5. Climate Change: Technology Development and Research [64]

Commitment

"Recognizing the importance of research and development, we committed in Toyako to increase investment in basic and applied clean technology research and development. We will intensify such efforts and explore options to enhance global cooperation."

G8 Leaders Declaration: Responsible Leadership for a Sustainable Future

Assessment

Country	Lack of Compliance	Work in Progress	Full Compliance
Canada			+1
France			+1
Germany			+1
Italy			+1
Japan			+1
Russia			+1
United Kingdom			+1
United States			+1
European Union			+1
Average Score			+1.00

Background

Clean energy technologies are those energy technologies that are carbon-free or close to carbon free.[224] Examples of clean energy technologies include the following: wind power, fuel cells, hydrogen, nuclear power, biomass, biofuel, CO_2 capture and storage, solar photovoltaic systems, and fusion power.[225]

The need for clean energy technology research and development was addressed at the G8 Environment Ministers' Meeting in Paris in April 2003.[226] The G8 environment ministers recognized the need for governments to stimulate and facilitate research and development of clean energy technologies.[227] At the Evian Summit in 2003 the G8 leaders agreed to (a) stimulate fundamental research in renewable energies, fuel cell and hydrogen vehicles, cleaner fossil fuel technologies, carbon sequestration systems, and nuclear power, and (b) "to collaborate on sharing research results."[228] This commitment to

[224] Technology Innovation, Development and Diffusion, OECD/IEA Information Paper (Paris) 3 June 2003. Date of Access: 18 December 2009. www.iea.org/papers/2002/techn.pdf.
[225] Technology Innovation, Development and Diffusion, OECD/IEA Information Paper (Paris) 3 June 2003. Date of Access: 18 December 2009. www.iea.org/papers/2002/techn.pdf.
[226] G8 Environment Ministers' Meeting, Communique, G8 Information Centre (Toronto) 25-27 April 2003, Date of Access: 18 December 2009. www.g8.utoronto.ca/environment/2003paris/env030427eng.pdf.
[227] G8 Environment Ministers' Meeting, Communique, G8 Information Centre (Toronto) 25-27 April 2003, Date of Access: 18 December 2009. www.g8.utoronto.ca/environment/2003paris/env030427eng.pdf.
[228] Science and Technology for Sustainable Development, A G8 Action Plan, G8 Information Centre (Toronto) 2 June 2003. Date of Access: 18 December 2009. www.g8.utoronto.ca/summit/2003evian/sustainable_development_en.html.

scientific research and development of clean energy technologies was reaffirmed at the Sea Island Summit in 2004.[229]

At the Gleneagles Summit in 2005, the G8 leaders recognized the need for an increased commitment to international cooperation and co-ordination of research and development of clean energy technologies.[230] Increased support was given to research and development of technologies and practices that use hydrogen as an energy carrier.[231] The G8 leaders also affirmed support for the work of the International Energy Agency (IEA) in facilitating cooperation, sharing energy research findings, coordinating research initiatives, and encouraging broader participation.[232] At the Heiligendamm Summit in 2006, the G8 leaders committed to "scale up national, regional and international research and innovation activities" in the area of clean energy and to "promote... developing economies' participation in international technology partnerships and collaborations" related to clean energy technology research.[233]

The G8 members have consistently supported clean energy technology research and development and have encouraged investment in deployment of existing clean energy technologies. Moreover, at the 2008 Hokkaido-Toyako Summit the G8 members committed to invest in research and development of new clean energy technologies. G8 members pledged to invest over USD$10 billion in direct-government funding over the next several years and to adopt policies and regulations that provide incentives for private sector investment in clean energy technology research and development.[234]

Commitment Features

The commitment highlights two areas of action: increased investment in clean energy technology research and development and the exploration of options to enhance global technology cooperation. To be awarded full compliance, the member must take action in both of these areas.

As outlined at the Hokkaido-Toyako Summit, the investment in clean energy technology research and development can take two distinct forms: direct government funding and

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[229] Science and Technology for Sustainable Development: "3r" Action Plan and Progress on Implementation, G8 Information Centre (Toronto) 10 June 2004. Date of Access: 18 December 2009. www.g8.utoronto.ca/summit/2004seaisland/sd.html.

[230] Gleneagles Plan of Action: Climate Change, Clean Energy and Sustainable Development, G8 Information Centre (Toronto) 8 July 2005. Date of Access: 18 December 2009. www.g8.utoronto.ca/summit/2005gleneagles/climatechangeplan.pdf .

[231] Gleneagles Plan of Action: Climate Change, Clean Energy and Sustainable Development, G8 Information Centre (Toronto) 8 July 2005. Date of Access: 18 December 2009. www.g8.utoronto.ca/summit/2005gleneagles/climatechangeplan.pdf .

[232] Gleneagles Plan of Action: Climate Change, Clean Energy and Sustainable Development, G8 Information Centre (Toronto) 8 July 2005. Date of Access: 18 December 2009. www.g8.utoronto.ca/summit/2005gleneagles/climatechangeplan.pdf .

[233] Growth and Responsibility in the World Economy, Heiligendam Summit Declaration, G8 Information Centre (Toronto) 7 June 2007. Date of Access: 18 December 2009. www.g8.utoronto.ca/summit/2007heiligendamm/g8-2007-economy.pdf.

[234] Environment and Climate Change, Hokkaido Toyako Summit, G8 Information Centre (Toronto) 8 July 2008. Date of Access: 18 December 2009. www.g8.utoronto.ca/summit/2008hokkaido/2008-climate.html.

adoption of various policy and regulatory measures to provide incentives for private sector investment.[235] Examples of policy and regulatory measures that could provide incentives for the private sector are: the establishment of an emission trading mechanism that would enable private companies to sell carbon credits they gained from investing in clean energy technology research and development; the implementation of tax credits for private investment in clean energy technology research and development; the establishment of favourable loans for clean technology research and development; and setting up a certification system for companies that invest in clean energy technology research and development. For full compliance with this area of action, the member must either provide increased direct investment in clean energy technology research and development or adopt additional policy and regulatory measures to provide incentives for private sector investment.

A member will be deemed to have explored options to enhance global technology cooperation if it participates in discussions on this issue with other G8 members, as well as non-G8 countries.

Scoring

-1	Member does not increase investment in clean energy technology research and development AND does not participate in discussions on enhancing global policy cooperation in the field of clean technology research and development.
0	Member increases investment in clean energy technology research and development OR participates in discussions on enhancing global policy cooperation in the field of clean technology research and development.
+1	Member increases investment in clean energy technology research and development AND participates in discussions on enhancing global policy cooperation in the field of clean technology research and development.

Lead Analyst: Maša Kovič

Canada: +1

Canada has fully complied with its commitment on clean energy technology. It has provided direct government funding for technology research and development and has cooperated with other countries to enhance global cooperation in this field.

On 4 December 2009, Prime Minister Harper announced a second round of funding for clean technology projects through the Asia-Pacific Partnership on Clean Development and Climate (APPCDC).[236] The goal of this partnership is to "accelerate the development, deployment and diffusion of clean energy technologies."[237] This new commitment, totalling CAD8.4 million over two years, will fund 19 new clean technology projects

[235] Environment and Climate Change, Hokkaido Toyako Summit, G8 Information Centre (Toronto) 8 July 2008. Date of Access: 18 December 2009. www.g8.utoronto.ca/summit/2008hokkaido/2008-climate.html.
[236] Canada and China: A Good and Frank Relationship to Build On, Address by Prime Minister Stephen Harper at Shanghai, Office of the Prime Minister (Ottawa) 4 December 2009. Date of Access: 18 December 2009. www.pm.gc.ca/eng/media.asp?id=3010.
[237] Asia-Pacific Partnership on Clean Development and Climate, Government of Canada (Ottawa) 20 October 2009. Date of Access: 8 January 2010. www.climatechange.gc.ca/pap-app/default.asp?lang=En&n=FFB91B5D-1.

under the auspices of the APPCDC.[238] Additionally, following the conclusion of Canadian Prime Minister Stephen Harpers visit to China from 2-6 December 2009, Canada and China issued a joint statement in which they agreed to enhance bilateral collaboration and discussion on climate change and on clean energy technologies.[239]

The Government of Canada has also continued to support a previously established program for investment in clean technology research and development. On 27 January 2009, the government issued a budget that included the establishment of a five-year, CAD1 billion Clean Energy Fund (CEF).[240] The CEF, designed to "support clean energy research and demonstration," allocates CAD150 million to "clean energy research" and CAD850 million to "clean energy demonstration projects," including the development of carbon capture and storage technology.[241] Projects initiated under the CEF include research into renewable and clean energy and its integration in Canada's electricity network, research into technologies to address the environmental impact of the oil sands, and research into technologies to lower carbon capture costs and to improve its storage have received funding.[242] On 14 October 2009, Prime Minister Stephen Harper announced the launch of a new carbon-capture and storage project in the province of Alberta, to be funded party by the CEF.[243]

Thus, Canada has been awarded a score of +1 for providing direct government investment in clean technology research and for fostering international policy cooperation in this field.

Analyst: Jesse Sperling

France: +1

France has fully complied with its commitment to increase investment in clean technology research and development and to intensify efforts to enhance global clean technology cooperation. France has provided direct government funding and has participated in international discussions on clean technology research.

France has established a program for investment into clean technology research and development. On 23 July 2009, the government adopted the *Grenelle Environnement* law,

[238] Government of Canada Invests $8.4 Million in the APP, Government of Canada (Ottawa) 4 December 2009. Date of Access: 8 January 2010. www.climatechange.gc.ca/pap-app/default.asp?lang=En&n=FFB91B5D-1.
[239] Canada-China Joint Statement, Government of Canada (Ottawa) 3 December 2009. Date of Access: 18 December 2009. www.ecoaction.gc.ca/news-nouvelles/20091203-1-2-eng.cfm.
[240] Canada Falling Behind in Clean-tech Race, Industry Insiders Say, Financial Post (Toronto) 25 October 2009. Date of Access: 18 December 2009. www.financialpost.com/story.html?id=2143747.
[241] Canada's Economic Action Plan: A Third Report to Canadians, Department of Finance (Ottawa) September 2009. Date of Access: 18 December 2009. actionplan.gc.ca/grfx/docs/ceap_sept_2009_eng.pdf.
[242] Clean Energy Fund Program, Natural Resources Canada (Ottawa) 25 November 2009. Date of Access: 18 December 2009. www.nrcan-rncan.gc.ca/eneene/science/ceffep-eng.php.
[243] PM and Alberta Premier Announce Cutting-edge Clean Energy Project, Government of Canada (Ottawa) 14 October 2009. Date of Access: 18 December 2009. www.ecoaction.gc.ca/news-nouvelles/20091014-1-eng.cfm.

which officially established a number of renewable energy objectives.[244] The law aims to increase investment on research into clean technologies and the prevention of environmental damage by the end of 2012 by focusing on key areas such as civil nuclear programs.[245] Moreover, the French government's budget for 2010 includes EUR1 billion over four years for investment in research into clean energy technology.[246]

On 10 September 2009, French president Nicolas Sarkozy announced the introduction of a carbon tax in France.[247] This regulatory measure, which will come into effect in 2010, is aimed at reducing the energy consumption of both households and industrial facilities.[248]

On 14 November 2009 President Sarkozy issued a joint document with Brazilian President Luiz Inacio Lula da Silva urging states to cooperate on climate change at the December 2009 Copenhagen summit.[249] In the policy, both leaders called for "increased cooperation on research and technology between developed and developing countries."[250]

Thus, France has been awarded a score of +1 for its direct investment in clean technology research and its efforts to enhance global policy cooperation in this area.

Analyst: Jesse Sperling

Germany: +1

Germany has fully complied with its commitment on clean technology development and research. It has increased investment in clean technology and has participated in discussions to further global policy collaboration in this field.

On 13 November 2009 Germany signed a bilateral clean technology agreement with India.[251] Through this agreement, Germany committed a total of EUR89.2 million to promote clean technology use and development by small and medium enterprises in

[244] Definite Adoption, by Near-Unanimity, of the Grenelle 1 Law Project, Ministry of Ecology, Energy, Sustainable Development and the Sea (Paris) 23 July 2009. Date of Access: 18 December 2009. www.developpement-durable.gouv.fr/article.php3?id_article=5450.
[245] The First Grenelle Law, Ministry of Ecology, Energy, Sustainable Development and the Sea (Paris) September 2009. Date of Access: 18 December 2009. www.legrenelle-environnement.gouv.fr/IMG/pdf/hs2-090903.pdf.
[246] Projet de loi de finances 2010, Ministry of Ecology, Energy, Sustainable Development and the Sea (Paris) 30 September 2009. Date of Access: 18 December 2009. www.developpement-durable.gouv.fr/IMG/pdf/PLF_2010_cle51cb32.pdf.
[247] France Sets Carbon Tax at 17 Euros a Ton, New York Times (New York) 10 September 2009. Date of Access: 18 December 2009. www.nytimes.com/2009/09/11/business/global/11carbon.html.
[248] France Sets Carbon Tax at 17 Euros a Ton, New York Times (New York) 10 September 2009. Date of Access: 18 December 2009. www.nytimes.com/2009/09/11/business/global/11carbon.html.
[249] France, Brazil Join Forces on Climate Change, Reuters (Paris) 14 November 2009. Date of Access: 18 December 2009. www.reuters.com/article/idUSTRE5AD1I820091114.
[250] France, Brazil Join Forces on Climate Change, Reuters (Paris) 14 November 2009. Date of Access: 18 December 2009. www.reuters.com/article/idUSTRE5AD1I820091114.
[251] Germany, India sign agreements for energy efficiency and clean technologies, German Information Centre (Berlin) 13 November 2009. Date of Access: 18 December 2009. www.german-info.com/press_shownews.php?pid=1868.

India.[252] These funds will be administered by the German government's Development Bank KfW in conjunction with the Small Industries Development Bank of India.[253]

Germany has also been an active participant in the workshops of the European Union Sustainable Development Strategy (EUSDS). On 14 September 2009 the German government issued a statement on how to make the European Union Sustainable Development Strategy (EUSDS) more effective, reaffirming its "intensive support" for this intiative.[254] Moreover, on 4 November 2009, during its intervention in an ESDS workshop, the German government highlighted the importance of research on "sustainable [energy] consumption" as a key part of the European Union's sustainable development agenda.[255]

Thus, Germany has been awarded a score of +1 for increasing its investment in clean technology globally and for promoting international policy cooperation in the field of clean technology research.

Analyst: James Monteith

Italy: +1

Italy has partially complied with its climate change commitment. It has made efforts to increase investment in basic and applied clean energy and technology research and has explored avenues for enhancing global cooperation in this field.

On 14 December 2009, Italy pledged USD30 million to a fund initiated by the United States aimed at promoting research in clean energy technology, with a special focus on renewable energy solutions for the developing world.[256] The fund will be used to encourage the development of renewable energy projects such as wind and solar power and more energy efficient appliances in the developing world.[257]

On 11 December 2009 Italian Prime Minister Silvio Berlusconi announced that Italy had agreed to contribute EUR600 million towards a fund aimed at helping poor countries deal

[252] Germany, India sign agreements for energy efficiency and clean technologies, German Information Centre (Berlin) 13 November 2009. Date of Access: 18 December 2009. www.german-info.com/press_shownews.php?pid=1868.
[253] Germany, India sign agreements for energy efficiency and clean technologies, German Information Centre (Berlin) 13 November 2009. Date of Access: 18 December 2009. www.german-info.com/press_shownews.php?pid=1868.
[254] Making the EU Sustainable Development Strategy more effective, Government of the Federal Republic of Germany (Berlin) 14 October 2009. Date of Access: 18 December 2009. www.bundesregierung.de/nn_919412/Content/EN/Artikel/2009/10/2009-10-14-mehr-wirksamkeit-fuer-die-europaeische-nachhaltigkeitsstrategie__en.html.
[255] New Drive for Sustainable Development Strategies: The Power of Smart Linkages," European Sustainable Development Network (Brussels) 4 November 2009. Date of Access: 8 January 2010. www.sd-network.eu/pdf/doc_workshops/2009%20brussels/Bauernfeind.pdf.
[256] Steven Chu pledges $350m clean tech fund to sweeten deal at Copenhagen, The Guardian (London) 14 December 2009. Date of Access: 18 December 2009. www.guardian.co.uk/environment/2009/dec/14/copenhagen-steven-chu-us.
[257] Steven Chu pledges $350m clean tech fund to sweeten deal at Copenhagen, The Guardian (London) 14 December 2009. Date of Access: 18 December 2009. www.guardian.co.uk/environment/2009/dec/14/copenhagen-steven-chu-us.

with global warming.[258] Italy has pledged to contribute EUR200 million per year for three years.[259] It should be noted, however, that no details were given as to whether this funding will include direct investment for research and development of new clean energy technologies.

Italy has also participated in international efforts to enhance global policy cooperation in the field of clean technology development. On 10 November 2009, Italian Environment Minister Stefania Prestigiacomo outlined the results of a series of regional climate change talks in Slovenia.[260] Minister Prestigiacomo highlighted the consensus on the importance of developing new technological measures to curb cross-border pollution in the region, while noting that Italy had reached a "strong agreement" with Slovenia on future cooperation in the area of climate change.[261]

Thus, Italy has been awarded a score of +1 for its investment in new clean energy technologies and its efforts to foster international cooperation in the field of clean technology research.

Analyst: Leroy Massey

Japan: +1

Japan has fully complied with its climate change commitment. It has promoted global policy dialogue and, while no direct investment was announced, the Japanese government has introduced several regulatory measures to provide incentives for private sector investment in clean technology.

Japan has made efforts to enhance global policy dialogue on clean technology research and development. On 13 November 2009 Japan and the United States agreed to a summit on climate change and clean technology.[262] Both governments committed to reducing their respective emission by 80 per cent by 2050 as part of a global effort to reduce total emissions by half.[263] Details on what specific clean technology will be on the agenda were not given.

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[258] EU-agrees-to-7-2-billion-euro-climate-fund-Roundup.htm – Monsters and Critics. 11 December 2009. Date of Access: 18 December 2009. www.monstersandcritics.com/news/europe/news/article_1518575.php/EU-agrees-to-7-2-billion-euro-climate-fund-Roundup.

[259] EU-agrees-to-7-2-billion-euro-climate-fund-Roundup.htm – Monsters and Critics. 11 December 2009. Date of Access: 18 December 2009. www.monstersandcritics.com/news/europe/news/article_1518575.php/EU-agrees-to-7-2-billion-euro-climate-fund-Roundup.

[260] Prestigiacomo: "A Constructive Dialogue in Slovenia," Ministry of the Environment (Rome) 10 November 2009. Date of Access: 8 January 2010. www.minambiente.it/opencms/opencms/home_it/showitem.html?lang=it&item=/documenti/notizie/notizia_0095.xml.

[261] Prestigiacomo: "A Constructive Dialogue in Slovenia," Ministry of the Environment (Rome) 10 November 2009. Date of Access: 8 January 2010. www.minambiente.it/opencms/opencms/home_it/showitem.html?lang=it&item=/documenti/notizie/notizia_0095.xml.

[262] U.S., Japan to expand cooperation in clean energy, International Business Times US Edition (Tokyo) 13 November 2009. Date of Access: 18 December 2009. www.ibtimes.com/articles/20091113/ujapan-expand-cooperation-clean-energy.htm.

[263] U.S., Japan to expand cooperation in clean energy, International Business Times US Edition (Tokyo) 13 November 2009. Date of Access: 18 December 2009. www.ibtimes.com/articles/20091113/ujapan-expand-cooperation-clean-energy.htm.

Japan has also introduced regulatory measures to provide incentives for private sector investment in clean technology research. On 2 September 2009, the newly-elected Japanese government outlined its climate change countermeasures policy, which will lead to increased subsidies for producers of solar cells, along with a carbon tax aimed at promoting alternatives to fossil fuels.[264] According to a release issued by new government, this dual program aims to "promote the utilization of renewable energies" in an effort to reduce Japanese carbon emissions by 25 per cent by 2020.[265]

Japan has also continued to support existing projects aimed at developing new clean technology. On 10 November 2009, Reuters reported that Japan is developing a 'Space Solar Power System,' a project designed to harness the energy of the sun by way of a satellite that would beam solar energy back to earth.[266] This project, led by the Japan Aerospace Exploration Agency and the Japanese Ministry of Trade, will not be implemented until at least 2030.[267] Due to the fact that his project was initiated prior to the current compliance cycle and no additional funding was announced, it will not be counted directly towards compliance with this commitment.

Thus, Japan has been awarded a score of +1 for its efforts to further global policy cooperation and implementing domestic policy measures aimed at providing incentives for private investment in clean technology research.

Analyst: James Monteith

Russia: +1

Russia has fully complied with its commitment on clean technology research and development. It has set up incentive programs aimed at fostering private sector investment into clean technology research and has funded several new research programs in this field. Moreover, it has taken steps to enhance global cooperation surrounding clean technology development.

On 17 July 2009, the Ministry of Natural Recourses set up a working group aimed at creating a voluntary environmental certification program by the end of 2009.[268] This program is designed to provide incentives for private sector investment in development

[264] Sharp, Kyocera Set to Gain From DPJ Emission Plan, Bloomberg.com (New York) 2 September 2009. Date of Access: 18 December 2009. www.bloomberg.com/apps/news?pid=20602085&sid=ar8ee4Jdhesc.
[265] An Overview of Global Warming Countermeasures Basic Bill, The Democratic Party of Japan (Tokyo) June 2008. Date of Access: 18 December 2009. www.dpj.or.jp/english/countermeasures/overviews.html.
[266] Japan May Build A Solar Station in Space by 2030, Reuters U.S. Edition (New York) 10 November 2009. Date of Access: 18 December 2009. www.reuters.com/article/idUS125756805620091110.
[267] Japan May Build A Solar Station in Space by 2030, Reuters U.S. Edition (New York) 10 November 2009. Date of Access: 18 December 2009. www.reuters.com/article/idUS125756805620091110.
[268] The Ministry of Natural Recourses sets up a working group on the elaboration of voluntary environmental certification criteria, The Ministry of Natural Recourses of the Russian Federation (Moscow) 17 July 2009. Date of Access: 18 December 2009. www.mnr.gov.ru/part/?act=more&id=5987&pid=11.

and implementation of technologies and products with minimum or zero harm to the environment.[269]

On 28 October 2009, the Russian Government passed a regulation on implementation of the mechanism envisaged in Article 6 of the Kyoto Protocol. This bill establishes an emission trading mechanism that will enable private companies to sell carbon credits they acquired from investing in clean energy technology research and development.[270]

The Russian government has also adopted a plan for the modernization and development of the Kurchatovskiy Institute, one of the largest research and development centers in Russia. The plan includes additional funding for such high-priority projects as research and development of innovative technologies in electricity generation and transmission and energy conservation.[271] In addition, thirteen other research organizations are funded under the auspices of an existing federal program entitled "Research and Development on Priority Directions of Research and Technological Complex Development of the Russian Federation for the Period of 2007 – 2012".[272]

Moreover, Russia has explored new options for global technology cooperation. On 15 July 2009, the Ministry of Energy discussed opportunities for cooperation with Japan's Sumitomo Corporation in the field of energy efficiency.[273] At the Russia-Kazakhstan Interregional Cooperation Forum in Orenburg on 11 September 2009, the two countries emphasized the importance of cooperation on energy conservation technology and held an exhibition entitled "Innovative Technologies in the Fuel and Energy Sector."[274]

On 14 October 2009, the Russian Ministry of Energy issued a joint statement with the International Energy Agency (IEA) announcing that the Russian government and the IEA agreed to exchange information and enhance cooperation on energy efficiency and clean

[269] The Ministry of Natural Recourses set up a working group on the elaboration of voluntary environmental certification criteria, The Ministry of Natural Recourses of the Russian Federation (Moscow) 17 July 2009. Date of Access: 18 December 2009. www.mnr.gov.ru/part/?act=more&id=5987&pid=11.

[270] Government Regulation No. 843 of 28 October 2009 on implementation of Article 6 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change, Government of the Russian Federation (Moscow) 28 October 2009. Date of Access: 18 December 2009. government.consultant.ru/doc.asp?ID=55125.

[271] Government Order No. 1730-p of 16 November 2009, Government of the Russian Federation (Moscow) 16 November 2009. Date of Access: 18 December 2009. government.consultant.ru/doc.asp?ID=55502.

[272] Government Regulation No. 613 of 17 October 2006 on federal target programme Research and development on priority directions of research and technological complex development of the Russian Federation for the period of 2007 – 2012, Annex 4, Government of the Russian Federation (Moscow) 17 October 2006. Date of access: 30 December 2009. government.consultant.ru/doc.asp?ID=35917.

[273] The Ministry of Energy to expand cooperation in energy efficiency, The Ministry of Energy of the Russian Federation (Moscow) 15 July 2009. Date of Access: 4 December 2009. minenergo.gov.ru/news/min_news/428.html.

[274] Transcript of the IV Russia-Kazakhstan Interregional Cooperation Forum Meeting, President of Russia (Moscow) 11 September 2009. Date of Access: 18 December 2009. news.kremlin.ru/transcripts/5548.

coal technology.[275] This cooperative initiative will provide incentives for greater inclusion of Russian organizations into the IEA energy research activities.[276]

On 10-11 November 2009, the Russian Ministry of Education and Science organized the international conference entitled "Global Climate Change and Adaptation Mechanisms" in conjunction with the Russian Federal Service for Hydrometeorology and Environmental Monitoring (Roshydromet) and the European Commission.[277] The goal of the conference was to assess the possibilities of cooperation between scientific organizations in Russia and EU states in the field of climate change research.[278] The Russian Government presented an overview of Russia's scientific and technological policy for environmental safety and climate change during the conference.[279]

According to the Climate Doctrine of the Russian Federation adopted on 17 December 2009 Russia will "encourage research and development in the field of energy efficiency, expanded use of renewable energy sources, greenhouse gas sink technologies, and innovative environmentally acceptable technologies."[280]

Thus, Russia can be awarded a score of +1 for its implementation of regulatory mechanisms that provide incentives for private investment in clean technology and for its role in enhancing global cooperation in this field.

Analyst: Ekaterina Maslovskaya

United Kingdom: +1

The United Kingdom has fully complied with its commitment on climate change. It has invested in clean energy technology research and development and has participated in discussions to enhance global cooperation.

On 19 October 2009 the Department of Energy and Climate Change, in partnership with the Carbon Trust, announced an investment of GBP18 million for clean energy

[275] Joint Statement of Energy Minister of the Russian Federation and the International Energy Agency, The Ministry of Energy of the Russian Federation (Moscow) 14 October 2009. Date of Access: 18 December 2009. minenergo.gov.ru/documents/soglasheniya/2157.html.
[276] Joint Statement of Energy Minister of the Russian Federation and the International Energy Agency, The Ministry of Energy of the Russian Federation (Moscow) 14 October 2009. Date of Access: 18 December 2009. minenergo.gov.ru/documents/soglasheniya/2157.html.
[277] International conference "Global Climate Change and Adaptation Mechanisms", Russian Federal Service for Hydrometeorology and Environmental Monitoring. Date of access: 27 December 2009. www.fasi.gov.ru/news/fasi/1939/.
[278] International conference "Global Climate Change and Adaptation Mechanisms", Russian Federal Service for Hydrometeorology and Environmental Monitoring. Date of access: 27 December 2009. www.fasi.gov.ru/news/fasi/1939/.
[279] International conference "Global Climate Change and Adaptation Mechanisms", Russian Federal Service for Hydrometeorology and Environmental Monitoring. Date of access: 27 December 2009. www.fasi.gov.ru/news/fasi/1939/.
[280] Climate Doctrine of the Russian Federation, President of Russia 17 December 2009. Date of access: 27 December 2009. eng.kremlin.ru/text/docs/2009/12/223509.shtml.

technology start-up companies for the following year.[281] The Carbon Trust is an independent company established by the government to accelerate the transition to low carbon energy.[282] The funding is aimed at small companies that are developing new technologies in the areas of fuel cells, photovoltaics, marine and wind power, new forms of energy efficiency and smart grid technology.[283] Secretary of state for Energy and Climate Change Ed Miliband noted that "supporting green start-up companies with this capital means innovative ideas for low carbon energy will be able to make it out of the lab and into the future energy mix."[284]

On 22 September 2009, the Ministry for Energy and Climate change invited developers of wave and tidal technology to bid for GBP22 million of government funding designed to help them develop their clean energy technology prototypes for commercial use.[285] This funding will enable further development of new clean energy technologies and enable developers to qualify for additional funding through the Marine Renewables Deployment Fund.[286]

On 20 October 2009, Secretary Miliband also announced a GBP5.15 million investment for a new research on the problem of aviation radar interference with wind turbines.[287] Of the GBP5.15 million pledged, the Crown Estate will provide GBP2 million, the Department of Energy and Climate Change GBP1.55 million, and the wind turbine companies GBP1.6 million.[288] The successful completion of this research will allow several existing wind turbine projects to proceed being hindered by a concern regarding radar interference.[289]

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[281] £18m investment boost for UK clean tech sector, Carbon Trust (London) 19 October 2009. Date of Access: 18 December 2009. www.carbontrust.co.uk/news/news/press-centre/2009/Pages/investment-boost-clean-tech.aspx.
[282] £18m investment boost for UK clean tech sector, Carbon Trust (London) 19 October 2009. Date of Access: 18 December 2009. www.carbontrust.co.uk/news/news/press-centre/2009/Pages/investment-boost-clean-tech.aspx.
[283] £18m investment boost for UK clean tech sector, Carbon Trust (London) 19 October 2009. Date of Access: 18 December 2009. www.carbontrust.co.uk/news/news/press-centre/2009/Pages/investment-boost-clean-tech.aspx.
[284] £18m investment boost for UK clean tech sector, Carbon Trust (London) 19 October 2009. Date of Access: 18 December 2009. www.carbontrust.co.uk/news/news/press-centre/2009/Pages/investment-boost-clean-tech.aspx.
[285] Marine energy prototypes backed with new £22m proving fund, Carbon Trust (London) 22 September 2009. Date of Access: 18 December 2009. www.carbontrust.co.uk/news/news/press-centre/2009/Pages/marine-energy-prototypes.aspx.
[286] Marine energy prototypes backed with new £22m proving fund, Carbon Trust (London) 22 September 2009. Date of Access: 18 December 2009. www.carbontrust.co.uk/news/news/press-centre/2009/Pages/marine-energy-prototypes.aspx.
[287] New research could solve the wind and radar problem, Department of Energy and Climate Change (London) 20 October 2009. Date of Access: 18 December 2009. www.decc.gov.uk/en/content/cms/news/pn117/pn117.aspx.
[288] New research could solve the wind and radar problem, Department of Energy and Climate Change (London) 20 October 2009. Date of Access: 18 December 2009. www.decc.gov.uk/en/content/cms/news/pn117/pn117.aspx.
[289] New research could solve the wind and radar problem, Department of Energy and Climate Change (London) 20 October 2009. Date of Access: 15 December 2009. www.decc.gov.uk/en/content/cms/news/pn117/pn117.aspx.

The UK has also implemented incentive programs to encourage private investment in clean technology. On 8 December 2009 Energy and Climate Change Minister Lord Hunt announced of "Low Carbon Energy demonstration capital grants" to Vestas, a private wind turbine producer.[290] The UK government has committed GBP1.75 million of public funding to Vestas to establish a research and development facility on the Isle of Wight.[291]

The UK government has also included several funding projects for the deployment of clean energy technologies by households and small and mediums sized businesses in its 2009 budget. On 28 September 2009 the government launched a program entitled Low Carbon Community Challenge with GBP10 million of financial support.[292] On 2 November 2009 it provided GBP5 million funding for construction of a series of greener homes built from renewable sources.[293] On 15 December 2009 it launched the sixth round of Bio-energy Capital Grants, offering GBP4 million to business and community organizations to install bio-mass fuelled heating projects.[294] The government expects that these government investments will prompt the investment of an additional GBP15 billion of private funds towards research and development of new clean energy technologies over the next three years.[295]

The United Kingdom also engaged in enhancing global cooperation. On 8 September 2009 the Carbon Trust invested GBP10 million in the establishment of a clean energy technology innovation joint venture with China's Energy Conservation Investment Corporation.[296] Moreover, on 8 December 2009, the United Kingdom signed a multilateral agreement with eight other European countries aimed at developing the technology necessary to deploy an offshore wind electricity production facility.[297] Energy and Climate Change Minister Lord Hunt stated that this deal will "bring new funding and

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[290] UK signs deal on offshore wind grid, Clean Technology Business Review (London) 8 December 2009. Date of Access: 18 December 2009. www.cleantechnology-business-review.com/news/uk_signs_deal_on_offshore_wind_grid_091208.
[291] UK signs deal on offshore wind grid, Clean Technology Business Review (London) 8 December 2009. Date of Access: 18 December 2009. www.cleantechnology-business-review.com/news/uk_signs_deal_on_offshore_wind_grid_091208.
[292] £10m for 20 best low carbon communities, Department of Energy and Climate Change (London) 28 September 2009. Date of Access: 18 December 2009. www.decc.gov.uk/en/content/cms/news/pn109/pn109.aspx.
[293] Affordable homes to become renewable with £5m share of Government Grant, Department of Energy and Climate Change (London) 2 November 2009. Date of Access: 18 December 2009. www.decc.gov.uk/en/content/cms/news/pnHCA/pnHCA.aspx.
[294] £4m to make you business, school or hospital greener, Department of Energy and Climate Change (London) 15 December 2009. Date of Access: 18 December 2009. www.decc.gov.uk/en/content/cms/news/pn149/pn149.aspx.
[295] Building a low carbon recovery, HM Treasury (London). Date of Access: 18 December 2009. prebudget.treasury.gov.uk/building_lowcarbon_recovery.htm.
[296] UK business and green groups give thumbs-up to new UK/China tie up on low carbon technologies, Carbon Trust (London) 8 September 2009. Date of Access: 18 December 2009. www.carbontrust.co.uk/news/news/press-centre/2009/Pages/UK-China-joint-venture.aspx.
[297] UK signs deal on offshore wind grid, Clean Technology Business Review (London) 8 December 2009. Date of Access: 18 December 2009. www.cleantechnology-business-review.com/news/uk_signs_deal_on_offshore_wind_grid_091208.

expert direction" to efforts by the UK to "work with other countries in the EU" in the field of clean energy development.[298]

Thus, the UK was awarded a score of +1 for providing provided public investment, creating incentives for private investment, and cooperating with other countries on clean energy technology research and development.

Analyst: Maša Kovič

United States: +1

The United States has fully complied with its commitment on climate change. It has provided investment for research and development of new clean energy technologies and has engaged in global cooperation initiatives in this field. The US invested public resources and established incentives for private investment in clean energy technology research and development.

On 26 October 2009 the US Secretary of Energy Steven Chu announced the award of USD151 million for "transformational" energy research projects.[299] The grants are available for research projects that meet the Department of Energy (DOE) standard of being "not merely better than current technologies" but "significantly better."[300] The US government is providing this funding through the DOE's Advanced Research Project Agency-Energy.[301] The DOE has already granted funding to 37 advanced research projects that include: battery technologies, bacteria for producing biofuels, CO_2 capture with artificial enzymes, and low cost crystals for LED lightning.[302] Moreover, on 7 December 2009 US Secretary for energy Steven Chu announced the launch of a second round of the funding for transformational energy research projects.[303] The DOE will make available USD100 million in this second round.[304]

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[298] [298] UK signs deal on offshore wind grid, Clean Technology Business Review (London) 8 December 2009. Date of Access: 18 December 2009. www.cleantechnology-business-review.com/news/uk_signs_deal_on_offshore_wind_grid_091208.

[299] Bold, Transformational Energy Research Projects Win $151 million in Funding, US Department of Energy (Washington) 26 October 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8207.htm.

[300] "Recovery Act" Financial Assistance Funding Opportunity Announcement, Advanced Research Projects Agency – Energy, US Department of Energy (Washington) 27 April 2009. Date of Access: 18 December 2009. arpa-e.energy.gov/keydocs/ARPA-E-FOA.PDF.

[301] Bold, Transformational Energy Research Projects Win $151 million in Funding, US Department of Energy (Washington) 26 October 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8207.htm.

[302] Bold, Transformational Energy Research Projects Win $151 million in Funding, US Department of Energy (Washington) 26 October 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8207.htm.

[303] Secretary Chu Announces $100 Million for Advanced Research Projects, US Department of Energy (Washington) 7 December 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8359.htm.

[304] Secretary Chu Announces $100 Million for Advanced Research Projects, US Department of Energy (Washington) 7 December 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8359.htm.

On 15 October 2009 the US Secretary Chu also announced public investment for three wind power research facilities located at American universities.[305] According to the DOE, the objective of the funding is to increase the United States' "leadership role in testing and producing the most advanced and efficient wind turbines in the world."[306] Each university research facility received USD8 million.[307] Additionally, the DOE allocated USD87 million of public funding to research and development projects involving solar power technologies.[308] Forty-seven universities, electric utility companies, and laboratories have been awarded this grant to help "accelerate the commercialization of solar power in an effort to achieve cost-competitive solar electricity by 2015."[309]

On 23 November 2009, Secretary Chu announced that the US has allocated over USD18 million for the funding of research, development and deployment of clean energy technologies for small businesses.[310] The US government has already awarded 125 grants of up to USD150, 000 each.[311] The DOE will also make additional funding available in spring 2010 for those companies that successfully complete their initial research projects.[312] Projects in the following areas were funded under the auspices of this project: advanced air conditioning and cooling, water power technology, solar technologies, industrial technologies development, and manufacturing processes.[313]

On 29 October 2009, the DOE allocated USD338 million of funding under the Recovery Act for exploration and development of new geothermal fields and for research into

[305] Secretary Chu Announces New Investments in Cutting-Edge Wind Energy Research Facilities, US Department of Energy (Washington) 15 October 2009. Date of Access:18 December 2009. www.energy.gov/news2009/8135.htm.
[306] Secretary Chu Announces New Investments in Cutting-Edge Wind Energy Research Facilities, US Department of Energy (Washington) 15 October 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8135.htm.
[307] Secretary Chu Announces New Investments in Cutting-Edge Wind Energy Research Facilities, US Department of Energy (Washington) 15 October 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8135.htm.
[308] DOE Announces $87 Million in Funding to Support Solar Energy Technologies, US Department of Energy (Washington) 8 October 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8115.htm.
[309] DOE Announces $87 Million in Funding to Support Solar Energy Technologies, US Department of Energy (Washington) 8 October 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8115.htm.
[310] DOE to Invest $18 Million in Small Business Clean Energy Innovation Projects, US Department of Energy (Washington) 23 November 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8300.htm.
[311] DOE to Invest $18 Million in Small Business Clean Energy Innovation Projects, US Department of Energy (Washington) 23 November 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8300.htm.
[312] DOE to Invest $18 Million in Small Business Clean Energy Innovation Projects, US Department of Energy (Washington) 23 November 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8300.htm.
[313] DOE to Invest $18 Million in Small Business Clean Energy Innovation Projects, US Department of Energy (Washington) 23 November 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8300.htm.

advanced geothermal technologies.[314] The US government has approved 123 such projects to date.[315] These grants are designed as an incentive for private funding, as they are to be matched at least one-for-one with private funding.[316]

The US government has also implemented various other incentive programs aimed at encouraging private investment in clean technology. On 7 October 2009, the DOE announced the launch of the Financial Institution Partnership Program (FIPP) that will oversee the DOE's loan guarantees for projects aimed at developing renewable energy generation sources.[317] The establishment of FIPP will simplify the process of receiving loans for research and development and hence increase the financial investment on the part of private financial institutions.[318]

On 22 July 2009, the Department of Agriculture (USDA) and the DOE jointly announced the recipients of the grants awarded for research and development of technologies for fundamental research in biomass genomics.[319] The US government has awarded USD6.2 million to seven research projects, with the DOE providing USD4 million and the USDA UDS2.3 million.[320] Moreover, on 12 November 2009, the DOE and USDA jointly announced the recipients of the grants awarded for research and development of technologies for production of bio-fuels, bio-energy, and high value bio-based products.[321] The DOE will invest USD4.9 million and the USDA will invest USD19.5 million.[322] Secretary for agriculture Todd Vilsack noted that "innovation is crucial to the

[314] Department of Energy Awards $338 million to accelerate domestic geothermal energy, US Department of Energy (Washington) 29 October 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8233.htm.
[315] Department of Energy Awards $338 million to accelerate domestic geothermal energy, US Department of Energy (Washington) 29 October 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8233.htm.
[316] Department of Energy Awards $338 million to accelerate domestic geothermal energy, US Department of Energy (Washington) 29 October 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8233.htm.
[317] Energy Department Announces New Private Sector Partnership to Accelerate Renewable Energy Projects, US Department of Energy (Washington) 7 October 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8108.htm.
[318] Energy Department Announces New Private Sector Partnership to Accelerate Renewable Energy Projects, US Department of Energy (Washington) 7 October 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8108.htm.
[319] Energy Secretary Chu, Agriculture Secretary Vilsack Announce $6.3 million for Biofuels Research, US Department of Energy (Washington) 22 July 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/7683.htm.
[320] Energy Secretary Chu, Agriculture Secretary Vilsack Announce $6.3 million for Biofuels Research, US Department of Energy (Washington) 22 July 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/7683.htm.
[321] DOE and USDA select projects for more than $24 million in Biomass research and development grants, US Department of Energy (Washington) 12 November 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8283.htm.
[322] DOE and USDA select projects for more than $24 million in Biomass research and development grants, US Department of Energy (Washington) 12 November 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8283.htm.

advancement of alternative, renewable energy sources, and these awards will spur the research needed to make significant progress in bio-energy development."[323]

The US government has also engaged in enhancing global cooperation. During his his visit to China in November 2009, President Barack Obama reached an agreement with Chinese President Hu Jintao aimed at strengthening cooperation between the countries in the field of clean energy.[324] One of the measures included in this agreement is the creation of a US-China Clean Energy Research Center, which "will facilitate joint research and development of clean energy technologies."[325] Other measures include investment in the following areas: development of joint standards for electric vehicles, joint deployment of new energy technologies, and joint improvement of energy efficiency of buildings and industrial facilities.[326]

President Obama also discussed cooperation on clean energy technology research and development during the visit by Indian Prime Minister Manmohan Singh visit to the United States in November 2009.[327] On 24 November 2009, the White House announced the establishment of the Green Partnership between the United States and India, designed to strengthen cooperation between the two countries in the area of clean energy technology research and development.[328] The two countries also committed to encourage the mobilization of private funding for such research and development, and launched an Indo-US Clean Energy Research and Deployment Initiative with a joint research center.[329]

Thus, the United States has been awarded the score of +1 for increasing its investment in clean energy technology research and development and for participating in global cooperation efforts in the area of clean energy technology research and development.

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[323] DOE and USDA select projects for more than $24 million in Biomass research and development grants, US Department of Energy (Washington) 12 November 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8283.htm.
[324] US-China Clean Energy Announcements, US Department of Energy (Washington) 17 November 2009. Date of Access: 16 December 2009. www.energy.gov/news2009/8292.htm.
[325] US-China Clean Energy Announcements, US Department of Energy (Washington) 17 November 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8292.htm.
[326] US-China Clean Energy Announcements, US Department of Energy (Washington) 17 November 2009. Date of Access: 18 December 2009. www.energy.gov/news2009/8292.htm.
[327] Fact Sheets: US-Indian Cooperation, The White House, Office of the Press Secretary (Washington) 24 November 2009. Date of Access: 18 December 2009. www.whitehouse.gov/the-press-office/fact-sheets-us-indian-cooperation.
[328] Fact Sheets: US-Indian Cooperation, The White House, Office of the Press Secretary (Washington) 24 November 2009. Date of Access: 18 December 2009. www.whitehouse.gov/the-press-office/fact-sheets-us-indian-cooperation.
[329] Fact Sheets: US-Indian Cooperation, The White House, Office of the Press Secretary (Washington) 24 November 2009. Date of Access: 18 December 2009. www.whitehouse.gov/the-press-office/fact-sheets-us-indian-cooperation.

European Union: +1
The European Union has fully complied with its commitment on climate change. It has increased investment in clean energy technology research and development and has participated in activities to enhance global cooperation in this field.

On 7 October 2009, the European Commission announced new investments in research and development of low-carbon technologies.[330] The EU is set to invest an additional EUR50 billion over the next ten years as part of the European Strategic Energy Technology Plan (SET).[331] The EU Commissioner for Science and Research Janez Potočnik noted that this investment "is urgent if Europe is to make the road to Copenhagen and beyond cheaper."[332] In order to meet this goal, the EU will have to increase its investment for clean energy technology research and development from EUR3 billion to EUR8 billion a year.[333] Joaquin Almunia, the Commissioner for Economic and Monetary Affairs, added that while the Commission and the European Investment Bank have already increased funding for SET, more funding will be needed from public and private funds. [334]

The EU has also engaged in efforts to promote global policy cooperation in clean energy technology research and development. On 30 November 2009, the EU and Japan signed a Science and Technology Cooperation Agreement to strengthen their cooperation in research of clean energy technologies.[335] According to EU Commissioner for Science and Research Janez Potocnik, the agreement marks the beginning of a "new era of international global cooperation in research" and signals "the opening of the European research area to the world."[336] The agreement, which will come into effect in spring 2010

[330] Investing in the future: Commission calls for additional €50bn in low carbon technologies IP/09/1431, EU RAPID (Brussels) 7 October 2009. Date of Access: 18 December 2009. europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1431&format=HTML&aged=0&language=EN&guiLanguage=en.
[331] Investing in the future: Commission calls for additional €50bn in low carbon technologies IP/09/1431, EU RAPID (Brussels) 7 October 2009. Date of Access: 18 December 2009. europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1431&format=HTML&aged=0&language=EN&guiLanguage=en.
[332] Investing in the future: Commission calls for additional €50bn in low carbon technologies IP/09/1431, EU RAPID (Brussels) 7 October 2009. Date of Access: 18 December 2009. europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1431&format=HTML&aged=0&language=EN&guiLanguage=en.
[333] Investing in the future: Commission calls for additional €50bn in low carbon technologies IP/09/1431, EU RAPID (Brussels) 7 October 2009. Date of Access: 18 December 2009. europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1431&format=HTML&aged=0&language=EN&guiLanguage=en.
[334] Investing in the future: Commission calls for additional €50bn in low carbon technologies IP/09/1431, EU RAPID (Brussels) 7 October 2009. Date of Access: 18 December 2009. europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1431&format=HTML&aged=0&language=EN&guiLanguage=en.
[335] European Community signs a Science & Technology Cooperation Agreement with Japan IP/09/1844, EU RAPID (Brussels) 30 November 2009. Date of Access: 18 December 2009. europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1844&format=HTML&aged=0&language=EN&guiLanguage=en.
[336] European Community signs a Science & Technology Cooperation Agreement with Japan IP/09/1844, EU RAPID (Brussels) 30 November 2009. Date of Access: 18 December 2009.

following ratification by all EU members, will ensure cooperation in research projects and exchange of researchers.[337]

Moreover, on 9 October 2009 the European Commission organized the EU-Mediterranean-Gulf Conference in Brussels.[338] According to EU Energy Commissioner Andris Piebalgs, the aim of the conference was to take advantage of "major opportunities for international cooperation" between the EU and countries in the Mediterranean and Gulf regions in the area renewable energy research and development.[339]

On 23 November 2009, the EU became the first inter-governmental organization to join the International Renewable Energy Agency (IRENA), an organization designed to enhance global cooperation of renewable energy development.[340] The main objective of IRENA is the dissemination of information about the development and deployment of new renewable energy technologies.[341]

Thus, the EU has been awarded a score of +1 for increasing investment in research and development of clean energy technologies and for participating in global policy cooperation activities in this field.

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europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1844&format=HTML&aged=0&language=EN&guiLanguage=en.

[337] European Community signs a Science & Technology Cooperation Agreement with Japan IP/09/1844, EU RAPID (Brussels) 30 November 2009. Date of Access: 18 December 2009. europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1844&format=HTML&aged=0&language=EN&guiLanguage=en.

[338] Address by Andris Piebalgs, Energy Commissioner Renewable Energy, Developing a green energy market, Speech at the EU-Mediterranean-Gulf Conference SPEECH/09/457, EU RAPID (Brussels) 9 October 2009. Date of Access: 18 December 2009. europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/09/457&format=HTML&aged=0&language=EN&guiLanguage=en.

[339] Address by Andris Piebalgs, Energy Commissioner Renewable Energy, Developing a green energy market, Speech at the EU-Mediterranean-Gulf Conference SPEECH/09/457, EU RAPID (Brussels) 9 October 2009. Date of Access: 18 December 2009. europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/09/457&format=HTML&aged=0&language=EN&guiLanguage=en.

[340] Commission and Swedish Presidency sign EU's accession to the International Renewable Energy Agency, IP/09/1804, EU RAPID (Brussels) 23 November 2009. Date of Access: 18 December 2009. europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1804&format=HTML&aged=0&language=EN&guiLanguage=en.

[341] Commission and Swedish Presidency sign EU's accession to the International Renewable Energy Agency, IP/09/1804, EU RAPID (Brussels) 23 November 2009. Date of Access: 18 December 2009. europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1804&format=HTML&aged=0&language=EN&guiLanguage=en.