

# **Controlling Climate Change through G7-G20-UN Leadership**

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## **Introduction**

Climate change is the greatest global, national, and human challenge of all, for the Group of Seven (G7), Group of 20 (G20), United Nations and the global community as a whole. Along with nuclear war, it is the only threat that could conceivably end all life on the planet for all time. It already poses an existential threat to several low-lying small island states that are slowly sinking beneath the rising seas. Its ever more extreme weather events bring mounting death and destruction to military and civilian facilities and personnel alike. And global emissions and temperatures are rising relentlessly to set new records ever month as they rapidly approach the levels needed to avoid catastrophic climate change. They are already at 1.3°C above pre-industrial levels, closing in on the allowable 1.5°C goal set by the UN in its Paris Agreement in December 2015.

To combat catastrophic climate change, all the central institutions of global governance now seek to make timely, well-tailored, sufficiently ambitious international commitments and have their members comply with them. How well are they doing and how can their performance be improved in time?

This paper argues that the UN, G7, and G20 are all failing, if in different degrees and ways. The UN at its recent Paris summit set targets too low, and is too slow in implementing them. However, we now know how the G7 and G20 are acting more ambitiously and their members' compliance can be improved, through low cost measures under their leaders direct control that they have used before. They need to do so now, for the past and prospective performance of the UN is too low and too slow.

## **G7 Climate Leadership**

The G7 summit of the major democratic powers is well positioned to take the lead in this regard. Indeed, the global governance of climate change was invented by the G7 leaders at their fifth annual summit, held in Tokyo in June 1979. There they instituted the most ambitious and effective control regime the world has ever seen. Their leadership continued at their annual summits for over a decade, when they then handed the leadership over to the UN at the UN Conference on the Environment and Development at Rio in June 1992. There and at Kyoto five years later the UN devised a regime that put development first, and asked a little group of countries to do a little bit for a little while, which they did not do. By 2005, as an unbound China replaced an unbound United States under Clinton then Bush as the largest carbon polluter in the world, the G7 seized the leadership again to put in place an inclusive, environment-first regime in which all major carbon polluters agreed to control their carbon.

At the 21st Conference of the Parties in Paris in December 2015 the UN adopted this G7 pioneered regime. But there is no sign that the Paris promises will be fully implemented or be enough to solve the problem even if they are. Paris continued the UN's traditional siloed approach, failing to reap the synergies from cognate fields such as health. Indeed, the 31-page Paris Agreement made only one brief reference to health and only one to security, in the form of food security.

In sharp contrast, the G7/8 increasingly made climate change commitments since 1985, with a total of 332 through to 2014. It peaked at 55 when Japan hosted the summit in 2008.

Compliance with the 74 assessed G7/8 climate commitments averaged 73%. This level is close to the G7's all-issue average of 75%.

All members complied positively overall. They ranked as follows:

European Union	94%
United Kingdom	83%
Germany	82%
Japan	77%
Canada	75%
<i>Average</i>	<i>73%</i>
France	71%
United States	67%
Russia	60%
Italy	55%

Members' compliance with their G7 climate change commitments can potentially come from many causes, many well beyond the leaders' own direct control. However, they have at their disposal ten low cost accountability mechanisms that they have used in the past. Our research shows that several of them actually work.

G7/8 average climate compliance was and can be improved through the use of the following six moves:

1. Make more companion commitments on climate change at the same summit;
2. Embed in the commitment the catalyst of a specified agent;
3. Above all, hold a set-up environment ministers meeting, as from 1992 to 2009 and in 2016;
4. Have a G7 official level body provide post-summit support;
5. Hold a subsequent UN summit in the same year, as this helps a bit;
6. Do not specify a country or region in the commitment, as this hurts a lot.

In addition, the catalysts of the United Nations Framework Convention on Climate Change (UNFCCC) and United Nations Environment Programme, precise targets, a multi-year timetable, civil society participation and autonomous assessment of compliance might improve G7 members' compliance with their climate change commitments, but the scientific jury is still out on that.

## **The G20 Contribution**

The G20 summit of systemically significant states got off to a slow start in its climate change governance but has increasingly contributed too. Its great leap forward came at its third summit, held in Pittsburgh in September 2009. There leaders agreed to phase out inefficient fossil fuel subsidies in the medium term, which meant by 2016.

The G20 summit made 49 climate commitments from its start in 2009 through to 2015. It peaked at 11 in 2013 and declined since.

Compliance with these 12 assessed climate commitments averaged 68%. This is well below the G20's all-issue average of 72% and the G7/8 climate average of 73%.

All G20 members complied positively with their climate change and closely connected energy commitments, save for Saudi Arabia and Turkey. On climate change they ranked as follows:

United Kingdom	88%
European Union	87%
Australia	84%
France	84%
Korea	82%
Mexico	80%
China	79%
Germany	79%

With only 12 climate and 14 energy commitments assessed for compliance, it is less certain what causes compliance. Yet some of the leaders' controlled accountability mechanisms again stand out. G20 climate-energy compliance was improved by:

1. Fewer climate companion commitments;
2. Strongly by the catalyst of international law, notably the UNFCCC;
3. Very strongly improved by iteration and multiple iteration at subsequent summits;
4. A finance ministerial meeting set-up; and
5. Possibly, by a UNFCCC summit the same year as in 2009 and 2012.

## Conclusion

From this analysis, four conclusions stand out.

First, G7 and G20 summits help lead global climate change governance, as their powerful members largely comply with the climate change commitments they make there.

Second, G7 and G20 leaders partly control their own compliance fate, for they can improve compliance by using low-cost accountability mechanisms they directly control and have used in the past.

Third, to improve climate change compliance, the G7/8 should thus make more climate commitments each year, have regular environment ministers' meetings after its 2016 restart, and specify an agent to ensure compliance.

Fourth, in contrast, the more poorly performing G20 should persistently commit to support the UNFCCC, but expand its finance ministers' climate agenda (as it did in February 2016) and possibly add an annual environment ministers' meeting to the energy one it started in 2015.

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## Appendix A: G7/8 Climate Change Performance

Summit	Domestic political management		Deliberation		Direction setting			Decision making	Delivery		Development of global governance		
	Communiqué compliments		Words		Priority placement	Democracy	Human rights	# commitments	Compliance		Inside	Outside	
	#	%	#	%					Score	% assessed		# references	# bodies
1975	0	0	0	0	0	0	0	0	-	-	0	0	0
1976	0	0	0	0	0	0	0	0	-	-	0	0	0
1977	0	0	0	0	0	0	0	0	-	-	0	0	0
1978	0	0	0	0	0	0	0	0	-	-	0	0	0
1979	0	0	0	0	0	0	0	0	-	-	0	0	0
1980	0	0	0	0	0	0	0	0	-	-	0	0	0
1981	0	0	0	0	0	0	0	0	-	-	0	0	0
1982	0	0	0	0	0	0	0	0	-	-	0	0	0
1983	0	0	0	0	0	0	0	0	-	-	0	0	0
1984	0	0	0	0	0	0	0	0	-	-	0	0	0
1985	0	0	88	2.9	0	0	0	1	+0.5	100	0	0	0
1986	0	0	0	0	0	0	0	0	-	-	0	0	0
1987	0	0	85	1.5	0	0	0	1	+0.29	100	0	0	0
1988	0	0	140	2.7	0	0	0	0	-	-	0	3	2
1989	0	0	422	6	0	0	0	4	-0.07	100	0	3	2
1990	0	0	491	5.9	0	0	0	7	-0.11	57	0	2	2
1991	0	0	236	2.4	0	0	0	5	+0.38	40	0	1	1
1992	0	0	137	1.8	0	0	0	8	+0.71	43	2	2	1
1993	0	0	154	3.1	0	0	0	4	+0.57	50	0	2	2
1994	0	0	107	2.6	0	0	0	4	+0.71	50	1	0	0
1995	0	0	87	0.7	0	0	0	7	+0.29	14	1	0	0
1996	0	0	167	0.8	0	0	0	3	+0.57	33	1	2	2
1997	0	0	305	1.6	0	0	0	9	+0.29	22	1	0	0
1998	0	0	323	5.3	0	0	0	8	+1.00	30	1	0	0
1999	0	0	198	1.3	0	0	0	4	-0.22	25	1	1	1
2000	0	0	213	1.6	0	0	0	2	+0.44	25	1	1	1
2001	1	11	324	5.2	0	0	0	8	0	100	2	2	2
2002	0	0	53	0.2	3	0	0	1	+0.89	100	1	0	0
2003	0	0	62	0.3	5	0	0	4	+0.88	50	1	0	0
2004	0	0	98	0.3	0	0	0	3	+0.89	67	0	0	0
2005	0	0	2,667	9.3	10	0	0	30	+0.80	17	3	20	6
2006	0	0	1,533	3.1	2	0	0	21	+0.35	45	1	10	5
2007	4	44	4,154	12	10	0	0	49	+0.56	9	1	16	7
2008	0	0	2,568	17.5	8	0	0	55	+0.53	9	2	22	11

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Summit	Domestic political management		Deliberation		Direction setting			Decision making	Delivery		Development of global governance		
	Communiqué compliments		Words		Priority placement	Democracy	Human rights	# commitments	Compliance		Inside	Outside	
	#	%	#	%					Score	% assessed		# references	# bodies
2009	0	0	5,559	33.3	17	5	1	43	+0.64	12	1	19	10
2010	1	11	1,282	12	1	2	0	11	+0.26	30	0	5	3
2011	0	0	1,086	5.9	1	1	0	7	+0.67	14	0	7	6
2012	0	0	789	7.1	0	0	0	5	+0.11	20	0	4	3
2013	1	11	525	3.9	0	1	0	12	+0.22	17	0	5	4
2014	0	0	747	14.6	0	0	0	16	N/A		0	7	6
Total	7		24,600		57	9	1	332	N/A		21	134	77
Average	0.17	0.02	615.43	4.16	1.4	0.42	0.03	8.0	+0.45	44.0	0.53	3.35	1.95

Notes: All data derived from documents issued in the G7/8 leaders' names at each summit. N/A = not available.

Domestic Political Management includes all communiqué compliments related to climate change, i.e., references by name to the G7/8 member(s) that specifically express gratitude in the context of climate change. % indicates how many G7/8 members received compliments in the official documents, depending on the number of full members participating.

Deliberation refers to the number of references to climate change. The unit of analysis is the paragraph. % refers to the percentage of the words in each document that relate to climate change.

Direction Setting: Priority Placement refers to the number of references to climate change in the chapeau or chair's summary; the unit of analysis is the sentence. Democracy refers to the number of references to democracy in relation to climate change. Human Rights refers to the number of references to human rights in relation to climate change. The unit of analysis for democracy and human right references is the paragraph.

Decision Making refers to the number of climate change commitments.

Delivery refers the overall compliance score for climate change commitments measured for that year. % assessed refers to percentage of commitments measured.

Development of Global Governance: Inside refers to the number of references to G7/8 environment ministers. Outside refers to the number of multilateral organizations related to climate change. The unit of analysis is the sentence.

## Appendix B: G7/8 Summit-Based Causes

Year	Summit compliance score	Climate commitments per summit	Environment ministers' set-up meetings	United Nations summit
Top-complying years				
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
Bottom-complying years				
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 C: List of Compliance Catalysts

1. **Priority placement:** Commitment highlighted in the preamble or stated in the chair's summary. 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:** Commitment that mentions past summits.
3. **Past reference to ministerial:** Commitment that mentions past ministerial meetings.
4. **Target:** Commitment that refers to a set goal, percentage or numerical allocation. It does not include time targets, which are considered timetables (see below). It does include statements to fully implement a defined initiative because "fully" can be translated as 100%.
5. **Timetable single-year:** A commitment that refers to a time target, which can be short term (one year or less) or long term (more than one year). A commitment may include both short- and long-term breakdowns. It may include "by the next summit" dates.
6. **Timetable multi-year:** A commitment that refers to a time target with a timetable longer than one year. It may include "by 2015" or specific dates. It can also include references to words and phrases such as the Millennium Development Goals, which include well-known time targets.
7. **Self-monitoring:** A commitment where the institution in question pledges to monitor its actions on the said commitment. The institution could pledge to "monitor" or provide a report to follow up.
8. **Remit mandate:** A commitment that refers to future assessment by leaders of progress made on the commitment, most often at a future summit.
9. **Money mobilized:** A commitment that refers to funds or a set monetary value. It is also money mobilized when a commitment pledges to "increase financial support" to a specific issue.
10. **Specified agent:** A commitment that refers to a specific agent through which it will work. Even if the agent is not capitalized but the text describes a known particular thing, it is included as a specific agent. The commitment may generally refer to an agent to implement a specific action.
11. **Institutional body:** 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:** A commitment that refers to a separate international organization (as an organization) focused on the issue in the commitment. The organization may be mentioned by name in relation to implementing an initiative under its control. It includes the secretariat for legal agreements such as the UNFCCC.
13. **Other international organization:** A commitment that refers to a separate international organization (as an organization) that is not the core international organization for the issue in the commitment.
14. **Regional organization:** A commitment that refers to a regional organization.
15. **International Law:** A commitment that refers generally to international law or to specific legal instruments (such as the UNFCCC or Kyoto Protocol). Codified law and customary law are included.
16. **Ministers:** A commitment that refers to a group of ministers.
17. **International organization accountability request:** A commitment that asks international organizations to monitor the group's compliance with the commitment.
18. **Civil society:** A commitments that refers generally to working with civil society.
19. **Private sector:** A commitment that refers generally to working with the private sector, public-private partnerships, business (including the pharmaceutical industry), etc.
20. **Country or regional specification:** A commitment that refers to working with or in a particular country or region, such as Africa.

21. **Surveillance:** A commitment that requests for action on an issue to be monitored in order to collect data.
22. **International organization surveillance:** A commitment that requests a specific international organization to monitor the issue, as opposed to implement the commitment, or to provide data collection in a specific area.
23. **Core/other international organization:** A commitment that refers to the core international organization and to other international organizations.

Definitions taken from John Kirton et al. (2016).

## Appendix D: UNFCCC Impact on G8 Climate Change Compliance

UNFCCC Summits (n=5)						
UNFCCC summit	Pre-G8		Post-G8		Simultaneous	
	Summit	Score	Summit	Score	Summit	Score
1996	1995	+0.29	1997	+0.31	1996	+0.57
2000	1999	+0.22	2001	0	2000	+0.44
2002	2001	0	2003	+0.88	2002	+0.89
2009	2008	+0.53	2010	+0.26	2009	+0.64
2012	2011	+0.67	2013	+0.22	2012	+0.11
Average	+0.25		+0.33		+0.53	

## Appendix E: G20 Climate Performance

Summit	Domestic political management		Deliberation		Direction setting			Decision making	Delivery		Development of global governance			
	Communiqué compliments		Words		Priority placement	Democracy	Human rights	# commitments	Compliance		Inside		Outside	
	#	%	#	%					Score	% assessed	Ministerials	Official bodies	# references	# bodies
2008 Washington	0	0%	64	1.7	0 (0)	0	1	0 (0)	- (-)	- (-)	0	0	0	0
2009 London	0	0%	64	1.0	1 (0)	0	0	3 (0)	-0.10 (-)	33 (25)	0	0	1	1
2009 Pittsburgh	1	5%	911	9.7	4 (0)	0	0	3 (16)	+0.86 (+0.43)	33 (25)	4	0	10	4
2010 Toronto	1	5%	838	7.4	0 (0)	1	0	3 (1)	+0.42 (+0.50)	100 (100)	0	0	3	3
2010 Seoul	2	10%	2,018	12.7	2 (0)	1	0	8 (14)	+0.35 (+0.51)	25 (14)	5	3	20	11
2011 Cannes	2	10%	1,167	8.2	0 (0)	1	0	8 (18)	- (+0.61)	0 (17)	2	0	11	7
2012 Los Cabos	0	0%	1,160	9.1	0 (1)	1	0	6 (10)	+0.38 (+0.58)	40 (10)	1	5	6	5
2013 St. Petersburg	1	5%	1,697	5.9	1 (0)	0	0	11 (14)	-0.20 (+0.55)	9 (7)	0	3	10	7
2014 Brisbane	0	0%	323	3.5	0(0)	0	0	7 (16)	N/A	N/A	0	0	4	2
Total	7		8,242		8 (1)	4	1	49 (89)			12	11	65	40
Average	0.78	4%	916	6.6	0.88 (0.11)	0.4	0.1	5.4 (9.8)	+0.31 (+0.52)	20 (13)	1.3	1.2	7.2	4.4

Notes: All data derived from documents issued in the G20 leaders' names at each summit. N/A = not available.

Domestic Political Management includes all communiqué compliments related to climate change, i.e., references by name to the G20 member(s) that specifically expresses gratitude in the context of climate change. % indicates how many G20 members received compliments in the official documents, depending on the number of full members participating.

Deliberation refers to the number of references to climate change. The unit of analysis is the paragraph. % refers to the percentage of the words in each document that relate to climate change.

Direction Setting: Priority Placement refers to the number of references to climate change in the chair's summary; the unit of analysis is the sentence. The number in parenthesis refers to the number of references to the environment. Democracy refers to the number of references to democracy in relation to climate change. Human Rights refers to the number of references to human rights in relation to climate change. The unit of analysis for democracy and human right references is the paragraph.

Decision Making refers to the number of climate change commitments. The number in parenthesis refers to the number of energy commitments.

Delivery refers the overall compliance score for climate change commitments measured for that year. % assessed refers to percentage of commitments measured. The numbers in parenthesis refer to energy commitments.

Development of Global Governance: Inside refers to the number of references to institutions inside the G20 related to climate change. Outside refers to the number of multilateral organizations related to climate change. The unit of analysis is the sentence.

## Appendix F: G20 Climate Change Compliance

N=(12)		Average	Argentina	Australia	Brazil	Canada	China	France	Germany	India	Indonesia	Italy	Japan	Korea	Mexico	Russia	Saudi Arabia	South Africa	Turkey	United Kingdom	United States	European Union
2009L-84	We agreed to make the best possible use of investment funded by fiscal stimulus programmes towards the goal of building a resilient, sustainable, and green recovery.	-0.10	-1	0	-1	0	+1	0	0	-1	0	0	0	+1	0	-1	0	0	-1	0	0	+1
2009P-85	We will intensify our efforts, in cooperation with other parties, to reach agreement in Copenhagen through the UNFCCC negotiation. An agreement must include mitigation, adaptation, technology, and financing.	+0.86		+1	0	+1	+1	+1	+1	+1	0		+1		+1	+1			+1	+1	+1	
2010T-56	We reiterate our commitment to a green recovery and to sustainable global growth	+0.40	+1	+1	+1	+1	+1	0	0	+1	0	+1	0	+1	-1	-1	-1	0	0	+1	+1	+1
2010T-57	those of us who have associated with the Copenhagen Accord reaffirm our support for it and its implementation and call on others to associate with it.	-0.06		0	0	0	0	0	0	0	-1	0	0	0	0	0		-1		0	0	+1
2010T-58	We are committed to engage in negotiations under the UNFCCC on the basis of its objective provisions and principles including common but differentiated responsibilities and respective capabilities and are determined to ensure a successful outcome through an inclusive process at the Cancun Conferences.	+0.89	+1	+1	+1	0	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1		+1		+1	0	+1
2010S-131	"We reiterate our commitment to take strong and action-oriented measures and remain fully dedicated to UN climate change negotiations."	+0.25	-1	+1	+1	+1	+1	0	0	0	+1	+1	0	-1	+1	0	-1	-1	-1	+1	+1	+1
2010S-132	"Those of us who have associated with the Copenhagen Accord reaffirm our support for it and its implementation."	+0.47		+1	+1	+1	0	0	+1	+1	-1	-1	+1	0	+1	0		0		+1	+1	+1
2012LC-91	We reiterate our commitment to fight climate change and welcome the outcome of the 17th Conference of the Parties to the UN climate change conferences.	+0.70	+1	+1	+1	+1	+1	+1	+1	+1	-1	0	+1	+1	+1	+1	-1	+1	0	+1	+1	+1
2012LC-94	We [welcome international efforts in launching the Green Growth Knowledge Platform and] will continue exploring options to provide appropriate support to interested developing countries.	+0.05	-1	+1	0	0	+1	0	+1	+1	+1	-1	-1	+1	0	-1	-1	0		0	0	0
2012LC-230	We are committed to promote sustainable development and green growth and to continue our efforts to face the challenge of climate change.	+1.00	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1
2013-188	We support the operationalization of the Green Climate Fund (GCF)."	-0.20	-1	-1	-1	-1	-1	+1	+1	-1	+1	+1	+1	+1	-1	-1	-1	0	-1	+1	0	-1
2014-79	We reaffirm our support for mobilising finance for adaptation ... such as the Green Climate Fund."	+0.10	0	+1	-1	+1	0	+1	0	-1	0	-1	+1	+1	+1	-1	-1	0	-1	+1	0	+1
Average		+0.35	0	+0.67	+0.25	+0.50	+0.58	+0.50	+0.58	+0.33	+0.17	+0.18	+0.50	+0.64	+0.42	-0.08	-0.63	+0.09	-0.25	+0.75	+0.50	+0.73

Note: Compiled by Caroline Bracht, December 1, 2015.

### Appendix F: G20 Energy Compliance

Summit	Commitment	Average	Argentina	Australia	Brazil	Canada	China	France	Germany	India	Indonesia	Italy	Japan	Korea	Mexico	Russia	Saudi Arabia	South Africa	Turkey	United Kingdom	United States	European Union
2009P-18	to phase out and rationalize over the medium term inefficient fossil fuel subsidies while providing targeted support for the poorest.	+0.05	0	-1	0	-1	+1	+1	0	0	+1	-1	+1	+1	+1	-1	-1	+1		-1	+1	-1
2009P-72	Increase energy market transparency and market stability by publishing complete, accurate, and timely data on oil production, consumption, refining and stock levels, as appropriate, on a regular basis, ideally monthly, beginning by January 201+0.	+0.45	0	0	0	0	0	+1	+1	0	+1	+1	+1	+1	+1	0	0	0	0	+1	+1	0
2009P-83	We commit to stimulate investment in clean energy, renewables, and energy efficiency and provide financial and technical support for such projects in developing countries.	+0.44	0	+1	+1	+1	+1	+1		+1	0		+1	0	0	-1	-1	0	0	+1	+1	1
2009P-84	[We commit to] Take steps to facilitate the diffusion or transfer of clean energy technology including by conducting joint research and building capacity.	+0.75	+1	+1	0	+1	+1	+1	+1	+1	0	+1	+1	+1	+1	+1	0	0	+1	+1	+1	0
2010T-60	[We note with appreciation the report on energy subsidies from the IEA, OPEC, OECD and World Bank. We welcome the work of Finance and Energy Ministers in delivering implementation strategies and timeframes, based on national circumstances, for the rationalization and phase out over the medium term of inefficient fossil fuel subsidies that encourage wasteful consumption, taking into account vulnerable groups and their development needs.] We also encourage continued and full implementation of country-specific strategies and will continue to review progress towards this commitment at upcoming summits.	+0.45	0	+1	+1	0	0	+1	+1	-1	0	+1	+1	+1	+1	0	+1	+1	0	+1	0	-1

Summit	Commitment	Average	Argentina	Australia	Brazil	Canada	China	France	Germany	India	Indonesia	Italy	Japan	Korea	Mexico	Russia	Saudi Arabia	South Africa	Turkey	United Kingdom	United States	European Union
2010S-127	We reaffirm our commitment to rationalize and phase-out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption, with timing based on national circumstances, while providing targeted support for the poorest.	+0.26	0	+1	+1	+1	-1	0	-1	0	0	+1	0	+1	0	+1	0	+1	-1	+1	0	
2010S-135	We will take steps to create, as appropriate, the enabling environments that are conducive to the development and deployment of energy efficiency and clean energy technologies, including policies and practices in our countries and beyond, including technical transfer and capacity building.	+0.75	0	+1	+1	+1	+1	+1	+1	+1	0	+1	+1	+1	+1	+1	-1	+1	0	+1	+1	1
2011C-236	We reaffirm our commitment to rationalise and phase-out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption, while providing targeted support for the poorest	+0.63	0	+1	+1	0	+1	+1	0	+1	0	+1	0	+1	+1	+1		+1	0	+1	0	1
2011C-242	We commit to encouraging effective policies that overcome barriers to efficiency, or otherwise spur innovation and deployment of clean and efficient energy technologies.	+0.95	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	0	+1	+1	1
2011C-252	We stand ready to work towards operationalization of the Green Climate Fund as part of a balanced outcome in Durban, building upon the report of the Transitional Committee	+0.25	0	+1	+1	-1	+1	0	+1	+1	+1	0	-1	+1	+1	0	-1	0	0	+1	-1	0
2012LC-96	We reaffirm our commitment to rationalize and phase out inefficient fossil fuel subsidies that encourage wasteful consumption over the medium term while providing targeted support for the poorest.	+0.58	0	+1	+1	0	+1	+1	0	+1	0	0	0	+1	+1	+1		+1	0	+1	0	1

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Summit	Commitment	Average	Argentina	Australia	Brazil	Canada	China	France	Germany	India	Indonesia	Italy	Japan	Korea	Mexico	Russia	Saudi Arabia	South Africa	Turkey	United Kingdom	United States	European Union
2013-12	We commit] to take steps to support the development of cleaner and more efficient energy technologies to enhance the efficiency of markets and shift towards a more sustainable energy future."	+0.55	0	-1	+1	0	+1	+1	+1	+1	+1	0	0	0	+1	+1	0	0	+1	+1	+1	1
2014-73	We reaffirm our commitment to rationalise and phase out inefficient fossil fuel subsidies that encourage wasteful consumption, recognising the need o support the poor."	-0.45	-1	-1	0	-1	-1	+1	-1	0	0	-1	-1	0	0	-1	-1	-1	-1	0	+1	0
2014-203	[G20 countries, agree to work together to:] Encourage and facilitate the design, development, demonstration [of innovative energy technologies, including clean energy technologies.]	+0.90	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	-1	+1	+1	+1	1
Average		+0.47	+0.14	+0.50	+0.71	+0.21	+0.57	+0.86	+0.46	+0.57	+0.43	+0.46	+0.43	+0.79	+0.79	+0.36	-0.17	+0.36	+0.08	+0.79	+0.57	+0.38

Note: Compiled by Caroline Bracht, November 30, 2015.

## Appendix G: G20 Summit-Based Causes

Year	Summit Score	Commitments per Summit	Finance Ministers Meetings (Pre-G20 Summit)	United Nations Summit (Post-G20 Summits)
<b>Climate Change (n = 11)</b>				
2011	+1.00	8	3	0
2009 Pittsburgh	+0.86	3	1	1
2010 Toronto	+0.42	3	2	0
2012	+0.38	6	2	1
Total		20	8	2
Average	+0.67	5.00	2.00	+0.50
<b>Energy (n = 11)</b>				
2010 Seoul	+0.35	8	1	0
2013	-0.20	11	3	0
2009 London	-0.10	3	1	0
Total		22.00	5.00	+0.00
Average	+0.02	7.33	1.67	0
Overall average	+0.42			
<b>Energy (n = 11)</b>				
2011	+0.79	18	1	0
2012	+0.58	10	2	1
2013	+0.55	19	2	0
Total		47	5	1
Average	+0.64	15.67	1.67	0
2010 Seoul	+0.51	14	1	0
2010 Toronto	+0.45	1	2	0
2009 Pittsburgh	+0.43	16	0	1
2009 London				
Total		31	3	1
Average	+0.46	1+0.33	1.00	0
Energy average	+0.54			
Combined average	+0.48			

## Appendix H: G20 Official Bodies for Environment and Energy

February 13-14, 2009	Officials Workshop Financing for Climate Change
February 19-20, 2013	Energy Sustainability Working Group Meeting #1
April 25, 2013	Workshop of National Energy Regulators (expert level)
April 26, 2013	Workshop on market transparency; Workshop on investment climate in the energy sector (consultations with market players and financial institutions)
June 26, 2013	Conference on commodity and energy markets
June 27-28, 2013	Energy Sustainability Working Group Meeting #2
February 10-13, 2014	Energy Sustainability Working Group Meeting #1
May 29-30, 2014	Energy Sustainability Working Group Meeting #2
August 25-28, 2014	Energy Sustainability Working Group Meeting #3
February 24-25, 2015	Energy Sustainability Working Group Meeting #1
May 21-22, 2015	Energy Sustainability Working Group Meeting #2
January 25-26, 2016	Green Finance Study Group Meeting #1
January 26, 2016	Climate Study Group Meeting #1
January 26-28, 2016	Energy Sustainability Working Group Meeting #1