G8 Summit 2007 Heiligendamm Growth and Responsibility in the World Economy, G8 Information Centre (Toronto) February 2007. Date of Access: 20 December 2008. <http://www.g7.utoronto.ca/evaluations/2007heiligendamm/2007-leaked-doc.pdf>.

<sup>482</sup> Report to the G8 Summit, International Energy Agency (Hokkaido) 8 July 2008. Date of Access: 12 December 2008. [http://www.iea.org/g8/2008/G8\\_IEAwork\\_2008.pdf](http://www.iea.org/g8/2008/G8_IEAwork_2008.pdf).

- 1.1 Increased investment in energy efficiency
- 2.1 Building codes for new buildings
- 4.1 Best practice lighting and the phase-out of incandescent bulbs
- 5.2 Mandatory fuel efficiency standards for light-duty vehicles
- 7.0 Energy utilities and energy efficiency

**Scoring:**

-1	Member implements none of the five IEA recommendations highlighted above.
0	Member implements one <b>OR</b> two of the five IEA recommendations highlighted above.
+1	Member implements three <b>OR</b> four <b>OR</b> five of the five IEA recommendations highlighted above.

*Lead Analyst: Denitza Koev*

**Canada: +1**

Canada has fully complied with the IEA recommendations assessed in this report. It has launched initiatives to encourage investment in energy efficiency, measures to improve fuel efficiency in light-duty vehicles, and policies to advance demand-side management technology.

Presented in Parliament on 27 January 2009, the 2009 Budget allotted CAD1 billion to the Clean Energy Fund to “support clean energy technologies,” and increased funding for the ecoENERGY program.<sup>483</sup> Both programs aim to “increase energy efficiency.”<sup>484</sup> In particular, the ecoENERGY initiative provides financial support to homeowners, small and medium-sized businesses, public institutions and industrial facilities to help them implement energy saving projects. Thus, the Canadian government’s financial support constitutes compliance with IEA recommendation 1.1.

While Canada does have energy efficiency standards for buildings, in the form of the R-2000 standard, this is purely a voluntary standard and, hence, does not constitute compliance with IEA recommendation 2.1.<sup>485</sup>

On 1 April 2009, Minister of Environment Jim Prentice announced that the government will develop “regulations limiting carbon dioxide emissions from new cars and light-duty

<sup>483</sup> Energy Component of Canada’s Economic Action Plan, International Energy Agency (Paris) March 2009. Date of Access: 12 May 2009. [http://www.iea.org/textbase/papers/roundtable\\_sl/canada\\_mar09.pdf](http://www.iea.org/textbase/papers/roundtable_sl/canada_mar09.pdf).

<sup>484</sup> Showcasing Canada's Clean Energy Industry: Government of Canada Announces Support for World's Biggest Hydrogen Project, Government of Canada (Ottawa) 20 April 2009. Date of access: 12 May 2009. <http://www.nrcan.gc.ca/media/newcom/2009/200927-eng.php>

<sup>485</sup> The R-2000 standard, Natural Resources Canada (Ottawa) 2007. Date of access: 12 May 2009. [http://r2000.chba.ca/What\\_is\\_R2000/R2000\\_standard.php](http://r2000.chba.ca/What_is_R2000/R2000_standard.php)

trucks” to be applied to all new vehicles beginning in the 2011 model year.<sup>486</sup> These measures closely follow those announced by the United States in March 2009 in order to allow for harmonization of fuel economy standards. Accordingly, this commitment constitutes compliance with IEA recommendation 5.2.

On 26 January 2009, the Ontario Energy Board released draft guidelines for natural gas distributors to implement Demand Side Management. This constitutes compliance with IEA recommendation 7.0, on energy utilities and energy efficiency.<sup>487</sup>

Thus, Canada has been awarded a score of +1 for pursuing three of the five highlighted IEA energy efficiency recommendations during the current compliance cycle.

*Analyst: Anthony Darcovich*

### **France: +1**

France has fully complied with the IEA recommendations assessed in this report.

On 21 October 2008, the National Assembly adopted a bill proposed by the Grenelle Environnement Roundtable to stimulate sustainable development.<sup>488</sup> Known as Grenelle 1, the bill contains amendments to incentives for investment in energy efficiency.<sup>489</sup> The state has agreed to develop tools to increase investments in energy savings, such as agreements with banks and the financial sector. This move is in compliance with IEA recommendation 1.1.

France has also agreed to apply the “low-usage building” (BBC) law to all new buildings by the end of 2012.<sup>490</sup> The BBC law sets a maximum consumption of primary energy at 50 kWh per square meter per annum.<sup>491</sup> The amendment is expected to strengthen mandatory energy efficiency standards for new buildings, corresponding with IEA recommendation 2.1.

The government has further agreed to enforce energy consumption standards through the use of “white certificates,” which certify that a certain level of energy reduction has been

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<sup>486</sup> Canada Gazette Part I, Government of Canada (Ottawa) 4 April 2009. Date of access: 12 May 2009. [http://www.ec.gc.ca/Ceparegistry/documents/notices/g1-14314\\_n1.pdf](http://www.ec.gc.ca/Ceparegistry/documents/notices/g1-14314_n1.pdf)

<sup>487</sup> Demand side management guidelines for natural gas distributors, Ontario Energy Board, 14 April 2009. Date of Access: 28 June 2009. [http://www.oeb.gov.on.ca/OEB/\\_Documents/EB-2008-0346/letter\\_DSM\\_Guidelines\\_20090414.pdf](http://www.oeb.gov.on.ca/OEB/_Documents/EB-2008-0346/letter_DSM_Guidelines_20090414.pdf).

<sup>488</sup> Grenelle 1: A moment of great national unity, Ministry of Ecology, Energy, Sustainable Development and Planning (Paris) 21 October 2008. Date of Access: 20 April 2009. [http://www.developpement-durable.gouv.fr/article.php3?id\\_article=3795](http://www.developpement-durable.gouv.fr/article.php3?id_article=3795).

<sup>489</sup> Key project measures and main points adopted in committee at the National Assembly, Ministry of Ecology, Energy, Sustainable Development and Planning (Paris) 20 October 2008. Date of Access: 21 April 2008 [http://www.developpement-durable.gouv.fr/article.php3?id\\_article=3791](http://www.developpement-durable.gouv.fr/article.php3?id_article=3791).

<sup>490</sup> Key project measures and main points adopted in committee at the National Assembly, Ministry of Ecology, Energy, Sustainable Development and Planning (Paris) 20 October 2008. Date of Access: 21 April 2008 [http://www.developpement-durable.gouv.fr/article.php3?id\\_article=3791](http://www.developpement-durable.gouv.fr/article.php3?id_article=3791).

<sup>491</sup> Sustainable Building in France: Progress Report, Association HQE (Paris) May 2008. Date of Access: 18 December 2008. <http://www.assohqe.org/docs/sb08.pdf>.

attained, and ultimately providing energy savings for end-users.<sup>492</sup> The government aims to attain a 20 per cent reduction of energy consumption by the service-sector and a 12 per cent reduction by the private sector in the next five years.<sup>493</sup> The certificates are consistent with IEA recommendation 7.0.

In October 2008, a voluntary agreement aimed at phasing out inefficient lighting was signed by: the Ministry of Ecology, Energy, Sustainable Development and Planning; home improvement/DIY retailers; the organization responsible for collecting and recycling used lamps; Électricité de France (EDF); and French energy management agency ADEME.<sup>494</sup> The agreement strives to promote efficient lighting, halt sales of incandescent light bulbs, improve the quality of efficient lighting available in the market, and promote the collection and recycling of lamps.<sup>495</sup> Under the phase-out calendar in the agreement, incandescent bulbs greater than or equal to 100 W are to be removed by 30 June 2009, with 25 W bulbs to be phased out by 31 December 2015.<sup>496</sup> Through this measure, France has implemented IEA recommendation 4.1.

Thus, France has been awarded a score of +1 for pursuing at least four IEA policy recommendations on energy efficiency.

*Analyst: Denitza Koev and Darcie Dixon*

## **Germany: 0**

Germany has partially complied with the IEA recommendations assessed in this report. It has introduced measures to encourage investment in energy efficiency and amended building codes for more energy efficient homes, but action in other areas has been limited.

On 8 August 2008, Federal Minister of Transport Wolfgang Tiefensee announced that EUR500 million would be made available in the form of investment grants for housing companies committed to energy efficiency.<sup>497</sup> The funding will be distributed through the CO2 building modernization program, designed to reduce carbon dioxide emissions from buildings.<sup>498</sup> On 5 November 2008, the Federal government agreed on an investment

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<sup>492</sup> Key project measures and main points adopted in committee at the National Assembly, Ministry of Ecology, Energy, Sustainable Development and Planning (Paris) 20 October 2008. Date of Access: 21 April 2008 [http://www.developpement-durable.gouv.fr/article.php3?id\\_article=3791](http://www.developpement-durable.gouv.fr/article.php3?id_article=3791).

<sup>493</sup> National Energy Efficiency Action Plan for France. International Energy Agency (Paris) 2008. Date of Access: 22 April 2009. [http://ec.europa.eu/energy/demand/legislation/doc/neeap/france\\_en.pdf](http://ec.europa.eu/energy/demand/legislation/doc/neeap/france_en.pdf).

<sup>494</sup> Incandescent Lamp Phase-Out, International Energy Agency (Paris) 23 October 2008. Date of Access: 16 December 2008. <http://www.iea.org/Textbase/pm/?mode=pm&id=4218&action=detail>.

<sup>495</sup> Signatures on the Convention implementing the Grenelle Environnement commitment on incandescent bulbs, Ministry of Ecology, Energy, Sustainable Development and Planning (Paris) 23 October 2008. Date of Access: 22 April 2009. [http://www.developpement-durable.gouv.fr/article.php3?id\\_article=3816](http://www.developpement-durable.gouv.fr/article.php3?id_article=3816).

<sup>496</sup> Incandescent lamp phase-out, International Energy Agency (Paris) 23 October 2008. Date of Access: 16 December 2008. <http://www.iea.org/Textbase/pm/?mode=pm&id=4218&action=detail>.

<sup>497</sup> Press Release: An extra 500 million euros for the successful programme to reduce CO2 emissions from buildings, Federal Ministry of Transport, Building and Urban Affairs (Berlin) 8 August 2008. Date of Access: 18 December 2008. <http://www.bmvbs.de/en/-,1872.1049432/Tiefensee-An-extra-500-million.htm>.

<sup>498</sup> Press Release: An extra 500 million euros for the successful programme to reduce CO2 emissions from

package, which will supply an additional EUR3 billion for the program between 2009-2011.<sup>499</sup> This initiative constitutes compliance with recommendation 1.1, because it encourages private sector investment in energy efficiency.

Before the Hokkaido-Toyako Summit Germany became partially compliant with IEA recommendation 1.1. On 6 June 2008, the German Parliament adopted an amendment to the Renewable Energy Sources Act (EEG), which creates new incentives for investment in energy efficiency, including EUR500 million for energy-efficient heating technologies.<sup>500</sup> These funds, while significant, were not initiated in this compliance cycle, and therefore do not constitute compliance.

On 7 August 2008, new legislation was enacted by the German federal government to promote energy efficiency in new buildings.<sup>501</sup> The Renewable Energies Heat Act, which took effect on 1 January 2009, should increase renewable energy use in heat provision to 14 per cent by 2020.<sup>502</sup> Renewable energy will be mandatory for space and hot water heating in new buildings.<sup>503</sup> The legislation also pledges that the German government will allocate as much as EUR500 million per year for the program.<sup>504</sup> This initiative is in compliance with recommendation on building codes for new buildings.

On 8 December 2008, the EU announced its decision to phase out incandescent light bulbs in order to increase the bloc's energy efficiency.<sup>505</sup> Under the EU directive, Germany is compelled to phase out traditional light bulbs (100 W and up) by 2010.<sup>506</sup> Germany has yet to take independent action to implement this EU directive, however, so it does not constitute compliance with recommendation 4.1.

Thus, Germany has been awarded a score of 0 for pursuing two of the five highlighted

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buildings, Federal Ministry of Transport, Building and Urban Affairs (Berlin) 8 August 2008. Date of Access: 18 December 2008. <http://www.bmvbs.de/en/-,1872.1049432/Tiefensee-An-extra-500-million.htm>.

<sup>499</sup> Government Agrees on Investment Packages, Die Bundesregierung (Berlin) 5 November 2008. Date of Access: 18 December 2008. [http://www.bundesregierung.de/Content/EN/Artikel/2008/11/2008-11-05-investitionspaket\\_en.html](http://www.bundesregierung.de/Content/EN/Artikel/2008/11/2008-11-05-investitionspaket_en.html).

<sup>500</sup> PVSEC Europe 2008: Germany Solidifies Leading Position in PV Energy, Invest In Germany (Berlin) 29 August 2008. Date of Access: 17 December 2008.

<http://www.gtai.com/homepage/info-service/press-releases/press-releases-2008/jul-aug-08/pvsec-europe-2008-germany-solidifies-leading-position-in-pv-energy/print/?backlink=0>.

<sup>501</sup> Renewable Energies Heat Act, International Energy Agency (Paris) 2008. Date of Access: 23 April 2009. <http://www.iea.org/Textbase/pm/?mode=pm&id=4168&action=detail>.

<sup>502</sup> Renewable Energies Heat Act, International Energy Agency (Paris) 2008. Date of Access: 23 April 2009. <http://www.iea.org/Textbase/pm/?mode=pm&id=4168&action=detail>.

<sup>503</sup> Renewable Energies Heat Act, International Energy Agency (Paris) 2008. Date of Access: 23 April 2009. <http://www.iea.org/Textbase/pm/?mode=pm&id=4168&action=detail>.

<sup>504</sup> Press Release No. 175/08, 18.08.2008: Heat From Renewable Energies – Sustainable and Safe: Brochure provides information about obligations and options for incentives, Federal Ministry for the Environment, Natural Conservation and Nuclear Safety (Berlin). 18 August 2008. Date of Access: 23 April 2009. <http://www.erneuerbare-energien.de/inhalt/42126/36302/>.

<sup>505</sup> EU to Shut Off Old-Fashioned Light Bulbs, The German Federal Foreign Office (Berlin) 9 December 2008. Date of Access: 18 December 2008. <http://www.auswaertiges-amt.de/diplo/en/WillkommeninD/D-Informationen/Nachrichten/081209-3.html>.

<sup>506</sup> EU to Shut Off Old-Fashioned Light Bulbs, The German Federal Foreign Office (Berlin) 9 December 2008. Date of Access: 18 December 2008. <http://www.auswaertiges-amt.de/diplo/en/WillkommeninD/D-Informationen/Nachrichten/081209-3.html>.

IEA policy recommendations.

*Analysts: Denitza Koev and Darcie Dixon*

### **Italy: 0**

Italy has partially complied with the IEA recommendations assessed in this report. Italy's action in this area has been uneven.

On 3 March 2009, a decree financed 30 of 92 new energy efficiency research projects presented at the end of December 2008. Industry 2015, the Italian government's economic development plan, awarded EUR380 million worth of incentives to energy efficiency and sustainable mobility initiatives.<sup>507</sup> Private companies and research labs can send in proposals to improve production and distribution processes for energy from renewable resources.<sup>508</sup> This is in compliance with recommendation 1.1.

Prior to the publication of the IEA's 25 policy recommendations, on 24 December 2007, the Italian government banned the sale of incandescent light bulbs after 2011.<sup>509</sup> Italy has not taken any further action in this compliance cycle, so its existing ban cannot constitute compliance with recommendation 4.1.

Thus, Italy has been awarded a score of 0 for its limited implementation of IEA policy recommendations on energy efficiency. Italy has taken steps to encourage private sector investment in energy efficiency.

*Analyst: Vanessa Bertone and Anna Vekshina*

### **Japan: -1**

Japan has failed to comply with the IEA recommendations assessed in this report.

In December 2008, the Japanese Energy Conservation Centre published an Energy Conservation Handbook outlining Japan's actions on energy efficiency. The Handbook shows that Japan has had mandatory energy efficiency standards for new buildings since 30 March 2006. The Evaluation Criteria for Building on Rational Use of Energy specifies that those who intend to construct or modify buildings must take appropriate measures to utilize energy efficiently.<sup>510</sup> Although more stringent energy-efficient measures for buildings came into effect in April 2009, they were not initiated during the current compliance cycle.<sup>511</sup>

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<sup>507</sup> Successful call for proposals in Italy: 429 innovative projects submitted, Department of Economic Development (Rome). 3 December 2008. Date of Access: 8 December 2008.

[http://www.industria2015.ipi.it/file/com\\_stamp\\_madeinitaly.pdf](http://www.industria2015.ipi.it/file/com_stamp_madeinitaly.pdf).

<sup>508</sup> Purpose of the PII on Energy Efficiency, Department of Economic Development (Rome). Date of Access: 8 December 2008. <http://www.industria2015.ipi.it/index.php?id=4>.

<sup>509</sup> The Finance Act 2008, Department of Economic Development (Rome). Date of Access: 11 December 2008. <http://efficienzaenergetica.acs.enea.it/fin2007.htm>.

<sup>510</sup> Japan Energy Conservation Handbook 2008, Energy Conservation Centre Japan (Tokyo) December 2008. Date Accessed: 12 May 2009. <http://www.eccj.or.jp/databook/2008e/pdf/all.pdf>.

<sup>511</sup> Japan Energy Conservation Handbook 2008, Energy Conservation Centre Japan (Tokyo) December

Thus, Japan has been awarded a score of -1. Japan took significant steps towards improving energy efficiency between 2006 and 2008. However, no actions have been undertaken to implement the IEA's policy recommendations since the Hokkaido-Toyako Summit.

*Analysts: Anthony Darcovich and Fatima Ul-Haq*

## **Russia: +1**

Russia has fully complied with the IEA recommendations assessed in this report.

In late July 2008, the Russian government agreed to cooperate with the International Finance Corporation (IFC) in promoting long-term investments into energy efficient projects.<sup>512</sup> The IFC has signed a loan agreement with Russia's MDM Bank to help expand energy efficiency financing to local companies. A USD35 million loan for IFC's own account will support MDM Bank's energy efficiency lending, while a USD500 million syndicated loan will support the trade finance projects of the bank's clients.<sup>513</sup> This is in accordance with IEA recommendation 1.1 on increased investment in energy efficiency.

On 17 October 2008, a draft law on energy saving and energy efficiency was submitted to the Russian Parliament.<sup>514</sup> The draft proposes government subsidies for development companies and municipalities that implement energy-efficient technologies.<sup>515</sup> If implemented, the subsidies will provide incentives for the private sector to invest in improving energy efficiency.<sup>516</sup> The law includes fines for companies that build energy-inefficient buildings.<sup>517</sup> This is in compliance with recommendation 2.1.

On 3 December 2008, the Russian Corporation of Nanotechnologies, the ONEXIM Group, and the Ural Optical and Mechanical Plant joined forces to establish a company that will manufacture new generation lighting products. The new company intends to produce final product light emitting diode (LED) chips, LED lamps and lighting systems.

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2008. Date Accessed: 12 May 2009. <http://www.eccj.or.jp/databook/2008e/pdf/all.pdf>.

<sup>512</sup> The interview with vice-president of IFC. Date of Access: 6 December 2008. <http://www.prime-tass.ru/news/show.asp?id=726&ct=interviews>.

<sup>513</sup> IFC Expands Energy Efficiency Program in Russia in Partnership with MDM Bank. Date of Access: 6 December 2009. <http://www.ifc.org/ifcext/media.nsf/content/SelectedPressRelease?OpenDocument&UNID=64EDCE2662AC3D7F8525748D004B0C27>.

<sup>514</sup> Moscow will develop energy-efficient buildings, Renewable Energy and Energy Efficiency Partnership (Moscow) 24 October 2008. Date of access: 6 December 2008. <http://www.reeep.org/index.php?assetType=news&assetId=172>.

<sup>515</sup> Moscow will develop energy-efficient buildings, Renewable Energy and Energy Efficiency Partnership (Moscow) 24 October 2008. Date of access: 6 December 2008. <http://www.reeep.org/index.php?assetType=news&assetId=172>.

<sup>516</sup> Moscow will develop energy-efficient buildings, Renewable Energy and Energy Efficiency Partnership (Moscow) 24 October 2008. Date of access: 6 December 2008. <http://www.reeep.org/index.php?assetType=news&assetId=172>.

<sup>517</sup> Moscow will develop energy-efficient buildings, Renewable Energy and Energy Efficiency Partnership (Moscow) 24 October 2008. Date of access: 6 December 2008. <http://www.reeep.org/index.php?assetType=news&assetId=172>.

LED lamps are energy-efficient substitutes for traditional incandescent and fluorescent light bulbs.<sup>518</sup> In May 2009 the Duma began to consider a new draft bill, which would forbid the sale of electric incandescent lamp after 2011.<sup>519</sup> Thus, Russia has partially complied with IEA recommendation 4.1 on best-practice lighting.

Russia and Germany have agreed on a bilateral basis to create in a joint agency, Rudea, to improve energy efficiency in Russia, according to Russian Energy Minister Sergey Shmatko. Rudea will be run by Russia's Hydrocarbon Energy Fund with a 51 per cent stake, and Germany's energy agency DENA with a 49 per cent stake. It will initially cost EUR4 million to establish, but it is planned that within three years private investment will cover 50 per cent of the agency's expenses. The agency's priority projects in Russia are in household utilities and transportation. It will aim to promote the construction of buildings that use electricity efficiently, encourage energy-saving lighting, and develop equipment and technology to conserve energy.<sup>520</sup> These priorities are in line with multiple IEA recommendations.

Thus, Russia has been awarded a score of +1 for pursuing a variety of the IEA policy recommendations on energy efficiency.

*Analyst: Yulia Ovchinnikova*

### **United Kingdom: +1**

The United Kingdom has fully complied with the IEA recommendations assessed in this report.

On 11 September 2008, The Department for Environment, Food and Rural Affairs (DEFRA) announced that the government will draft legislation that will require energy companies to invest an estimated GBP910 million in making homes more energy efficient.<sup>521</sup> GBP350 million of the funding from energy suppliers will be dedicated towards a new Community Energy Saving Programme. The program will require local councils, voluntary organizations, and energy companies to ensure that low-income households have access to energy savings measures.<sup>522</sup> The program constitutes compliance with IEA recommendation 7.0 on energy utilities and energy efficiency.

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<sup>518</sup> RUSNANO, ONEXIM and the Ural Optical and Mechanical Plant establish the joint company to manufacture the new generation lighting products, Russian Corporation of Nanotechnologies (Moscow) 3 December 2008. Date of access: 9 December 2008.

<http://en.rusnano.com/Publication.aspx?PublicationId=1072>.

<sup>519</sup> Russia will forget about electric incandescent lightbulb, Energieforum (Berlin) 11 May 2009. Date of access: 13 May 2009

[http://www.energieforum.ru/ru/archiv\\_novostej/rossija\\_lishitsja\\_%C2%ABlampochki\\_il%E2%80%99icha\\_%C2%BB\\_554.html](http://www.energieforum.ru/ru/archiv_novostej/rossija_lishitsja_%C2%ABlampochki_il%E2%80%99icha_%C2%BB_554.html).

<sup>520</sup> Russia, Germany to launch energy-conservation agency in summer, RIA Novosti (Moscow) 28 March 2009. Date of access: 13 May 2009 <http://en.rian.ru/russia/20090428/121355851.html>.

<sup>521</sup> Save Money, Save Energy: Government takes action on family fuel bills, Department for Environment, Food and Rural Affairs (London) 11 September 2008. Date of Access: 11 December 2008

<http://www.defra.gov.uk/news/2008/080911a.htm>.

<sup>522</sup> Save Money, Save Energy: Government takes action on family fuel bills, Department for Environment, Food and Rural Affairs (London) 11 September 2008. Date of Access: 11 December 2008

On 26 November 2008, the UK passed the Energy Act 2008 to update the legislative framework on renewable energy and energy savings. The Act calls for a Smart Metering system, whereby the Secretary of State can require electricity and gas utilities to install, or facilitate the installation of, smart meters – devices that measure energy consumption – for customers.<sup>523</sup> The system will allow utilities to better monitor end-user energy consumption and provide strategies for energy efficiency. The system is also in line with IEA recommendation 7.0.

On 24 November 2008, Chancellor of the Exchequer Alistair Darling presented the Pre-Budget Report 2008 before the House of Commons. The report revealed plans for GBP3 billion in spending, some of which will be invested “in energy efficiency measures.”<sup>524</sup> The precise nature of these measures is still unknown.

On 8 October 2008, Secretary of State for Energy and Climate Change Ed Miliband met with other EU energy ministers and approved the phase-out of incandescent light bulbs by 2010.<sup>525</sup> Earlier, on 28 September 2008, the British government and major retailers agreed to ban the sale incandescent light bulbs by 2011.<sup>526</sup> The UK’s existing initiative constitutes compliance with IEA implementation 4.1.

Thus, the United Kingdom has been awarded a score of +1 for pursuing a variety of the IEA policy recommendations on energy efficiency.

*Analyst: Marianne Madeline Lau*

## **United States: +1**

The United States has fully complied with the IEA recommendations assessed in this report.

Energy efficiency is part of the American Recovery and Reinvestment Act. Government loans and investments for green energy technology total USD61.3 billion and fund projects such as: an electric smart grid, state and local government investments in energy efficiency, energy efficiency research, and electric vehicle technologies. Moreover, USD1500 in tax credits will be made available to homeowners in energy upgrades, USD4.5 billion to make federal buildings more efficient, and USD6.3 billion will help

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<http://www.defra.gov.uk/news/2008/080911a.htm>.

<sup>523</sup> Energy Act 2008, Department for Business Enterprise and Regulatory Reform (London) 26 November 2008. Date of Access: 6 December 2008. <http://www.berr.gov.uk/whatwedo/energy/act/page40931.html>.

<sup>524</sup> Pre-Budget Report statement to the House of Commons delivered by the Rt Hon Alistair Darling MP, HM Treasury (London) 24 November 2008. Date of Access: 6 December 2008.

[http://www.hmtreasury.gov.uk/prebud\\_pbr08\\_speech.htm](http://www.hmtreasury.gov.uk/prebud_pbr08_speech.htm).

<sup>525</sup> Gray, Louise, Traditional Light Bulbs Banned by EU, Telegraph (London) 10 October 2008. Date of Access: 6 December 2008.

<http://www.telegraph.co.uk/news/worldnews/europe/3174452/Traditionallightbulbs-banned-by-EU.html>.

<sup>526</sup> Gray, Louise, Traditional Light Bulbs Banned by EU, Telegraph (London) 10 October 2008. Date of Access: 6 December 2008.

<http://www.telegraph.co.uk/news/worldnews/europe/3174452/Traditionallightbulbs-banned-by-EU.html>.

state and local efficiency and renewable efforts.<sup>527</sup> As such, the Act is compliant with several of the IEA recommendations being assessed in this report.

On 22 August 2008, the US Department of Energy (DOE) allocated USD26 million to the cost-shared development of energy-efficient industrial processes in energy-intensive industries, such as the steel industry.<sup>528</sup> The development of such processes supports the Energy Policy Act of 2005, which aims to reduce the energy intensity of manufacturing industries by 25 per cent by 2015.<sup>529</sup> DOE Principal Deputy Assistant Secretary John Mizroch said that the move towards energy-efficient industrial processes demonstrates “a shared public-private commitment to advance development of energy-efficient industrial technologies.”<sup>530</sup> Thus, the US government has acted to facilitate the private sector’s involvement in energy efficiency investment, complying with recommendation 1.1.

On 26 September 2008, the DOE awarded USD15 million in technical assistance for the Zero-Net Energy Commercial Building Initiative (CBI).<sup>531</sup> Twenty-one major retailers, financial institutions, and real estate firms work under the CBI to employ energy-efficient technologies for new construction and retrofits in commercial buildings.<sup>532</sup> The CBI was launched by the DOE on 5 August 2008 along with the National Laboratory Collaborative on Building Technologies Collaborative (NLCBT).<sup>533</sup> The NLCBT aims to support the DOE’s effort to develop energy-saving commercial buildings. The DOE also requested proposals from its National Labs and privatesector companies that aim to achieve energy savings of 50 per cent above the standard set by the American Society of Heating, Refrigerating and Air-Conditioning Engineers.<sup>534</sup> Thus, the US government has taken measures to strengthen energy efficiency standards for new buildings.

Further, on 9 April 2009, the DOE’s Commercial Real Estate Energy Alliance was created. This partnership of the DOE and 19 commercial real estate companies is

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<sup>527</sup> Statement of Steven Chu Secretary of Energy Before the Committee on the Budget (Washington D.C.) 11 March 2009. Date of Access: April 10 2009. <http://www.energy.gov/news2009/6972.htm>.

<sup>528</sup> DOE Announces \$26 Million to Develop Energy-efficient Processes for US Industry, US Department of Energy (Washington D.C.) 22 August 2008. Date of Access: 11 December 2008. <http://www.energy.gov/news/6486.htm>.

<sup>529</sup> DOE Announces \$26 Million to Develop Energy-efficient Processes for US Industry, US Department of Energy (Washington D.C.) 22 August 2008. Date of Access: 11 December 2008. <http://www.energy.gov/news/6486.htm>.

<sup>530</sup> DOE Announces \$26 Million to Develop Energy-efficient Processes for US Industry, US Department of Energy (Washington D.C.) 22 August 2008. Date of Access: 11 December 2008. <http://www.energy.gov/news/6486.htm>.

<sup>531</sup> DOE Awards \$15 Million in Technical Assistance to Support Major Retailers, Financial Institutions and Real Estate Firms to Adopt Energy-Efficient Technologies, US Department of Energy (Washington D.C.) Date of Access: 9 December 2008. <http://www.energy.gov/news/6577.htm>.

<sup>532</sup> DOE Awards \$15 Million in Technical Assistance to Support Major Retailers, Financial Institutions and Real Estate Firms to Adopt Energy-Efficient Technologies, US Department of Energy (Washington D.C.) Date of Access: 9 December 2008. <http://www.energy.gov/news/6577.htm>.

<sup>533</sup> DOE to Pursue Zero-Net Energy Commercial Buildings, US Department of Energy (Washington D.C.) 26 September 2008. Date of Access: 11 December 2008. <http://www.energy.gov/6454.htm>.

<sup>534</sup> DOE Awards \$15 Million in Technical Assistance to Support Major Retailers, Financial Institutions and Real Estate Firms to Adopt Energy-Efficient Technologies, US Department of Energy (Washington D.C.) 5 August 2008. Date of Access: 9 December 2008. <http://www.energy.gov/news/6577.htm>.

intended to reduce the energy consumption of commercial buildings.<sup>535</sup> The alliance will provide building owners and operators with research and technology from the DOE's laboratory.<sup>536</sup> This measure is also in compliance with IEA recommendation 1.1.

Finally, on 12 March 2009, the government granted USD8 billion in stimulus funds to the Weatherization Assistance Program and the State Energy Program. These programs target families making up to 200 per cent of the poverty level, and will provide up to USD6500 per home in energy efficiency improvements. Through the State Energy Program, consumers are eligible for rebates to help them make energy efficient improvements for their homes. The program will also promote energy efficient appliances, and help with efficiency upgrades for state and local government.<sup>537</sup> These initiatives are in compliance with IEA recommendation 1.1.

On 27 March 2009, the US government raised fuel efficiency standards on all cars and light trucks produced from 2011 onward. The new Corporate Average Fuel Economy is expected to save nearly 887 million gallons of fuel and cut greenhouse gas emissions by 8.3 million metric tons.<sup>538</sup> This is in compliance with IEA recommendation 5.2.

In November 2008, over 60 energy, environmental, and state policy leaders updated the National Action Plan for Energy Efficiency. Initiated in 2005, the plan seeks to create a private-public commitment to energy efficiency through the collaborative actions of gas and electric utilities, and utility regulators.<sup>539</sup> The update outlines strategies that could help reduce the growth in energy demand by more than 50 per cent nationwide.<sup>540</sup> The update continues to encourage states and utilities to develop energy-saving tools. To date, the National Action Plan for Energy Efficiency has allowed energy utilities to provide cost-effective energy, saving energy customers approximately USD6 billion per year.<sup>541</sup> The update has increased the energy efficiency obligations on states and utilities. This is consistent with IEA recommendation 7.0.

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<sup>535</sup> Department of Energy and Commercial Real Estate Executives Launch Alliance to Reduce Energy Consumption of Buildings (Washington DC) 9 April 2009. Date of Access: April 22 2009.  
<http://www.energy.gov/news2009/7251.htm>.

<sup>536</sup> Department of Energy and Commercial Real Estate Executives Launch Alliance to Reduce Energy Consumption of Buildings (Washington DC) 9 April 2009. Date of Access: April 22 2009.  
<http://www.energy.gov/news2009/7251.htm>.

<sup>537</sup> Administration Announces Nearly USD8 Billion in Weatherization Funding and Energy Efficiency Grants: Will support energy efficiency efforts nationwide that will create 87,000 jobs and cut energy bills for families (Washington DC) 12 March 2009. Date of Access: April 10, 2009.  
<http://www.energy.gov/news2009/7015.htm>.

<sup>538</sup> Fuel Economy Standards Raised by 2 mpg for Model Year 2011 (Washington DC) 1 April 2009. Date of Access: April 10, 2009.  
[http://www1.eere.energy.gov/vehiclesandfuels/news/news\\_detail.html?news\\_id=12373](http://www1.eere.energy.gov/vehiclesandfuels/news/news_detail.html?news_id=12373).

<sup>539</sup> National Action Plan for Energy Efficiency, US Environmental Protection Agency (Washington D.C.) 18 November 2008. Date of Access: 9 December 2008.  
<http://www.epa.gov/cleanenergy/energyprograms/napee/index.html>.

<sup>540</sup> Changing the Climate: Looking Towards a More Cost Effective, Energy-efficient Future, US Department of Energy (Washington D.C.) 18 November 2008. Date of Access: December 8 2008.  
<http://www.energy.gov/news/6748.htm>.

<sup>541</sup> Changing the Climate: Looking Towards a More Cost Effective, Energy-efficient Future, US Department of Energy (Washington D.C.) 18 November 2008. Date of Access: December 8 2008.  
<http://www.energy.gov/news/6748.htm>.

Thus, the US has been awarded with a score of +1. The US has successfully implemented a wide variety of the IEA's policy recommendations on energy efficiency.

*Analyst: Marianne Madeline Lau*

### **European Union: +1**

The European Union has fully complied with the IEA recommendations assessed in this report.

On 31 March 2009, the European Commission adopted its 2009 Work Program for the Intelligent Energy Europe Program. It aims to encourage "co-financing non-technology projects to promote energy efficiency, renewable energy and clean transport."<sup>542</sup> The initiative will receive EUR15 million from the Commission. This program is in compliance with recommendation 1.1.

On the same day, the EU offered EUR65 million for project proposals that promote energy efficiency from organizations that involve at least three partners from three different countries.<sup>543</sup> Proposals can be made by any public or private organization established in the EU, Norway, Iceland, Liechtenstein and Croatia.<sup>544</sup> This initiative is also in accordance with recommendation 1.1.

On 13 November 2008, the EU launched a revision of its Energy Performance of Buildings Directive. The scope of the original 2002/91/EC Buildings Directive was enlarged in order to help citizens improve the energy efficiency of their houses and the construction industry to construct energy-efficient buildings.<sup>545</sup> The Directive stipulates that all existing buildings will have to meet new energy efficiency standards when they are renovated. In addition, EU member states agreed to develop plans to increase the number of low or zero energy and carbon buildings.<sup>546</sup> New awareness and financing schemes will be introduced to promote this Directive in 2009. The directive is in compliance with IEA recommendation 2.1 on building codes.

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<sup>542</sup> Commission earmarks 15 million euro to promote sustainable energy investments in cities, Directorate General Communication (Brussels) 31 March 2009. Date of Access: 25 April 2009.

<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/513&format=HTML&aged=0&language=EN&guiLanguage=en>

<sup>543</sup> 65 million for a more intelligent energy future in Europe, Directorate General Communication (Brussels) 31 March 2009. Date of Access: 25 April 2009.

[http://ec.europa.eu/energy/intelligent/doc/2009\\_IEE\\_pr.pdf](http://ec.europa.eu/energy/intelligent/doc/2009_IEE_pr.pdf)

<sup>544</sup> 65 million for a more intelligent energy future in Europe, Directorate General Communication (Brussels) 31 March 2009. Date of Access: 25 April 2009.

[http://ec.europa.eu/energy/intelligent/doc/2009\\_IEE\\_pr.pdf](http://ec.europa.eu/energy/intelligent/doc/2009_IEE_pr.pdf)

<sup>545</sup> Press Release: Energy-efficient buildings save money: Recast of the Energy Performance of Buildings Directive, European Union (Brussels) 13 November 2008. Date of Access: 9 December 2008.

<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/693&format=HTML&aged=0&language=EN&guiLanguage=en>

<sup>546</sup> Press Release: Energy-efficient buildings save money: Recast of the Energy Performance of Buildings Directive, European Union (Brussels) 13 November 2008. Date of Access: 9 December 2008.

<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/693&format=HTML&aged=0&language=EN&guiLanguage=en>

On 8 December 2008, at the Ecodesign Regulatory Meeting, EU member states decided to phase out the use of incandescent light bulbs.<sup>547</sup> Under the EU directive, light bulbs that are 100W or greater will be phased out first.<sup>548</sup> Further, on 18 March 2009, the European Commission adopted two new Ecodesign regulations on inefficient light bulbs. The regulations include new energy saving requirements for light bulbs and the phasing out of halogen street, office, and industrial lights.<sup>549</sup> These actions are all in compliance with IEA recommendation 4.1.

On 1 December 2008, the EU Council of Ministers and the European Parliament reached an agreement to limit CO<sub>2</sub> emissions to 120 g/km for all new cars by 2015.<sup>550</sup> The agreement also set fines against automakers that breach the limit. Between 2012 and 2018, automakers will be fined EUR5, EUR15, EUR25, and EUR95 for the first four grams over the limit.<sup>551</sup> From 2019, manufacturers will have to pay a fine of EUR95 for each extra gram of CO<sub>2</sub>.<sup>552</sup> The agreement forces car manufacturers to produce more fuel-efficient vehicles and is thus in accordance with IEA recommendation 5.2.

The European Union has successfully implemented the key IEA recommendations on energy efficiency. Thus, it has been awarded a score of +1.

*Analyst: Vanessa Bertone*

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<sup>547</sup> Member States approve the phasing-out of incandescent bulbs by 2012, Directorate General Communication (Brussels) 8 December 2008. Date of Access: 8 December 2008. <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/1909&format=HTML&aged=0&language=EN&guiLanguage=en>.

<sup>548</sup> EU to shut off old-fashioned light bulbs, The German Federal Foreign Office (Brussels) 9 December 2008. Date of Access: 18 December 2008. <http://www.auswaertiges-amt.de/diplo/en/WillkommeninD/DInformationen/Nachrichten/081209-3.html>.

<sup>549</sup> Commission adopts two regulations to progressively remove from the market non-efficient light bulbs, Directorate General Communication (Brussels) 18 March 2009. Date of Access: 25 April 2009. <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/411&format=HTML&aged=0&language=EN&guiLanguage=en>.

<sup>550</sup> EU clinches deal on CO<sub>2</sub> emissions from cars, EurActiv Network (Brussels) 2 December 2008. Date of Access: 9 December 2008. <http://www.euractiv.com/en/transport/eu-clinches-deal-co2-emissionscars/article-177675>.

<sup>551</sup> EU clinches deal on CO<sub>2</sub> emissions from cars, EurActiv Network (Brussels) 2 December 2008. Date of Access: 9 December 2008. <http://www.euractiv.com/en/transport/eu-clinches-deal-co2-emissionscars/article-177675>.

<sup>552</sup> EU clinches deal on CO<sub>2</sub> emissions from cars, EurActiv Network (Brussels) 2 December 2008. Date of Access: 9 December 2008. <http://www.euractiv.com/en/transport/eu-clinches-deal-co2-emissionscars/article-177675>.