G7 Governance of Climate Change

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Abstract

Since the G7 summit invented the global governance of climate change in 1979, its performance has passed through three phases: leadership of an effective inclusive environment first regime from 1979 to 1989; deference to the UN's ineffective, selective, development-first regime from 1992 to 2004; and a return to an effective, G20-supported, inclusive, environment-first regime from 2005 to 2015. The latter culminated at the Paris summit, which however, produced a political plan that was designed to fail, at a time when the irreversible tipping point in the real material world rapidly approached and just before the US elected a President slow to accept and act on the striking facts. The central challenge of the G7's Taormina Summit in 1979 is to ensure that G7 members comply with their still unfulfilled past climate commitments, by adding accountability measures that work, improving them immediately in ways that enhance their implementation and activating assistance from the G20's Hamburg Summit in July. To improve climate change compliance, the Taormina G7 Summit should specify an agent in its commitments, make more climate commitments each year and hold regular environment ministers' meetings.

Introduction

The Challenge of Climate Change

Controlling the world's changing climate has become a critical and compounding challenge upon which the well-being and even survival of life on the planet depends. At the 21st Conference of the Parties (COP 21) to the United Nations Framework Convention on Climate Change (UNFCCC) in Paris in December 2015 world leaders thus sought to produce an ambitious regime to prevent and adapt to climate change (Vihma 2014; UNFCCC 2015; Shelling 2015). It was hailed by France's president Francois Hollande and UN secretary-general Ban Ki-moon as a resounding success. Yet it did not produce a globally binding agreement that was bold enough to meet the definitive consensus of the scientific community, even with its new, flexible, bottom-up approach to replace the UN's old failed mandatory top-down one. While national governments agreed on the need to keep the global temperature well below two degrees Celsius from pre-industrial levels, and ideally at 1.5 degrees, their voluntary individual national contributions were not enough to reach this target, even if fully implemented by each UN member state. At Paris, the UN failed.

Producing an effective climate change control regime thus requires leadership from the world's preeminent political and economic powers operating within the Group of Seven (G7) major power democracies and the Group of 20 (G20) systemically significant states (Kennan 1970; Kirton and Kokotsis 2015; Bayne 2000, 2005; Hajnal 2007; Bernstein 2000, 2001; Kirton 2013, 2016). These groups must commit to bolder control

measures, comply with their commitments, and hold themselves accountable for delivering those commitments and improving their compliance with them before it is too late.

Competing Schools of Thought

The G7's performance in doing so has long been the subject of successive generations of research (Kirton and Kokotsis 2015). The first came from George von Furstenberg and Joseph Daniels (1992) in the early 1990s. Furstenberg and Daniels identified high compliance with the G7's closely related energy commitments from 1975 to 1989 and conjectured that such compliance was caused by a G7 members' high relative capability and its leaders' control of the legislature back home. Ella Kokotsis (1999, 2004) subsequently identified substantial and rising compliance with G7 climate change commitments from 1988 to 1995 by both the relatively small Canada and the large U.S. due primarily to a strong bureaucratic center within the members' government, a strong subject-specific G7 ministerial forum and a dedicated multilateral organization outside. This attention to institutionalization was emphasized by James Barnes (1994, 1-2) who asserted that: "[T]he G8 [Group of Eight] was a growing environment and climate governor but an implementation failure, due to its lack of a secretariat, the changing agenda of each host, and its trusting, unmonitored delegation of environmental issues to the World Bank and International Monetary Fund (IMF)" (Kirton and Kokotsis 2015, 6).

As the 21st century began, George Von Furstenberg (2008) cautioned that such leaders were likely to "overpromise" on climate change but that this still raised compliance and implementation higher than would otherwise have been the case. Nikolai Roudev and Jenilee Guebert then found that G7 members' compliance with their climate change commitments was higher if the latter contained particular compliance "catalysts" under the leaders' direct control (Kirton 2006). Specifically, compliance was higher if climate change was given priority placement in the communiqué, but lower if the commitment contained a reference to international law.

Puzzles

These studies of the causes of G7 compliance with its climate change commitments thus largely focus on the institutional features of these bodies, on the dynamics of the broader international system in which they operate and the institutional characteristics of their members' political systems and governments at home. They rarely examine the independent effect of accountability measures that the summit leaders themselves collectively and directly control, that they can deploy at low cost, that they have recurrently used and that have worked in improving the compliance they presumably want.

Purpose

This study offers such an examination. Its threefold purpose is first to chart the climate change commitments of the G7/8 summits since their start; second, to assess their members' compliance with them; and third, to identify the causes of compliance, particularly those accountability measures that the leaders' control. To do so it applies an accountability framework to identify the causal impact of six of the 10 highlighted accountability measures that summit leaders can use and improve.

The Argument

This study argues that the G7/8 increasingly made climate change commitments from 1985 to 2016, with a peak of 55 in 2008. Compliance with the 74 assessed commitments averaged 73%, close to the G7/8's all-time and all-issue average of 75%. Compliance increased when the commitment contained a specified agent, when more companion commitments on climate change were made at the same summit, when the

commitments were initially generated at the G7/8 environment ministers meeting, when post-summit support was offered by official G7/8 bodies and when UN summit support on those commitments was offered the same year. However, compliance was lowered very strongly by country or regional specification in the commitment. To improve climate change compliance, the G7/8 should thus specify an agent in its commitments, make more climate commitments each year and hold regular environment ministers' meetings.

Contributions

Through these findings, this study extends the rich scholarship on the implementation of formal, legal international environmental agreements by systematically charting the course and causes of the climate change commitments and compliance of informal soft law international institutions, above all the central global summits of the G7/8 since 1975 and its G20 companion arriving in 2008 (Breitmeier 2008; Haas 2002; Huang 2009). Second, it builds on earlier work assessing how global summits, delivered by national leaders uniquely responsible for governing and integrating all issues, actually connect climate change and closely related issues such as human health by pointing to links within a single policy field such as climate change (Kirton, Kulik and Bracht 2014). Third, it assesses how compliance with such climate change commitments can be improved by leaders through their use and improvement of low cost accountability measures directly under their collective control.

To do so, this study first examines the G7/8, exploring in turn its climate change commitments, compliance and the impact of the accountability measures that could affect compliance. It then examines the G20 in a similar way, but includes energy commitments as they are often closely related to climate change. It concludes by summarizing the key findings and suggesting how G7/8 and G20 leaders can increase the compliance they presumably want by improving those low-cost accountability measures which are under their direct control and have yielded clear results in the past.

G7/8 Climate Change Commitments

The annual G7/8 summit produced 332 climate change commitments since the issue first directly appeared on the leaders' summit agenda at Bonn in 1985 through to 2014 (see Appendix A). Until 2005 the G7/8 generated relatively few climate change commitments, peaking at the 1997 Denver Summit with nine. However from 2005 to 2009 the annual number soared, peaking at the 2008 Hokkaido-Toyako Summit with 55. The number of climate change commitments made then fell for the next three years, but subsequently revived.

The 332 climate change commitments generated at these 28 summits spanned 53 distinct issues. These were led by emissions reductions at 23; technology at 18; sustainable development at 17; and the UNFCCC, greenhouse gases and national action plans at 15 each. A single commitment was made on the Copenhagen Accord, mid-term goals, sectoral approaches, pollution, major economies join, the Global Climate Observing System, awareness, dialogue, monitoring, developing-country technology, global warming (as distinct from climate change which refers to any change, warmer or colder, to the global temperature), polluter pays, post-2000 initiatives, carbon sinks, the World Meteorological Organization network and other environmental problems. The more general value or goal-based subjects dominated prior to 2005, and the more specific technology and energy-based commitments dominated after 2005.

G7/8 Climate Change Compliance

G7/8 members complied with these commitments at an average of +0.45 on the scientific scale (with -1.00 assigned for non-compliance up to +1.00 assigned for full compliance) or 73% on the popular scale (see

Appendix B). Of these 332 climate change commitments, 74 (or 22%) were assessed for compliance during the following year, using the method and datasets of the G7 Research Group based at the University of Toronto (Kirton, Kokotsis and Guebert 2016).

There are several phases of compliance, but no strong trends. Compliance was higher in 1992–1994 and 2002–2005, but lower in 2006–2009. The highest score of +1.00 came in 1998 and the lowest of -0.22 came in 1999, after -0.07 in 1989 and -0.11 in 1990. Higher compliance seems to arise over multiple summit sequences, with lower compliance centered on a single summit or two at the most.

Across the major issue areas addressed by the G7/8, climate change compliance at +0.45 ranks below the allissue average of +0.49. Compliance is highest on the issues of macroeconomic and social policy at +0.71 each; information and communications technology at +0.69; gender at +0.68; energy at +0.63; regional security and terrorism at +0.60 each; and the environment, democracy, financial crisis regulation, food and agriculture, labour, health, conflict prevention, human rights, and nuclear safety with average compliance ranging from +0.50 to +0.57.

All G7/8 members complied with their climate change commitments in the positive range. The EU led with +0.78. This was followed by the UK with +0.66, Germany with +0.63, Japan with +0.53 and Canada with +0.50. The countries with below average scores were France with +0.42, the U.S. with +0.34, Russia with +0.20 and Italy with just +0.09.

Causes of G7/8 Climate Change Compliance

The causes of such compliance are numerous and complex. They include those from the international system and the domestic structure and politics of member governments, as the concert equality model of G7 governance suggests (Kirton 1993; Kirton and Kokotsis 2015). They also include several accountability measures that G7 leaders directly control and have used in the past. Six are assessed here: catalysts contained within the commitment, companion commitments on the same subject at the same summit, iteration of such commitments at subsequent summits, ministerial reinforcement, official body support and multilateral organizational support from the periodic UNFCCC summits.

Commitment Catalysts

The first accountability measure consists of the catalysts embedded within each commitment, as these lie under the immediate, direct and collective control of leaders who approve the precise wording of the commitments made in the final summit communiqués. Such catalysts provide precise, future-oriented, politically-obligatory guidance about how to act on, implement or comply with the commitment. (Kirton, Kokotsis and Guebert 2016). Twenty-three catalysts have been identified, some of which act as inhibitors, decreasing rather than increasing compliance (see Appendix 5C and Appendix 5D).

To identify the potential effect of each catalyst on individual members and G7/8 average compliance, a multiple regression analysis was conducted on the 23 catalysts over the 74 assessed commitments. Only two catalysts significantly impacted average compliance. The first, specified agent, had a high, positive effect on compliance at +0.73. If G7/8 leaders identified a particular agent as the means through which the commitment would be implemented, such as the private sector or civil society, compliance increased.

In contrast, the second catalyst of country/regional specification was a very strong inhibitor, with an impact of -0.94. This may be because many of the countries or regions named in the commitment lie outside of the G7/8 club and thus the actions required for compliance may also lie outside of the G7/8 leaders' direct

control. These countries or regions were often unaware of and did not feel bound by the G7/8 commitment, expectations or demands, especially if their leaders were not invited to attend the summit that generated them. Moreover, given that climate change is a global problem, needing a global solution, having a commitment focused on a single geographic area while excluding all others, especially in regard to mitigation, may not be an effective approach.

These results, however, are preliminary — only three commitments contained the catalyst of specified agent and only two of country/regional specification. Moreover, even with 74 observations, issues of collinearity and overlap among some catalysts could arise.

A more detailed look at individual members' compliance suggests that several other catalysts matter for particular members, and that each member responded to a distinctive catalyst cocktail. For Canada, the catalyst of specified agent had a strong positive effect on compliance at +0.65, while priority placement (present in 39 commitments) had a weak, positive effect at +0.21. For France, a target (present in one commitment) was a very strong compliance inhibitor at -1.08. For Germany, country/regional specification (present in two commitments) was a strong inhibitor at -0.78. For Japan, private sector (present in four commitments) was a weaker inhibitor at -0.49. For the EU, international law (present in 22 commitments) was a moderately weak inhibitor at -0.25. The EU, as a very hard law, semi-supranational, large and powerful international institution with precise rules, monitoring and enforcement mechanisms might not feel bound by the commitments of the informal G7/8, even though EU members constitute a majority of the members there.

Russia joined the G7 summit as a full member in 1998 making it the G8. It was therefore present at fewer summits. Of the summits it attended, 51 climate change commitments were made. The catalyst of priority placement (present in 22 commitments) had a positive impact on Russia's compliance at +0.39, while specified agent had a strong positive impact at +0.72. Country/regional specification, however, had a very strong negative impact on Russia's compliance at -1.53.

Italy, the U.S. and UK's compliance was not impacted by any catalyst to a significant degree (see Appendix 5-B-1).

Companion Commitments

The second accountability measure is companion commitments, defined as the number of commitments made on the same subject at the same summit. G7/8 leaders consciously control how many commitments, across how many issue areas, they make each time they meet. G7/8 leaders have been regularly advised to focus on a few core subjects and commitments, as a greater number of commitments made across a greater number of issue areas is believed to crowd out the leaders focus on a key set of commitments on a single subject leading to less monitoring, implementation and compliance. The counterargument is that leaders do not live in such a zero sum world, that a large number of commitments indicates which issues are prioritized, and that many commitments over a wide range of related issues can synergistically produce win-win solutions, especially given the links between climate change with energy, health, economic growth, and finance and development. The UN itself recognized the close connections between these key areas with the launch of its Sustainable Development Goals in 2015.

The number of companion commitments on climate change varied widely each year, as did average compliance (see Appendix E). The 14 summits with the highest compliance on climate change commitments, with an average of +0.72, made a collective 201 climate change commitments or an annual average of 14.36). The 14 summits with the lowest compliance average of +0.21 made a collective 131 climate commitments, or

an annual average of 9.36. This large difference strongly suggests that the more companion commitments generated, the higher the level of compliance. Further research should explore the extent to which the total number of commitments made across all issue areas at each summit affects compliance with the climate change ones.

Iteration

The third accountability measure is iteration, defined as "how often and how long it [the subject] has been repeated in the past or will be in the future" (Kirton, Kokostsis and Guebert 2016). Here iteration refers to climate change commitments made at the summit in the previous year, either once or multiple times. Of the 74 assessed commitments, 63 were iterations of commitments made in the previous summit communiqué.

This did not, however, significantly impact average compliance. Iteration had a weak and an inhibiting impact on only two members: Russia at -0.10 and the EU at -0.08. This may be counterintuitive, as one might expect iteration to increase compliance due to the ongoing attention given to the issue. However, considering that each G7/8 summit agenda is created by the summit host to deal with the most pressing issues at the time, iteration may serve to compete with the issues that seem most salient in any given year. Thus leaders may not be willing to devote the resources and effort needed to implement the commitment as other regional or global issues may be viewed as more urgent.

Ministerial Reinforcement

The fourth accountability measure is ministerial reinforcement, measured by the impact that a G7/8 environment or energy ministers' meeting held in the lead-up to the leaders' summit had on compliance with the climate change commitments made there (Risbud 2002). This measure uses pre-summit meetings, as these meetings are designed to prepare commitments for leaders to comply with in a more detailed and realistic way. Of the 28 summit years that produced climate change commitments, 19 had pre-summit environment ministerial meetings. These meetings began in 1992, the year of the UN's Rio Earth Summit that created the umbrella UNFCCC. No environment ministers' meeting was held in 1993, but annual meetings were held between 1994 and 2009, with two including energy ministers and one including development ministers. There were no environment ministers' meetings held between 2010 and 2014.

The 14 summits with the highest compliance had 13 pre-summit ministerial meetings, or 0.93 on average, whereas the bottom 14 summits had only half as many with seven or 0.50 on average (see Appendix E). Presummit set-up ministerials thus seem to have a clear, compliance-enhancing effect. Compliance does not, however, increase proportionately with the number of pre-summit meetings held, suggesting that at least one ministers' meeting contributes to higher compliance.

Official Body Support

The fifth accountability measure of official body support comes from G7-centered forums below the ministerial level, such as working groups, expert groups and task forces. The climate change related ones include the Nuclear Safety Working Group, the Renewable Energy Task Force, the Carbon Sequestration Leadership Forum and the Dialogue on Sustainable Energy. It includes official support bodies created within the year at or after a summit is held and that are tasked with addressing climate change. There were 12 such bodies: two for general climate change in 1985, one for Global Earth Observation System of Systems or GEOSS in 2004, and four for renewable energy also in 2004. One was created for the Gleneagles Dialogue in 2005, one for energy in 2006 and again in 2007, one for assisting developing countries in 2008, and one for forests in 2009.

Official-level bodies did not have an effect on either overall or individual average compliance. Yet for the years in which these bodies were created, all but one had compliance in the top scoring summit range (see Appendix F).

UN Summitry

The sixth accountability measure is multilateral organizational support. The assessment here examines the support offered by surrounding summits, specifically UN summits focused on climate change. Such UN summitry could increase G7/8 compliance as its leaders strive to reinforce the norms the UN sets on climate change. Conversely, UN summitry may decrease G7/8 compliance as members might pass the buck and rely on the UN to govern climate change.

During the 28 years of G7/8 summits with climate change commitments, the UN had five climate summits immediately following a G7/8 one. The UN was thus in a position to influence G7/8 compliance during the subsequent year. There were an average of 0.21 such subsequent UN summits for the top complying half of the G7/8 summits, and only 0.14 for the bottom complying half (see Appendix E). This suggests that support from subsequent UN summits increases compliance with the commitments G7/8 leaders make.

Conclusion

This analysis shows that the G7/8 increasingly made climate change commitments since 1985 with a peak of 55 in 2008. Compliance with the 74 assessed climate commitments averaged +0.46 or 73%. G7/8 climate compliance was raised by the commitment catalyst of a specified agent and very strongly by a set-up environment ministers' meeting. It was also raised by more companion commitments, post-summit support from official bodies and, marginally, by subsequent UN summit support in the same year. It was, however, significantly lowered by the catalyst of country/regional specification. To increase climate change compliance, the G7/8 should thus specify an agent to ensure compliance, make more climate commitments each year and have regular environment ministerial meetings (following its 2016 re-start).

This study thus makes several contributions in both the policy and scholarly realm. For policymakers it shows that G7/8 and G20 leaders can increase compliance with their climate change commitments in several specific ways. This is an urgent and compelling task. With the steady rise in atmospheric greenhouse gas concentrations and the continuing failure of the UN COP process, the G7 needs at a minimum to comply with its existing climate change commitments as well as make stronger ones. As Appendix G shows, the most recent data set, based on compliance assessments with 486 G7/8 commitments, shows average multi-year compliance with the climate ones is only 73%, below those for the environment at 79%, and energy at 82%.

For scholars of global governance and global environmental governance it shows that informal, plurilateral, intergovernmental institutions of the world's most powerful countries do induce their members to comply with the climate and energy commitments they make. It also identifies some of the many possible causes of such compliance.

However, many outstanding issues remain for subsequent research. These start with analyzing catalysts over a larger number of cases of commitments that have been assessed for compliance, testing post-summit as well as pre-summit iteration and ministerial support, and testing the annual causes through multiple regression analyses once 30 years of such G7/8 data becomes available. One should further assess the accountability measures of civil society participation (Hajnal 2002a, b). Also important are the accountability assessments of both an internal and independent kind, the latter from both advocacy groups and solely analytically focused ones. A broader task is to assess how the G7/8 can better link climate change not only with the cognate field

of energy but with all the interrelated issue areas that now form part of the UN's sustainable development goals. In all cases, further attention should be paid to issues of collinearity, confounding variables and overfitting which may arise.

References

Barnes, James (1994). "Promises, Promises! A Review: G7 Economic Summit Declarations on Environment and Development." Washington DC: Friends of the Earth.

Bayne, Nicholas (2000). *Hanging In There: The G7 and G8 Summit in Maturity and Renewal.* Aldershot: Ashgate.

Bayne, Nicholas (2005). Staying Together: The G8 Summit Confronts the 21st Century. Aldershot: Ashgate. Bernstein, Steven (2000). "Ideas, Social Structure, and the Compromise of Liberal Environmentalism." European Journal of International Relations 6(4): 464–512. doi: 10.1177/1354066100006004002 (April 2017).

Bernstein, Steven (2001). *The Compromise of Liberal Environmentalism*. New York: Columbia University Press.

Breitmeier, Helmut (2008). The Legitimacy of International Regimes. Farnham: Ashgate.

Haas, Peter M. (2002). "UN Conferences and Constructivist Governance of the Environment." *Global Governance* 8(1): 73–91. https://gemenne.files.wordpress.com/2013/09/haas-un-conferences-and-constructivist-government1.pdf (April 2017).

Hajnal, Peter I., ed. (2002a). Civil Society in the Information Age. Aldershot: Ashgate.

Hajnal, Peter (2002b) "The G7/G8 and Civil Society." G8 Research

Groupwww.g8.utoronto.ca/g8online/2002/english/2002/08.pdf (April 2017).

Hajnal, Peter I. (2007). The G8 System and the G20: Evolution, Role, and Documentation. Aldershot: Ashgate.

Huang, Jing (2009). "A Leadership of Twenty (L20) Within the UNFCCC: Establishing a Legitimate and Effective Regime to Improve Our Climate System." *Global Governance* 15(4): 435–41.

http://journals.rienner.com/doi/abs/10.5555/ggov.2009.15.4.435?code=lrpi-site (April 2017).

Kennan, George (1970). "To Prevent a World Wasteland: A Proposal." *Foreign Affairs* 48 (April): 401–13. http://www.foreignaffairs.com/articles/24149/george-fkennan/to-prevent-a-world-wasteland (January 2015).

Kirton, John J. (1993). "The Seven Power Summits as a New Security Institution." In *Building a New Global Order: Emerging Trends in International Security*, David Dewitt, David Haglund and John J. Kirton, eds. Toronto: Oxford University Press, pp. 335–57.

Kirton, John J. (2006). "Explaining Compliance with G8 Finance Commitments: Agency, Institutionalization, and Structure." *Open Economies Review* 17(4): 459–75.

Kirton, John (2013). G20 Governance for a Globalized World. Farnham: Ashgate

Kirton, John (2016). China's G20 Leadership. London: Routledge

Kirton, John J. and Ella Kokotsis (2015). *The Global Governance of Climate Change: G7, G20 and UN Leadership.* Farnham: Ashgate.

Kirton, John J., Ella Kokotsis, Jenilee Guebert et al. (2016). "Compliance Coding Manual for International Institutional Commitments." March, Global Governance Program, Trinity College, University of Toronto, Toronto.

Kirton, John J., Julia Kulik, Caroline Bracht et al. (2014). "Connecting Climate Change and Health Through Global Summitry." World Medical and Health Policy 6(1): 73-100. doi: 10.1002/wmh3.83.

Kokotsis, Eleanore (1999). Keeping International Commitments: Compliance, Credibility, and the G7, 1988–1995. New York: Garland.

Kokotsis, Ella (2004). "Explaining G8 Effectiveness: The Democratic Institutionalist Model of Compliance with G8 Commitments." Paper prepared for a panel on "Explaining G8 Effectiveness." 45th Annual Meeting of the International Studies Association (ISA), Montreal, Quebec, March 17-21.

- Risbud, Sheila (2002). "Civil Society Engagement: A Case Study of the 2002 G8 Environment Ministers Meeting." In *Sustainability, Civil Society and International Governance*, John Kirton and Peter Hajnal eds. London: Ashgate.
- Shelling, Thomas C. (2002) "What Makes Greenhouse Sense?" *Foreign Affairs*, May/June. https://www.foreignaffairs.com/articles/2002-05-01/what-makes-greenhouse-sense (April 2017).
- UNFCCC (2015). "The Paris Agreement." United Nations, December. http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf (April 2017).
- Vihma, Antto (2014). "How to Reform the UN Climate Negotiations? Perspectives From the Past, Present and Neighbour Negotiations." Finnish Institute of International Affairs Working Paper, October, 2014, pp. 1-19.
- Von Furstenberg, George (2008). "Performance Measurement under Rational International Overpromising Regimes." *Journal of Public Policy* (28)3: 261-287.
- Von Furstenberg, George M. and Joseph P. Daniels (1992). "Can You Trust G7 Promises?" *International Economic Insights* 3(5): 24–27.

Appendix A: G7/8 Climate Change Commitments by Subject

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	1985	1987	1989	1990	1991	1992	199	1994	1995	1996	1661	1998	1999	2000	200	200	200	200	200	2006	200	200	200	2010	2011	-2012	- 2013	2014	LT Total
Climate change	1											1							1		4				1	1	1	1	11
Environmental																													
problems		1																											1
Emissions																													
reductions			1			1					1	2	1								2	4	3	3	3	1	1		23
WMO network			1																										1
Forests			1	2		1	1														4		5						14
UNFCCC			1	1	1	1													2	2		3	1				3		15
Greenhouse																				_	_		_						
gases				1	1														1	3	2	3	2			2			15
Sinks				1																									1
National action																						_	_						
plan				1	1	1	1	1														7	2	1					15
Research/Scienc						_															_								١
e				1	1	2									1				1		3		1				1		11
Funding least																													
developing					,																	٦		1					_
countries					1																	3		1					5
Global																													
Environment						1	1	1			2	1			2							1							0
Facility CSD						1	1	1	1		2	ı			2							1							9
Post-2000						ı			1																				3
initiatives								1																					1
								ı																					
Reports/Plannin								1												2	2		2						7
g Sustainable								-																					/
development									3		2		1		3	1				1	1		1	1	2		1		17
Polluter-pays									5				'		J	'				'			-	Ľ			<u>'</u>		17
principle									1																				1
Rio conference									1	1	1			1															4
Conference of										<u>'</u>	<u>'</u>			'															
the Parties									1	1		1		1	2								2	1	1	1		1	12
Global warming									·	1					_								_						1
Kyoto Protocol											1	2	1						2				1						7
Development												_							_										
country																													
technology											1																		1
Monitoring											1																		1
Trade												1									1	2							4
Assist																													
developing																													
countries													1						1		1	1	2						6
Technology																	1	1	3		3	3	7						18
Renewable																													
energy																	1	1		1	1								4
Sequestration/C																													
SLF																	1		3	1									5

	1985	1987	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2002	9007	2007	2008	2009	2010	2011	2012	2013	2014	Total
International																													
conferences																	1		1	1	1	1							5
GEOSS																		1	1		1	1							4
Gleneagles																													
Dialogue																			3	2									5
Awareness																			1										1
Dialogue																			1										1
Monitoring																			2										2
Carbon capture																													_
and storage																			2		3	2	1	1					9
Energy																			1	3	4	1							9
Market/Busines																			-	0	-								
S																			2		3	1	1						7
GCOS																			1		_								1
Transport																			1	2	5	1					2	1	12
Major																					,						_	•	12
economies join																				1									1
Hydrocarbons																				2								3	5
Energy security																				_	2								2
Sharing																					_								
practices																					1								1
Post-Kyoto																					1		6					3	10
International																							Ü					,	10
cooperation																					3	8		1					12
Pollution																					1	0		'					1
Mitigation																						7	1				1		9
Adaptation																						2	2				-		4
Common but																													4
differentiated																													
responsibility																						2							2
Methodological																													
issues																						1						5	6
Sectoral																						_						J	U
approach																						1							1
Mid-term goals														-								_	1						1
Financing														 									2	1			2	2	7
Cananhagan																								ı					/
Copenhagen																								1					1
Accord														-										1					33
Total	1	1	4	7	5	8	4	4	7	3	9	8	4	2	8	1	4	3	20	21	40	55	12	11	7	5	12	16	2
	I		4	/	J	Ō	4	4	/	3	7	0	4	Z	Ō		4	3	υŪ	ΖI	47	JJ	43	Ш	/	J	١Z	10	Z

Notes: CSD = Commission on Sustainable Development; CSLF = Carbon Sequestration Leadership Forum; GCOS = Global Climate Observing System; GEOSS = Global Earth Observation System of Systems; UNFCCC = United Nations Framework Convention on Climate Change; WMO = World Meteorological Organization.

Appendix B: G7/8 Compliance on Climate Change

		I	1	1		1	1	1	I	Т
Commitment # (N = 74)	anada	France	Germany	Italy	Japan	Russia	United Kingdom	United States	European Union	Average
1985-1	0	+1	+1	0	0	~	0	<u>⊃ S</u> +1	<u> </u>	+0.50
1987-32	+1	0	0	0	0		+1	0	' '	+0.29
1989-21	+1	0	+1	0	+1		+1	-1		+0.43
1989-22	-1	-1	<u>-1</u>	-1	+1		+1	-1		-0.43
1989-3	-1	-1	0	+1	+1		-1	-1		-0.29
1989-4	+1	0	0	-1	0		+1	-1		0
1990-26	+1	+1	+1	+1	0		0	-1		+0.43
1990-27-28	+1	+1	+1	-1	+1		+1	-1		+0.43
1990-29	-1	-1	+1	-1	0		+1	-1		-0.29
1990-36	-1	-1	-1	-1	-1		-1	-1		-1.00
1991-1	+1	0	+1	0	0		0	-1		+0.14
1991-4	+1	+1	+1	+1	0		+1	-1		+0.67
1992-5	+1	0	+1	0	+1		+1	+1		+0.71
1992-2	+1	+1	+1	+1	+1		+1	-1		+0.71
1992-6 (?)	+1	+1	+1	0	+1		0	+1		+0.71
1993-6	+1	-1	-1	0	+1		0	+1		+0.14
1993-3	+1	+1	+1	+1	+1		+1	+1		+1.00
1994-1	+1	0	+1	0	0		+1	+1		+0.57
1994-3	+1	+1	+1	0	+1		+1	+1		+0.86
1995-23	+1	0	-1	0	0		+1	+1		+0.29
1996-87	0	0	+1	0	+1		+1	+1		+0.57
1997-8	0	+1	+1	-1	+1	+1	+1	0		+0.50
1997-9	-1	+1	+1	0	0	-1	+1	-1	+1	+0.11
1998-32	<u> </u>					+1		+1		+1.00
1998-34	+1	+1	+1	+1	+1	+1	+1	+1		+1.00
1998-35	+1	+1	+1	+1	+1	+1	+1	+1		+1.00
1999-32	0	0	0	-1	+1	-1	-1	+1	-1	-0.22
2000-86	0	0	+1	+1	+1	0	0	0	+1	+0.44
2001-xx	0	0	0	0	0	-1	0	0		-0.13
2001-xx	0	0	0	0	0	0	0	0		0
2001-xx	+1	0	+1	0	-1	0	0	0		+0.13
2001-44	0	0	0	0	0	0	0	0		0
2002-8	+1	+1	+1	+1	+1	+1	+1	0	+1	+0.89
2003-75	0	+1	+1	+1	+1	+1	0	+1		+0.75
2003-92	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1.00
2004(s)-3	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1.00
2004-S2	+1	+1	+1	0	+1	0	+1	+1	+1	+0.78
2005-18	0	+1	+1	-1	0	+1	+1	0	+1	+0.44
2005-1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1.00
2005-2	+1	+1	+1	0	+1	+1	+1	+1	+1	+0.89
2005-158	+1	+1	+1	+1	0	-1	+1	+1	+1	+0.67
2005-15	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1.00
2006-62	0	0	0	0	0	0	+1	0	+1	+0.22
2006-99	0	0	0	0	0	+1	+1	0	+1	+0.33
2006-110	+1	+1	0	-1	+1	0	-1	-1	-1	-0.11
2006-116	+1	0	+1	0	0	0	0	+1	+1	+0.44
2006-123	0	-1	+1	0	+1	0	0	+1	+1	+0.33

Commitment # (N = 74)	Canada	France	Germany	taly	Japan	Russia	United Kingdom	United States	European Union	Average
2006-138	-1	0	0	0	+1	-1	+1	+1	+1	+0.22
2006-156	+1	0	+1	+1	+1	+1	+1	+1	+1	+0.89
2006-162	0	+1	+1	+1	+1	0	+1	+1	+1	+0.78
2006-165	-1	0	0	0	0	0	+1	-1	+1	0
2007-28	0	0	0	-1	+1	-1	+1	+1	+1	+0.22
2007-35	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1.00
2007-36	+1	0	0	0	+1	0	+1	+1	0	+0.44
2007-44	0	0	+1	0	+1	0	+1	+1	+1	+0.56
2008-27	+1	+1	+1	+1	+1	0	+1	+1	+1	+0.89
2008-55	+1	+1	+1	+1	+1	+1	+1	-1	+1	+0.78
2008-72	+1	-1	+1	-1	+1	-1	+1	+1	+1	+0.33
2008-251	0	+1	+1	-1	-1	0	+1	-1	+1	+0.11
2008-265	+1	+1	+1	-1	+1	0	+1	+1	0	+0.56
2009-49	+1	+1	+1	+1	+1	0	+1	0	0	+0.67
2009-64	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1.00
2009-66	+1	+1	+1	+1	+1	0	+1	+1	+1	+0.89
2009-73	0	+1	+1	0	+1	0	+1	+1	+1	+0.67
2009-98	+1	-1	-1	-1	+1	-1	+1	0	+1	0
2010-26	-1	+1	+1	0	-1	+1	+1	-1	+1	+0.22
2010-27	0	0	0	-1	-1	0	0	0	0	-0.22
2010-55	+1	+1	0	+1	+1	0	+1	+1	+1	+0.78
2011-51	+1	+1	0	0	+1	+1	+1	+1	0	+0.67
2012-29	+1	0	+1	-1	0	-1	0	0	+1	+0.11
2013-145	+1	0	+1	0	-1	+1	+1	+1	+1	+0.56
2013-150	-1	0	+1	-1	0	-1	0	0	+1	-0.11
2014-44	+1	+1	+1	-1	0		+1	+1	+1	+0.63
2014-49	0	+1	+1	0	0		+1	+1	+1	+0.63
Average	+0.48	+0.41	+0.63	+0.08	+0.53	+0.20	+0.67	+0.32	+0.80	+0.45

Note: N = total number of commitments assessed.

Appendix C: List of Compliance Catalysts

- 1. **Priority placement (PP)** A commitment is highlighted in the preamble or is stated in the chair's summary is given a priority placement. Leaders may issue several collective documents only one of which might be an overall summary or statement of purpose; this document becomes the equivalent of the preamble in a single document.
- 2. **Past Reference to Summit (PPS)** This refers to commitments that mention past summits. They are considered iterations.
- 3. Past Reference to Ministerial (PPM) This refers to commitments that mention past ministerial meetings.
- 4. **Target (TA)** A commitment refers to a set goal, percentage or numerical allocation is considered a target. It does not include time targets, which are considered time tables. It does include statements to fully implement a defined initiative because "fully" can be translated as 100%.
- 5. **Timetable single-year (TS)** When a commitment refers to a time target, it is considered to include a time table. This can be short term (one year or less) or long term (more than one year). Some may include both short- and long-term break downs.
- 6. **Timetable multi-year (TM)** When a commitment refers to a time target, it is considered to include a time table. A long-term timetable is more than one year. Some may include "by the next summit," "by 2015" and specific dates. It also includes references to words and phrases such as the Millennium Development Goals (MDGs), which include well-known time targets.
- 7. **Self-monitoring (SM)** These refer to commitments where the institution in question pledges to monitor their actions on the said commitment. They could pledge to "monitor," or provide a report, to follow up on said promises.
- 8. **Remit mandate (RM)** These include commitments that refer to future assessment by leaders of progress made on a commitment, most often at a future summit.
- 9. **Money mobilized (MM)** When a commitment refers to funds or a set dollar value it is considered money mobilized... It is also money mobilized when there is a commitment to "increase financial support" to a specific issue.
- 10. **Specified Agent (SA)** A commitment that refers to a specific agent through which it will work with is considered to involve an agent. Even if the agent is not capitalized but the text describes a known particular thing, it is included as a specific agent. Also if the commitment generally refers to an agent to implement a specific action.
- 11. **Institutional Body (IB)** A commitment that refers to an institution that was created by the summit level body to deal with the particular issue area.
- 12. **Core International Organization (CIO)** When a commitment refers to a separate international organization (as an organization) that has a particular focus on the issue in the commitment at hand. When the organization is mentioned by name in relation to implementing an initiative under their control.

- 13. **Other International Organization (OIO)** When a commitment refers to a separate international organization (as an organization) that is *not* the core international organization for the issue in the commitment at hand.
- 14. Regional Organization (RO) When a commitment refers to a regional organization.
- 15. **International Law (IL)** International law includes both general references to international law and references to specific legal instruments (Kyoto, for example). Codified law, and customary law, are included.
- 16. **Ministers (Min)** Commitment refers to a group of ministers.
- 17. **International Organization Accountability Request (IOAR)** Refers to commitments that ask international organizations to monitor the groups' compliance with the commitment.
- 18. Civil Society (CS) Commitments that make general reference to working with civil society.
- 19. **Private Sector (PS)** Commitments that make general reference to working with the private sector, public-private partnerships, business (including the pharmaceutical industry).
- 20. Country or Regional Specification (C/RS) Commitments that make references to working with or in a particular country or region, such as Africa.
- 21. **Surveillance (SUR)** The commitment requests for the action or issue to be monitored in order to collect data.
- 22. **International Organization Surveillance (IOS)** The commitment requests a specific international organization to monitor the issue, not the implementation of the commitment but to provide data collection in a specific area.
- 23. **Core/Other International Organization (C/OIO)** When a commitment refers to both the core, and other international organizations.

Note: Definitions taken from J. Kirton et al. (2015) Reference Manual for Summit Commitment and Compliance Coding.

Appendix D: G7/8 Compliance Catalysts

I r.																							
Commitment Solution 1985-1	Priority placement	O Past reference to summit	O Past reference to ministerial	o Target	OTime table: single year	o∏imetable: multi-year	ے Self-monitoring	O Remit mandate	O Money mobilized	Specified agent	Olnstitutional body	Core international	Other international	— Regional organization	O International law	O Ministers	OInternational organization	O Civil society	O Private sector	Country/regional	O Surveillance	Unternational organization	Core/other international
Summit average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987-32	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Summit average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989-21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989-22	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
1989-3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989-4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average																						-	
1990-26	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990-27-	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
28																							
1990-29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990-36	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average																							
1991-1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
1991-4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average										_			_					_	_		_		_
1992-5	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
1992-2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
1992-6 (?)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Λ	0
1993-6 1993-3	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average	U	U	U	U	U	U	٦	U	U	U	U	U	0	U	J	١	U	U	U	U	ľ	U	U
1994-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1994-3	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average	"	'	'	'					'		0			0			"					J	J
1995-23	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average																							
1996-87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
										<u> </u>	<u> </u>	<u> </u>	_ <u> </u>	<u> </u>	<u> </u>					<u> </u>			

Commitment	Priority placement	Past reference to summit	Past reference to ministerial	Target	Time table: single year	Timetable: multi-year	Self-monitoring	Remit mandate	Money mobilized	Specified agent	Institutional body	Core international	Other international	Regional organization	International law	Ministers	International organization	Civil society	Private sector	Country/regional	Surveillance	International organization	Core/other international
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average 1997-8	1	_	0	0	_	1	0	_	0	0	0	0	_	0	1	0	0	0	0	_	_	_	
1997-8	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1997-9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1997-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average		0	0			0	0		"	0	0	"	"	0	"	0	U	0		0		U	
1998-32	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
1998-34	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
1998-35	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average																							
1999-32	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average																							
2000-86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average 2001-xx	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
2001-xx 2001-xx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
2001-xx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2001-44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average																							
2002-8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average																							
2003-75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2003-92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average 2004(s)-3	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
2004(s)-3 2004-S2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average	0	U	U	0	"	U	U	"	"	U	0	U	"	0	0	U	U	U	0	U	"	U	
2005-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2005-2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2005-15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2005-18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2005-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
158	<u> </u>																						
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average																							

The color of the																					l			
2006-62 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Sommitment	riority placement	ast reference to summit	ast reference to ministerial	arget	ime table: single year	imetable: multi-year	elf-monitoring	temit mandate	Aoney mobilized	pecified agent	nstitutional body	ore international	Other international	egional organization	nternational law	Ainisters	nternational organization	ivil society	rivate sector	ountry/regional	urveillance	nternational organization	core/other international
2006-190 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0	2006-62															_			•					
2006-110 0	2006-99	0		0			0		1					0	0	0			0	0	_	0		0
2006-1166		0		0	0	0			0	0	0			0	0	0		0		0	0	0		
2006-156 0	2006-116	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
2006-156 0	2006-123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2006-162		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
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Commitment	Priority placement	Past reference to summit	Past reference to ministerial	Target	Time table: single year	Timetable: multi-year	Self-monitoring	Remit mandate	Money mobilized	Specified agent	Institutional body	Core international	Other international	Regional organization	International law	Ministers	International organization	Civil society	Private sector	Country/regional	Surveillance	International organization	Core/other international
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average																							
2014-45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014-49	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average																							
2015-33	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015-187	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015-188	0	0	0	1	1	1	0	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	0
2015-192	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
average																							
Total	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	7	4	0	2	5	7	0	1	3	3	0	6	0	0	1	0	0	2	5	2	0	0	0

Note: N = 80.

Appendix E: G7/8 Summit-Based Causes

		Commitments per	Ministers' meetings (pre-	
Year	Summit score	summit	summit)	United Nations summit
1998	+1.00	8	1	0
2002	+0.89	1	1	1
2004	+0.89	3	0	0
2003	+0.88	4	1	0
2005	+0.80	30	2	0
1992	+0.71	8	2	0
1994	+0.71	4	1	0
2011	+0.67	7	0	0
2009	+0.64	43	1	1
2014	+0.63	16	0	0
1993	+0.57	4	0	0
1996	+0.57	3	1	1
2007	+0.56	49	2	0
2006	+0.53	21	1	0
Total	-	201	13	3
Average	+0.72	14.36	0.93	0.21
2008	+0.53	55	2	0
1985	+0.50	1	0	0
2000	+0.44	2	1	0
1991	+0.40	5	0	1
1997	+0.31	9	1	0
1995	+0.29	7	1	0
1987	+0.29	1	0	0
2010	+0.26	11	0	0
2013	+0.22	12	0	0
2012	+0.11	5	0	1
2001	0	8	1	0
1989	-0.07	4	0	0
1990	-0.11	7	0	0
1999	-0.22	4	1	0
Total		131	7	2
Average	+0.21	9.36	0.50	0.14

Appendix F: G7/8 Official Bodies

First Summit Cycle	Meeting
1975	London Nuclear Suppliers Group
1977	International Nuclear Fuel Cycle Evaluation Group
1979	High Level Group on Energy Conservation and Alternative Energy
1979	International Energy Technology Group
1979	High Level Group to Review Oil Import Reduction Progress
1980	International Team to Promote Collaboration on Specific Projects on Energy Technology
1980	High Level Group to Review Result on Energy
Second Summit Cycle	J 1 3/
1985	Expert Group on Desertification and Dry Zone Grains
1985	Expert Group on Environmental Measurement
Third Summit Cycle	
1992	Nuclear Safety Working Group
1993	G8 Non-Proliferation Experts Group
Fourth Summit Cycle	•
1996	Nuclear Safety Working Group
1997	Officials Group on Forests
2000	Renewable Energy Task Force
2002	Energy Officials Follow-up Process
2002	G8 Global Partnership Review Mechanism
2002	G8 Nuclear Safety and Security Group
Fifth Summit Cycle	
2003	Senior Officials for Science and Technology for Sustainable Development
2003	G8 Enlarged Dialogue Meeting
2004	Global Partnership Senior Officials Group (GPSOG)
2004	Global partnership Working Group (GPWG)
2004	International Partnership for a Hydrogen Economy (IPHE)
2004	IPHE Implementation-Liaison Committee
2004	Carbon Sequestration Leadership Forum (CSLF)
2004	Renewable Energy and Energy-Efficiency Partnership (REEEP)
2004	Generation IV International Forum (GIF)
2004	Global Earth Observation System of Systems (GEOSS)
2005	Dialogue on Sustainable Energy
2005	Global Bioenergy Partnership
2006	G8 Expert Group on Securing Energy Infrastructure
2007	Structured High Level Dialogue with Major Emerging Economies (Heiligendamm process), including energy
2008	G8 Experts Group to Monitor Implementation on Food Security
2008	Climate Investment Funds (CIF, CTF, SCF)
2008	Energy Forum
2009	Major Economies Forum on Energy and Climate
2009	Intergovernmental Platform on Biodiversity and Ecosystem Services
2009	L'Aquila Food Security Initiative
2010	Global Agriculture and Food Security Program
Sixth Summit Cycle	
None after 2010	

Note: Excludes one-off meeting or conferences, Global Partnership on Weapons and Materials of Mass Destruction, 1990 Brazil Pilot Program on Tropical Forests, and 1992 Global Environment Facility Working Group of Experts. A summit cycle is one rotation of presidencies starting with France and ending with Canada. Most directly relevant bodies are in italics.

Appendix G: G7/8 Multiyear Compliance Averages

67 Taormina Priorities	Issue area	Average	e Score
nvesting in innovative Italy	Overall compliance	+0.51	75%
Human mobility	Migration/refugees	+0.70	85%
Terrorism and corruption	Terrorism	+0.61	81%
·	Crime and Corruption	+0.45	73%
Africa and the Middle East	n/a	n/a	n/a
Security	Regional Security	+0.62	81%
-	Non-proliferation	+0.64	82%
Economic growth and trade	Macroeconomic policy	+0.73	87%
-	Trade	+0.27	64%
Energy	Energy	+0.64	82%
Climate change	Climate change	+0.46	73%
-	Environment	+0.57	79%
Food and nutrition	Food and Agriculture	+0.54	77%
Health	Health	+0.54	77%
Gender equality	Gender	+0.28	64%
Education	Education	+0.38	69%
nnovation	ICT	+0.69	85%
Labour	Labour and Employment	+0.52	76%
Social security	Social policy	+0.71	86%
nfrastructure	n/a	n/a	n/a
Financial stability	Financial Regulation	+0.55	78%
	Human mobility Ferrorism and corruption Africa and the Middle East Security Economic growth and trade Energy Climate change Food and nutrition Health Gender equality Education Innovation Social security Infrastructure	Human mobility Ferrorism and corruption Ferrorism and corruption Africa and the Middle East Africa and the Middle East Fecurity Fe	Human mobility Ferrorism and corruption Ferrorism 4.0.45 Ferrorism and Corruption Ferrorism 4.0.45 Ferrorism

N = 486