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The
G20 Research Group
at Trinity College at the Munk School of Global Affairs in the University of Toronto
with the
International Organisations Research Institute
at the National Research University Higher School of Economics, Moscow
present the

2014 Brisbane G20 Summit Final Compliance Report

17 November 2014 to 1 October 2015

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“The University of Toronto ... produced a detailed analysis to the extent of which each G20 country has met its commitments since the last summit ... I think this is important; we come to these summits, we make these commitments, we say we are going to do these things and it is important that there is an organisation that checks up on who has done what.”

— *David Cameron, Prime Minister, United Kingdom, at the 2012 Los Cabos Summit*

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9. Energy: Clean Energy Technology

2014-203: [G20 countries, agree to work together to:] Encourage and facilitate the design, development, demonstration [of innovative energy technologies, including clean energy technologies.]

G20 Brisbane Action Plan

Assessment

Country	Compliance	Work in Progress	Full Compliance
Argentina			+1
Australia			+1
Brazil			+1
Canada			+1
China			+1
France			+1
Germany			+1
India			+1
Indonesia			+1
Italy			+1
Japan			+1
Korea			+1
Mexico			+1
Russia			+1
Saudi Arabia			+1
South Africa	-1		
Turkey			+1
United Kingdom			+1
United States			+1
European Union			+1
Average		+0.90	

Background

The G20 leaders made their first commitment to develop energy efficiency and clean energy technologies at the 2009 London Summit.¹³²⁷ At the Pittsburgh Summit also in 2009, the G20 leaders reiterated their commitment to stimulate investment in clean energy, renewables and energy efficiency, as well as to provide financial and technical support for such projects in developing countries.¹³²⁸ This commitment was reiterated at the 2010 Seoul Summit.¹³²⁹ At the 2011 Cannes Summit, leaders developed the commitment further by referencing the United Nations Secretary General's Sustainable Energy for All initiative.¹³³⁰ At the 2013 St. Petersburg Summit, the leaders once again reaffirmed their commitment to cleaner and more efficient

¹³²⁷ Global Plan for Recovery and Reform, G20 Information Center 2 April 2009. Access: 20 January 2015.

<http://www.g20.utoronto.ca/2009/2009communique0402.html>.

¹³²⁸ G20 Leaders Statement: The Pittsburgh Summit, G20 Information Center 25 September 2009. Access: 20 January 2015.

<http://www.g20.utoronto.ca/2009/2009communique0925.html>.

¹³²⁹ The G20 Seoul Summit Leaders' Declaration, G20 Information Center 12 November 2010. Access: 20 January 2015.

<http://www.g20.utoronto.ca/2010/g20seoul.html>.

¹³³⁰ Cannes Summit Final Declaration: Building Our Common Future, G20 Information Center (Toronto) 4 November 2011.

Access: 20 January 2014. <http://www.g20.utoronto.ca/2011/2011-cannes-declaration-111104-en.html>.

technologies, but also highlighted the importance of enhancing the efficiency of markets and shifting towards a more sustainable energy future.¹³³¹

Commitment features

The commitment requires the G20 members to facilitate the design, development, demonstration of innovative energy technologies, focusing particularly on clean energy technologies.

Examples of policy actions that might facilitate the development of new energy technologies include incentives for the private sector to adopt and develop such technologies (implementation of credits and tax credits for private investment in clean energy technology research and development; the establishment of privileged loans for clean technology research and development; and setting up a certification system for companies that invest in clean energy technology research and development, 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), funding existing or launching new public scientific institutions occupied in energy technology research.

According to the International Energy Agency (IEA) clean energy comprises such spheres as renewable energy, electric vehicles, nuclear power and biofuels.¹³³² The IEA uses the definition of renewable energy as “energy derived from natural processes (e.g. sunlight and wind) that are replenished at a faster rate than they are consumed. Solar, wind, geothermal, hydro, and some forms of biomass are common sources of renewable energy.”¹³³³

To achieve full compliance a member should take actions aimed at promotion of new clean energy technologies, while the promotion of new energy technologies which can not be described as “clean” or environmentally friendly constitutes partial compliance.

Scoring guidelines

-1	Member fails to take actions to promote innovative energy technologies.
0	Member takes actions to promote innovative energy technologies BUT does not take actions to promote clean energy technologies.
+1	Member takes actions to promote innovative including clean energy technologies.

Argentina: +1

Argentina has fully complied with the commitment to promote innovative energy technologies. It has taken actions to promote innovative energy technologies.

On 10 December 2014, Miguel Galuccio, President of YPF (Argentinian energy company, in which the government owns 51% of capital), closed a deal with Shamsul Azhar bin Abbas, Vice-President of PETRONAS Logistics and Maritime Business, Malaysia’s oil company, to invest USD 550 million in Vaca Muerta, a major deposit of tight oil (shale oil) and shale gas.¹³³⁴ Thus, this action might be considered as a step of Argentinean government to promote innovative energy technologies that would be needed for the extraction unconventional energy resources.

¹³³¹ St.Petersburg Summit Leaders’ Declaration, G20 Information Center 6 September 2013. Access: 20 January 2015. <http://www.g20.utoronto.ca/2013/2013-0906-declaration.html>.

¹³³² Clean energy technologies, IEA. Access 20 January 2015. <http://www.iea.org/topics/cleanenergytechnologies/>.

¹³³³ FAQ Renewable energy, IEA. Access 21 January 2015. <http://www.iea.org/aboutus/faqs/renewableenergy/>.

¹³³⁴ YPF cerró un acuerdo de inversión en Vaca Muerta, Fortuna. 10 December 2014. Access 7 April 2015. <http://fortunaweb.com.ar/2014-12-10-153789-ypf-cierra-acuerdo-de-inversion-en-vaca-muerta/>.

On 28 January 2015, YPF and Chinese oil company Sinopec reached a memorandum of understanding with the aim to jointly develop projects to produce oil and gas extraction, both conventional and unconventional (one of the targets for investment will be the Vaca Muerta deposit).¹³³⁵

On 19 February, the recently constructed Atucha II nuclear power plant reached its maximum energy production. Argentina's President Cristina Fernandez de Kirchner took part in the ceremony of the plant's inauguration.¹³³⁶

Argentina has taken actions to promote innovative clean energy technologies.

On 29 January 2015, the Cristina apura contratos por obras millonarias con Rusia (a project organized by the National Atomic Energy Commission, the National University of San Martín and five private companies) constructed a pilot solar plant to produce photovoltaic energy at Marambio Base, Argentinean Air Force scientific and military station located on the Antarctic continent.¹³³⁷

On 21 March 2015, the first meeting of the Argentinean Association of Renewable Energy Installers took place under the aegis of the IRESUD project in order to promote the use of clean energy technologies.¹³³⁸

On 27 March 2015, it was reported that IRESUD and the National Technological University (NTU) had carried out a pilot installation of photovoltaic panels in the Mendoza Regional Faculty of the NTU. At the moment the facility is already producing electric power.¹³³⁹

On 3 April 2015, the Ministry of Federal Planning, Public Investment and Services reported significant progress in the implementation of one of its projects, the construction and commissioning of thermal plant Guillermo. This project (together with the expansion of the port of Bahía Blanca and expanding pipeline capacity in the province) requires USD 685 million of investment and has already started producing energy.^{1340 1341}

In addition, the construction of two hydroelectric dams in the province of Santa Cruz started in the middle of 2013 is underway, aimed at producing as much as 10% of Argentinean total energy demand in 2008.^{1342,1343} The construction of the dams is also financed by other countries. For example, on 2 July 2015, Argentina

¹³³⁵ YPF firmó un acuerdo de inversión con la petrolera china Sinopec. *Télam Economía*. 28 January 2015. Access: 7 April 2015. <http://www.telam.com.ar/notas/201501/93274-ypf-petrolera-china-sinopec-acuerdo-inversion-vaca-muerta.html>.

¹³³⁶ Atucha 2 Reaches 100% Rated Power, *World Nuclear News*. 19 February 2015. Access: 7 April 2015. <http://www.world-nuclear-news.org/NN-Atucha-2-reaches-100-percent-rated-power-19021502.html>.

¹³³⁷ Electricidad con paneles solares en la Base Marambio, Proyecto de Interconexión a Red de Energía Solar Urbana Distribuida (IRESUD). 29 January 2015. Access: 7 April 2015. <http://iresud.com.ar/electricidad-con-paneles-solares-en-la-base-marambio/>.

¹³³⁸ 1º Encuentro de la Asociación Argentina de Instaladores de Energías Renovables. Electricidad con paneles solares en la Base Marambio, Proyecto de Interconexión a Red de Energía Solar Urbana Distribuida (IRESUD). 10 March 2015. Access: 7 April 2015. <http://iresud.com.ar/1o-encuentro-de-la-asociacion-argentina-de-instaladores-de-energias-renovables/>.

¹³³⁹ La instalación piloto de IRESUD en UTN-Mendoza ya se encuentra inyectando, Proyecto de Interconexión a Red de Energía Solar Urbana Distribuida (IRESUD). 29 January 2015. Access: 1 May 2015. <http://iresud.com.ar/la-instalacion-piloto-de-iresud-en-utn-mendoza-ya-se-encuentra-inyectando/>

¹³⁴⁰ Avanza la construcción de la Central Térmica Guillermo Brown, Ministerio de Planificación Federal, Inversión Pública y Servicios. 3 April 2015. Access: 1 May 2015. <http://www.minplan.gob.ar/noticia/19713/avanza-la-construccion-de-la-central-termica-guillermo-brown.html>

¹³⁴¹ Se puso en funcionamiento la Central Térmica G. Brown. 22 July 2015. Access: 11 October 2015. <http://www.minplan.gob.ar/noticia/21723/avanza-la-puesta-en-marcha-de-la-central-termica-a-carbon-de-rio-turbio.html>

¹³⁴² China will build and finance two dams in Patagonia equivalent to 10% of Argentine power demand, *MercoPress*. 22 August 2013. Access: 7 April 2015. <http://en.mercopress.com/2013/08/22/china-will-build-and-finance-two-dams-in-patagonia-equivalent-to-10-of-argentine-power-demand>.

¹³⁴³ Las represas y un proyecto distinto, *A la Arena*. 2 February 2015. Access: 7 April 2015. http://www.laarena.com.ar/opinion-las_represas_y_un_proyecto_distinto-132095-111.html

received the second tranche on the credit provided by the Development Bank of China that amounted to USD 150 mln.¹³⁴⁴

In addition, Argentina has taken steps to promote nuclear energy. Several international accords have been signed, most important ones — with Russia and China.

On 1 June 2015 it was announced that the new contracts with these countries will lead to the increase in nuclear energy production by 150%.¹³⁴⁵

Furthermore, external finance has been drawn for other innovative projects in the domain.

On 3 June 2015, Argentina-Russia meeting was held to discuss the conditions of Russian funding of the construction of a hydroelectric dam Chihuido I in the Province of Neuquén.¹³⁴⁶

On 28 July 2015, the Ministry for Plannification of Argentina announced the start of the programme aimed at enhancing energy efficiency of small and medium sized enterprises.¹³⁴⁷

On 7 September 2015, the Parque de Energía Nuclear was founded in Buenos Aires that is aimed at promoting clean nuclear energy.¹³⁴⁸

On 8 October 2015, the El Jume wind farm was launched in the Province of Santiago del Estero. The farm has costed the government USD 2 mln and will provide energy to more than 50,000 people living in the area.¹³⁴⁹

During the compliance period Argentina has taken actions to promote innovative energy technologies, including clean energy technologies. Thus, it is awarded a score of +1.

Analyst: Anton Markov

Australia: +1

Australia has fully complied with the commitment to promote clean energy technologies.

On 1 December 2014, The Australian Renewable Energy Agency announced a AUD 2 million funding to support the development of a solution for collecting renewable biomass from fast growing trees.¹³⁵⁰

On 18 February 2015, the Carnegie Perth Wave Energy Project's onshore power station was opened. "This is the first array of wave power generators to be connected to an electricity grid in Australia and worldwide," —

¹³⁴⁴ Banco de Desarrollo de China concretó desembolso por U\$S 150 millones para Represas Kirchner-Cepernic,, Ministerio de Planificación de Argentina. 2 July 2015. Access: 11 October 2015. <http://www.minplan.gob.ar/noticia/21440/banco-de-desarrollo-de-china-concreto-desembolso-por-u-s-150-millones-para-represas-kirchner-cepernic.html>

¹³⁴⁵ "Acuerdos estratégicos" con Rusia y China aumentarán 150% producción de energía nuclear, Ministerio de Planificación de Argentina. 1 June 2015. Access: 11 October 2015. <http://www.minplan.gob.ar/noticia/20764/acuerdos-estrategicos-con-rusia-y-china-aumentaran-150-produccion-de-energia-nuclear.html>

¹³⁴⁶ Chihuido I: Argentina y Rusia avanza en los términos de financiación, Ministerio de Planificación de Argentina. 3 June 2015. Access: 11 October 2015. <http://www.minplan.gob.ar/noticia/23081/amplio-rechazo-del-articulo-de-clarin-contra-el-plan-nuclear-argentino.html>

¹³⁴⁷ Eficiencia Energética: Asistencia Financiera a Pymes, Ministerio de Planificación de Argentina. 28 July 2015. Access: 11 October 2015. <http://www.minplan.gob.ar/noticia/21913/eficiencia-energetica-asistencia-financiera-a-pymes.html>

¹³⁴⁸ De Vido inauguró el simulador de la Central Néstor Kirchner y el Parque de Energía Nuclear, Ministerio de Planificación de Argentina. 7 September 2015. Access: 11 October 2015. <http://www.minplan.gob.ar/noticia/22600/de-vido-inauguro-el-simulador-de-la-central-nestor-kirchner-y-el-parque-de-energia-nuclear.html>

¹³⁴⁹ De Vido y la Gobernadora de Santiago del Estero pusieron en marcha el Parque Eólico El Jume, Ministerio de Planificación de Argentina. 8 October 2015. Access: 11 October 2015. <http://www.minplan.gob.ar/noticia/23055/de-vido-y-la-gobernadora-de-santiago-del-estero-pusieron-en-marcha-el-parque-eolico-el-jume.html>

¹³⁵⁰ Renewable biomass from fast growing trees, Australian Renewable Energy Agency 1 December 2014. Access: 14 May 2015. <http://arena.gov.au/media/renewable-biomass-from-fast-growing-trees/>.

said the Australian Renewable Energy Agency CEO Ivor Frischknecht. The AUD 32 million project was supported by AUD 13 million funding from the Australian Renewable Energy Agency.¹³⁵¹

On 23 March 2015, the first section of the Nyngan Solar Plant in western New South Wales, Australia, was opened and began feeding energy to the National Electricity Market. The plant's current power capacity is 25 MW and is expected to reach 102 MW on completion. The plant is a part of the AGL solar project, supported by the Australian Renewable Energy Agency with AUD 166.7 million.¹³⁵²

On 27 March 2015, a new concentrated solar photovoltaic (CSPV) power tower was unveiled in Newbridge, Victoria. This unique facility, which will supply 200 kilowatts to a local agriculture business, was a result of the AUD 3.6 million pilot project, supported by AUD 1.7 million funding from the Australian Renewable Energy Agency.¹³⁵³

On 13 April 2015, the Australian Renewable Energy Agency announced the second round of its Research and Development Programme worth AUD 20 million. The program is aimed at supporting "industry-partnered projects that seek to develop and commercialize renewable energy technologies."¹³⁵⁴ While the first round of the program was devoted to developing solar energy research and development, the second one is to promote collaboration between researchers and industry.¹³⁵⁵

On 5 May 2015, the Australian Renewable Energy Agency CEO Ivor Frischknecht announced that the first of around 650,000 panels had been installed at AGL Energy Limited's (AGL) Broken Hill solar photovoltaic plant. The Broken Hill plant is also a part of the AGL solar project, supported by the Australian Renewable Energy Agency funding.¹³⁵⁶

On 9 July 2015, Ivor Frischknecht said that the government will support Frontier Energy in creating a toolkit "that is set to make community energy projects easier to develop" providing AUD 296,000. According to Mr. Frischknecht, the project will "help break down some of the barriers facing new community energy projects by increasing project developers' understanding of how to secure finance."¹³⁵⁷

On 12 August 2015, the installation of the first photovoltaic panels took place at the Moree Solar Farm (MSF), which is set to become Australia's largest solar array. According to the Australian Renewable Energy Agency information, the farm, located in northern New South Wales, "will supply 140,000 megawatt-hours (MWh) per year — enough electricity to power 15,000 homes and abate 95,000 tons of carbon pollution each year." The project worth AUD 164 million was co-funded by the Australian Renewable Energy Agency providing AUD 102 million.¹³⁵⁸

¹³⁵¹ Australia's first renewable energy from a wave power array, Australian Renewable Energy Agency 18 February 2015. Access: 14 May 2015. <http://arena.gov.au/media/australias-first-renewable-energy-from-a-wave-power-array/>.

¹³⁵² Australia's largest solar plant fires up, Australian Renewable Energy Agency 23 March 2015. Access: 14 May 2015. <http://arena.gov.au/news/australias-largest-solar-plant-fires-up/>.

¹³⁵³ First of a kind concentrated solar PV power tower, Australian Renewable Energy Agency 27 March 2015. Access: 14 May 2015. <http://arena.gov.au/media/first-of-a-kind-concentrated-solar-pv-power-tower/>.

¹³⁵⁴ ARENA opens \$20 m R&D round for industry-partnered projects, Australian Renewable Energy Agency 13 April 2015. Access: 14 May 2015. <http://arena.gov.au/media/arena-opens-20-m-rd-round-for-industry-partnered-projects/>.

¹³⁵⁵ Research and Development Programme, Australian Renewable Energy Agency. Access: 14 May 2015. <http://arena.gov.au/initiatives-and-programmes/research-and-development-programme/>.

¹³⁵⁶ Solar plant taking shape at iconic Broken Hill. Australian Renewable Energy Agency 5 May 2015. Access: 14 May 2015. <http://arena.gov.au/media/solar-plant-taking-shape-at-iconic-broken-hill/>.

¹³⁵⁷ Toolkit to make community renewables financing easier, Australian Renewable Energy Agency 9 July 2015. . Access: 20 October 2015. <http://arena.gov.au/news/toolkit-to-make-community-renewables-financing-easier/>.

¹³⁵⁸ Key milestone passed at Australia's biggest solar project, Australian Renewable Energy Agency 12 August 2015. Access: 20 October 2015. <http://arena.gov.au/news/key-milestone-passed-at-australias-biggest-solar-project/>.

On 15 October 2015, the Broken Hill Solar Plant in western New South Wales reached full generation capacity of 53 MW.¹³⁵⁹ The project was supported by the Australian Government within the AGL Solar Project with a AUD 166.7 million contribution.¹³⁶⁰

On 16 October 2015, the Australian Renewable Energy Agency announced that wave energy developer Carnegie Wave Energy Limited has completed the conceptual design phase of the CETO 6 Project at Garden Island in Western Australia. The new CETO 6 technology is expected to deliver increased power generation capacity compared to the previous generation power units, as well as reduced power costs.¹³⁶¹ Australian Renewable Energy Agency is providing AUD 13 million to support the development of this new technology.¹³⁶²

During the compliance period Australia has taken actions to promote innovative energy technologies, including clean energy technologies. Thus, it is awarded a score of +1.

Analyst: Andrei Sakharov

Brazil: +1

Brazil has fully complied with the commitment to promote clean energy technologies.

On 5 February 2015, a working group from Brazil and the UK held a meeting in Brasilia which is a part of a project on innovation in the energy sector, in partnership with the Ministry of Science, Technology and Innovation (MCTI), the National Electric Energy Agency (ANEEL) and the Embassy of the United Kingdom, with the performers the CGEE and the carbon Trust — European organization that operates in various parts of the world with a mission to accelerate the transition to a sustainable low carbon economy.¹³⁶³

Brazil has taken actions to promote innovative clean energy technologies.

On 5 December 2014, at the Centro de Energias Renováveis da Universidade Federal de Pernambuco it was mentioned that Brazil would become capable of generating about 3,5 Gigawatt of solar power. Also, there was emphasized the impact of the call No. 13/2011 and Normative Resolution 482/2012 which promote incorporation of solar power into the whole electricity distribution systems.¹³⁶⁴

On 8 December 2014, state organization the Energy Research Company (EPE) registered 570 projects to the Alternative Sources Auction (LFA) 2015, scheduled for April 27. Among them there are 530 wind farms, totaling 12,865 MW of installed capacity, and 40 thermal power plants biomass, totaling 2,067 MW.¹³⁶⁵

On 26 December 2014, the National Institute of Technology (INT/MCTI) developed the technology which let convert the greenhouse gas, biogas into hydrogen (H₂) for power generation by a fuel cell. The study was conducted by a team led by technologist Fábio Bellot Noronha.¹³⁶⁶

¹³⁵⁹ Broken Hill plant hits full generation at pace, Australian Renewable Energy Agency 15 October 2015. Access: 20 October 2015. <http://arena.gov.au/news/broken-hill-plant-hits-full-generation-at-pace/>.

¹³⁶⁰ AGL Solar Project, Australian Renewable Energy Agency. Access: 20 October 2015. <http://arena.gov.au/project/agl-solar-project/>.

¹³⁶¹ Carnegie CETO 6 technology, Australian Renewable Energy Agency. Access: 20 October 2015. <http://arena.gov.au/project/carnegie-ceto-6-technology/>.

¹³⁶² Next generation wave project taking shape, Australian Renewable Energy Agency 16 October 2015. Access: 20 October 2015. <http://arena.gov.au/news/next-generation-wave-project-taking-shape/>.

¹³⁶³ Brasil e Reino Unido Concluem Workshop na Área de Energia, Brazilian Ministério da Ciência, Tecnologia e Inovação 6 February 2015. Access: 1 April 2015. http://www.mcti.gov.br/noticias/-/asset_publisher/lqV53KMvD5rY/content/brasil-e-reino-unido-concluem-workshop-na-area-de-energia;jsessionid=A958B7B8B38AC90743A04E1F8DFD14E1

¹³⁶⁴ Sudene e UFPE Debatem Utilização de Energia Solar no Nordeste, Portal Brasil 5 December 2014. Access: 1 April 2015. <http://www.brasil.gov.br/infraestrutura/2014/12/sudene-e-ufpe-debatem-utilizacao-de-energia-solar-no-nordeste>

¹³⁶⁵ Leilão Terá 530 Usinas Eólicas e 40 de biomassa, Portal Brasil 8 December 2014. Access: 1 April 2015. <http://www.brasil.gov.br/infraestrutura/2014/12/leilao-tera-530-usinas-eolicas-e-40-de-biomassa>

On 30 December 2014, the National Institute of Technology of Brazil received about USD 2.9 million from the government budget for development of innovation technologies for production and use of biodiesels oils derived from microalgae.¹³⁶⁷

On 31 December 2014, professor of the Federal University of Santa Catarina Roberto Bianchini Derner stated that the institution received about USD 600,000 of the budget funds from the Department of Technological Development and Innovation (Setec) of MCTI to study the potential of microalgae to produce biodiesel.¹³⁶⁸

On 26 January 2015, The Union of Sugar Cane Industry Association (UNICA) and the Trade Chamber (CCEE), Brazilian official body, launched the Green Seal Energy certificate, which is a part of the Bioelectricity Certification Program. It will allow the exchange of information between UNICA and CCEE for confirmation on the contractual origin of the electricity sold by plants powered by sugar cane biomass in the free energy market.¹³⁶⁹

On 27 January 2015, in Brasilia, managers of the Ministry of Science, Technology and Innovation (MCTI) and representatives of the German Agency for International Cooperation held the first meeting of the year for planning actions under the Project Support Heliothermic Energy Development in Brazil (DKTI-CSP). They discussed details of bilateral cooperation in building the first solar thermal plant in Brazil. It is expected to be constructed by the end of 2016. The project has accumulated about USD 8.8 million.¹³⁷⁰

On 27 February 2015, the Wind Farm Geribatu opened in Santa Vitória do Palmar. It is one of the points of expansion, diversification and energy sustainability program in Brazil. The resources of the Growth Acceleration Program (PAC) will enable the country to have 218 Wind Power Plants (UEEs) by 2017 and 130 (60%) of them have already been completed.¹³⁷¹

On 5 March 2015, the Minister of Mines and Energy Eduardo Braga said the government will reduce taxes on distributed energy generation. The measure aims to increase competitiveness of renewable energy sources, especially solar power.¹³⁷²

On 13 March 2015, Brazil and the US launched a program in nanotechnology for renewable energy. The collaboration between Brazil and the United States aims to accelerate the development of technologies for

¹³⁶⁶ Gás de Lixo Vira Hidrogênio para Produção Limpa de Energia, Instituto Nacional de Tecnologia de Brasil 26 December 2014. Access: 1 April 2015. <http://www.int.gov.br/sala-de-imprensa/noticias/item/8036-gás-de-lixo-vira-hidrogênio-para-produção-limpa-de-energia>

¹³⁶⁷ INT Ampliará Capacidade de Pesquisa do Biodiesel a Partir de Microalgas, Brazilian Ministério da Ciência, Tecnologia e Inovação 30 Decembre 2014. Access: 1 April 2015. http://www.mcti.gov.br/visualizar?p_p_auth=Sj5CYUYA&p_p_id=101&p_p_lifecycle=0&p_p_state=maximized&p_p_col_id=column-2&p_p_col_count=1&_101_struts_action=%2Fasset_publisher%2Fview_content&_101_assetEntryId=185710&_101_type=content&_101_urlTitle=int-ampliar-capacidade-de-pesquisa-do-biodiesel-a-partir-de-microalgas

¹³⁶⁸ Potencial das Microalgas Estimula Pesquisa com Biodiesel em Santa Catarina, Brazilian Ministério da Ciência, Tecnologia e Inovação 31 Decembre 2014, Access: 1 April 2015. http://www.mcti.gov.br/visualizar?p_p_id=101&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view&_101_urlTitle=potencial-das-microalgas-estimula-pesquisa-com-biodiesel-em-santa-catarina&_101_struts_action=%2Fasset_publisher%2Fview_content&_101_type=content&_101_assetEntryId=188111

¹³⁶⁹ UNICA e CCEE Emitem Primeiras Certificações do Selo Energia Verde, Portal Brasil 27 January 2015. Access: 1 April 2015. <http://www.brasil.gov.br/infraestrutura/2015/01/unica-e-cee-emitem-primeiras-certificacoes-do-selo-energia-verde>

¹³⁷⁰ Brasil e Alemanha se Reúnem para Discutir Planejamento de Projeto de Energia Helio térmica, Brazilian Fundação de Desenvolvimento de Pesquisa 27 January 2015. Access: 1 April 2015. <http://www.fundep.ufmg.br/pagina/3289/brasil-e-alemanha-se-ree-250-nem-para-discutir-planejamento-de-projeto-de-energia-heliote-233-rmica.aspx>

¹³⁷¹ Brasil Terá 218 Usinas Eólicas Financiadas Pelo PAC até 2017, Portal Brasil 5 March 2015. Access: 1 April 2015. <http://www.brasil.gov.br/infraestrutura/2015/03/brasil-tera-218-usinas-eolicas-financiadas-pelo-pac-ate-2017>

¹³⁷² Governo Busca Formas de Recompensar Quem Fornecer Excedente de Energia, Portal Brasil 5 March 2015. Data of Access: 1 April 2015. <http://www.brasil.gov.br/infraestrutura/2015/03/governo-busca-formas-de-recompensar-quem-fornecer-excedente-de-energia>

renewable and sustainable energy through investments in nanotechnology. In the context of the program there was created the Consortium for Innovation in Nanotechnology, Energy and Materials.¹³⁷³

On 31 August 2015, Minister of Mines e Energy announced that Brazil had doubled the wind energy generation in comparison to the previous year.¹³⁷⁴

During the compliance period Brazil has taken actions to promote innovative energy technologies, including clean energy technologies. Thus, it is awarded a score of +1.

Analyst: Sergey Burok

Canada: +1

Canada has fully complied with the commitment to promote clean energy technologies.

On 19 December 2014, Canada announced changes to the Aboriginal Renewable Energy Fund to make interim funding available to First Nations and Métis communities for due diligence work required to assess and develop opportunities for participation in the Large Renewable Procurement program. A community energy plan is a comprehensive long-term plan to improve energy efficiency, reduce electricity consumption and assess opportunities for clean energy solutions.¹³⁷⁵

On 1 April 2015, Clean Energy Vehicle (CEV) Program starts for the next three years to invest in charging infrastructure and hydrogen fuelling infrastructure, commercialize fleet purchases of clean energy vehicles, research and outreach on clean energy transportation technology.¹³⁷⁶

During the compliance period Canada has taken actions to promote innovative including clean energy technologies. Thus, it has been awarded a score of +1.

Analyst: Vitaly Nagornov

China: +1

China has fully complied with the commitment to promote clean energy technologies.

On 4 December 2014, the National Development and Reform Commission of China announced plans to develop offshore nuclear power projects, that all will comply with the highest international security standards.¹³⁷⁷

On 16 December 2014, Guangxi's first nuclear power send-out electric transmission line, a 500 KV line with two circuits from Fangchenggang Nuclear Power Plant to Haigang Transformer Substation in Qinhuangdao, was put into operation. The transmission line will greatly enhance the current capacity and strengthen the power grid structure to provide a continuous power supply.¹³⁷⁸

On 26 December 2014, Zhebei-Fuzhou 1000 KV Ultra-High Voltage AC Power Transmission Project was officially brought into operation. Zhebei-Fuzhou project is the third ultra-high voltage AC power

¹³⁷³ Brasil e EUA Lançam Programa em Nanotecnologia para Energia Renovável, Brazilian Ministério da Ciência, Tecnologia e Inovação 13 March 2015. Access: 1 April 2015. http://www.mcti.gov.br/noticias/-/asset_publisher/lqV53KMvD5rY/content/brasil-e-eua-lancam-programa-em-nanotecnologia-para-energia-renovavel

¹³⁷⁴ Em 2015, Brasil Duplica sua Produção de Energia Eólica, Portal Brasil 31 August 2015. Access: 11 October 2015. <http://www.brasil.gov.br/infraestrutura/2015/08/em-2015-brasil-duplica-sua-producao-de-energia-eolica>

¹³⁷⁵ Aboriginal Energy Partnerships Program. Access: 21 April 2015. <http://www.aboriginalenergy.ca/>

¹³⁷⁶ Clean Energy Vehicle for BC (CEVforBC™). Access: 21 April 2015. <https://www.cevforbc.ca/clean-energy-vehicle-program>

¹³⁷⁷ China plans to develop offshore nuclear power projects, the State Council of the People's Republic of China 4 December 2014. Access: 21 April 2015. http://english.gov.cn/state_council/ministries/2014/12/05/content_281475019751054.htm

¹³⁷⁸ Guangxi's first nuclear power send-out transmission line put into operation, Department of Climate Change in China 16 December 2014. Access: 21 April 2015. <http://en.ccchina.gov.cn/Detail.aspx?newsId=50415&TId=96>

transmission project invested and constructed by State Grid Corporation. It is an important component of the main grid of ultra-high voltage AC power transmission in East China.¹³⁷⁹

On 12 January 2015, the Chinese-built 338-megawatt Russei Chrum Krom River hydropower dam in Cambodia Koh Kong province started operation after Cambodian Prime Minister Hun Sen cut the ribbon to inaugurate it.¹³⁸⁰

On 21 January 2015, the state-owned Assets Supervision and Administration Commission of the State Council announced that HydroChina Corporation will provide the engineering, procurement and construction services for a 104-megawatt wind scheme in Argentina's La Rioja province.¹³⁸¹

On 5 February 2015, China's National Development and Reform Commission said that ministers of China and Argentina signed a deal to build a pressurized water reactor nuclear power plant in Argentina.¹³⁸²

On 4 March 2015, China authorities said that China will encourage clean industrial production in 2015 by promoting green technology and more economic use of resources to protect the environment. The central government will launch a program that aims to reduce pollution, cleanse industries and prompt sustainable development this year. Companies will destroy four million fewer tonnes of coal by the end of 2015 after the ministry helps them with technological upgrades.¹³⁸³

On 4 March 2015, members of the China National Committee from Hunan signed a proposal to restart Taohuajiang Nuclear Power Plant. According to the proposal a nuclear power plant with the capacity of one million kilowatts can reduce carbon dioxide emissions by over six million tons, and cut the emission of sulphur dioxide and nitrogen oxide and discharge of mercury and other heavy metal pollutants. Nuclear power development is a way to solve Hunan energy problems for its economic and social advance.¹³⁸⁴

On 18 March 2015, China Ministry of Industry and Information Technology stated in the guideline: "China will create a favorable environment to foster quicker growth in the new energy vehicle sector through intense government-led promotion." To encourage the production and purchase of new energy vehicles, the guideline set the target of 200,000 units of new energy buses and 100,000 new energy taxis and city logistics delivery vehicles by 2020. China will continue to promote the construction of charging facilities for new energy vehicles in cities and implement tax exemptions and subsidies for car purchases.¹³⁸⁵

On 19 March 2015, Charge d'Affaires at the Chinese Embassy Zhou Youbin announced that the Chinese Hanergy Group invested USD 1 billion to construct a 400-megawatt solar power plant to help boost Ghana's energy needs.¹³⁸⁶

¹³⁷⁹ Big Clean Energy Channel Opened between Zhejiang and Fujian, Zhejiang Provincial Government 26 December 2014. Access: 21 April 2015. http://english.zj.gov.cn/art/2014/12/30/art_5798_1470211.html

¹³⁸⁰ Chinese-built 338 MW hydropower dam in Cambodia starts operation, the State Council of the People's Republic of China 12 January 2015. Access: 21 April 2015.

http://english.gov.cn/news/international_exchanges/2015/01/13/content_281475038640893.htm

¹³⁸¹ China to take on wind energy project in Argentina, the Beijing Government 21 January 2015. Access: 21 April 2015.

<http://www.ebeijing.gov.cn/BeijingInformation/BeijingNewsUpdate/t1380188.htm>

¹³⁸² China, Argentina to jointly build nuclear power plant in Argentina, Department of Climate Change in China 5 February 2015. Access: 21 April 2015. <http://en.ccchina.gov.cn/Detail.aspx?newsId=50952&TId=103>

¹³⁸³ China promotes greener industry, Department of Climate Change in China 4 March 2015. Access: 21 April 2015.

<http://en.ccchina.gov.cn/Detail.aspx?newsId=51236&TId=96%22%20title=%22China%20promotes%20greener%20industry>

¹³⁸⁴ Restart Building of Taohuajiang Nuclear Power Plant Proposed, Hunan Provincial People's Government 4 March 2015. Access: 21 April 2015. http://www.enhunan.gov.cn/wwwHome/201503/t20150305_1217367.htm

¹³⁸⁵ China to boost new energy vehicles, Department of Climate Change in China 18 March 2015. Access: 21 April 2015.

<http://en.ccchina.gov.cn/Detail.aspx?newsId=51535&TId=96>

¹³⁸⁶ China to help Ghana construct \$1b solar plant, Department of Climate Change in China 19 March 2015. Access: 21 April 2015.

[http://en.ccchina.gov.cn/Detail.aspx?newsId=51585&TId=103%22%20title=%22China%20to%20help%20Ghana%20construct%20\\$1b%20solar%20plant](http://en.ccchina.gov.cn/Detail.aspx?newsId=51585&TId=103%22%20title=%22China%20to%20help%20Ghana%20construct%20$1b%20solar%20plant)

On 20 April 2015, China provided Pakistan multibillion-dollar concessional loans on areas including the southwestern Pakistani port of Gwadar, energy, transportation infrastructure and industry. China also signed 21 agreements on energy, according to which the two countries will cooperate on gas, coal and solar energy projects to provide 16,400 megawatts of electricity— roughly equivalent to Pakistan’s current capacity.¹³⁸⁷

On 30 April 2015, a section of the 900-megawatt solar photovoltaic power plant at a solar energy industrial park in Bahawalpur, Pakistan, was ready to connect with the grid. The plant, a priority project under the initiative of the China-Pakistan Economic Corridor, was financed and constructed by China’s Zenergy Company Limited to the tune of more than USD 1.5 billion.¹³⁸⁸

On 11 May 2015, deputy director of the China Nuclear Energy Association Xu Yuming said that China will have 30 million kilowatts (KW) of nuclear power capacity by the end of 2015. The government plans to increase China’s total nuclear power capacity to 58 million kilowatts by 2020, a rise of 170 percent over the current level. Xu estimates that this will require CNY 100 billion (USD 16.34 billion) of investment every year.¹³⁸⁹

On 13 May 2015, head of the Chinese nuclear energy association at the 11th China International Exhibition on Nuclear Power Industry said China will bring eight nuclear power stations online this year and begin work on six to eight more.¹³⁹⁰

On 12 June 2015, China’s chief climate negotiator Su Wei at the United Nations Framework Convention on Climate Change announced that China intends to peak its carbon dioxide emission around 2030 and increase the share of non-fossil fuels in primary energy consumption to around 20 percent by 2030.¹³⁹¹

On 31 July 2015, principal advisor on climate change of the United Nations Secretary-General Rae Kwon Chung said that China plans to invest USD 2.5 trillion in the next 15 years on clean energy projects.¹³⁹²

On 7 September 2015, Kenya Nuclear Electricity Board and China General Nuclear Power Group signed a deal for cooperation on the construction of the first nuclear power plant in the East African nation. China will provide Kenya with way of training and skills development, technical support in site selection for Kenya’s nuclear power plants and feasibility studies.¹³⁹³

On 15 September 2015, Chairman of the China Atomic Energy Authority Xu Dazhe acknowledged the great importance China has attached to its cooperation with the International Atomic Energy Agency. As part of this China will donate EUR 2 million (USD 2.3 million) for laboratory construction.¹³⁹⁴

On 25 September 2015, Chinese president Xi Jinping announced that China will start the world’s largest carbon trading system by 2017.¹³⁹⁵

¹³⁸⁷ http://wza.qxn.gov.cn/yxsm/index.php?m=proxy&a=show&q_url=http%3A%2F%2Fwww.chinadaily.com.cn%2Fworld%2F2015xivisitpse%2F2015-04%2F21%2Fcontent_20488009.htm

¹³⁸⁸ http://english.gov.cn/news/photos/2015/08/30/content_281475179006839.htm

¹³⁸⁹ <http://www.caea.gov.cn/n360680/n360749/n360854/708286.html>

¹³⁹⁰ <http://www.caea.gov.cn/n360680/n360749/n360854/701986.html>

¹³⁹¹ <http://en.ccchina.gov.cn/Detail.aspx?newsId=53241&TId=96%22%20title=%22China%20committed%20to%20addressing%20climate%20change>

¹³⁹² [http://en.ccchina.gov.cn/Detail.aspx?newsId=54432&TId=96%22%20title=%22China%20to%20spend%20\\$2.5%20trillion%20on%20clean%20energy%20projects](http://en.ccchina.gov.cn/Detail.aspx?newsId=54432&TId=96%22%20title=%22China%20to%20spend%20$2.5%20trillion%20on%20clean%20energy%20projects)

¹³⁹³ http://big5.zlb.gov.cn/gate/big5/big5.xinhuanet.com/gate/big5/news.xinhuanet.com/english/2015-09/11/c_134616133.htm

¹³⁹⁴ [http://en.ccchina.gov.cn/Detail.aspx?newsId=55335&TId=](http://en.ccchina.gov.cn/Detail.aspx?newsId=55335&TId=96%22%20title=%22China%20playing%20central%20role%20in%20nuclear%20power%20development:%20IAEA%20chief)

<http://en.ccchina.gov.cn/Detail.aspx?newsId=55655&TId=96> и <http://en.ccchina.gov.cn/Detail.aspx?newsId=55623&TId=96>

¹³⁹⁵ <http://en.ccchina.gov.cn/Detail.aspx?newsId=55655&TId=96> и <http://en.ccchina.gov.cn/Detail.aspx?newsId=55623&TId=96>

On 25 September 2015, President Xi Jinping made the announcement during a visit to Washington that the Chinese government will spend USD 3.1 billion in helping developing countries cope with the impacts of climate change and invest in green technologies.¹³⁹⁶

During the compliance period China has taken actions to promote innovative including clean energy technologies. Thus, it has been awarded a score of +1.

Analyst: Svetlana Nikitina

France: +1

France has fully complied with the commitment to promote clean energy technologies.

On 15 January 2015, the French Government adopted two agreements for future investments. They cover five strategic themes of action: renewable energy, energy and energy efficiency, sustainable building, circular economy, water and biodiversity.¹³⁹⁷

On April 2015, French Minister for Ecology, Sustainable Development and Energy, Ségolène Royal, and Minister of Economy, Industry and Digital Affairs, Emmanuel Macron, adopted the agreement on energy efficiency. Companies and governments are committed to promote energy transition to green growth.¹³⁹⁸ The objectives of the contract are to enhance Innovation, competitiveness and new skills.

On 1 April 2015, French Minister for Ecology, Sustainable Development and Energy, Ségolène Royal established new environmental bonus of EUR 10,000 for electric vehicles. This action will boost innovations in this area.¹³⁹⁹

During the compliance period France has taken actions to promote innovative including clean energy technologies. Thus, it has been awarded a score of +1.

Analyst: Vitaly Nagornov

Germany: +1

Germany has fully complied with the commitment to promote clean energy technologies.

On 3 December 2014, Federal Ministry for Economic Affairs and with Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety jointly signed an agreement with business associations on the nation-wide introduction of energy efficiency networks.¹⁴⁰⁰ [The core idea of the Energy Efficiency concept lies in increasing production rates whereas reducing energy consumption.] Results from a network project had shown that the participating companies make significantly better improvements in their energy efficiency after three to four years than the average for their sector. They cut their greenhouse-gas emissions by an average of 1000 tonnes of CO₂, and they boost their energy productivity twice as quickly as the average for the sector.

¹³⁹⁶ <http://en.ccchina.gov.cn/Detail.aspx?newsId=55635&TId=96>

¹³⁹⁷ Deux conventions pour soutenir les programmes d'investissements d'avenir . Access: 22 May 2015.

<http://www.developpement-durable.gouv.fr/Deux-conventions-pour-soutenir-les.html>

¹³⁹⁸ Ségolène Royal et Emmanuel Macron réunissent le comité stratégique de filière éco-industries et valident le contrat de filière sur l'efficacité énergétique. Access: 22 May 2015. http://www.developpement-durable.gouv.fr/Segolene-Royal-et-Emmanuel-Macron,43006.html?var_mode=calcul

¹³⁹⁹ Voitures électriques : des ventes en forte hausse grâce au nouveau bonus écologique de 10 000 € Access: 22 May 2015.

<http://www.developpement-durable.gouv.fr/Voitures-electriques-des-ventes-en,43350.html>

¹⁴⁰⁰ Bundesregierung Und Verbände Der Wirtschaft Bringen Initiative Energieeffizienz-Netzwerke Auf Den Weg,

Bundesministerium für Wirtschaft und Energie 3 December 2014. Access: 9 April 2015.

<http://www.bmwi.de/DE/Presse/pressemitteilungen,did=672894.html>

On 16 January 2015, the Energy Efficiency Export Initiative established by the German government under the overall control of Federal Ministry for Economic Affairs and Energy with the slogan “Energy Efficiency — Made in Germany” took effect.¹⁴⁰¹ Since then the Ministry has supported the presentation of innovative German flagship projects for energy-efficient solutions in building abroad.

Germany has taken actions to promote innovative clean energy technologies.

On 20 November 2014, the German government hosted the international Pledging Conference of the Green Climate Fund in Berlin. The outcome was the agreement on the initial financing of USD 9.3 billion, a substantial contribution to climate action in developing countries.¹⁴⁰² The goal of the GCF is to support developing countries — in particular the poor and vulnerable — on their road to low-emission, climate-resilient development. At the Petersburg Climate Dialogue in July, Chancellor Angela Merkel already announced a German contribution of 750 million euros making Germany the first donor country for the Green Climate Fund.

On 28 January 2015, an ordinance was adopted that creates the legal basis for pilot auctions of ground-mounted photovoltaic installations — energy equipment based on solar power.¹⁴⁰³ The expansion targets for renewable energies are reached in a predictable and cost-efficient way based on a competition-based procedure of auctions. The first auction was launched on 24 February.¹⁴⁰⁴ The second round of auctions ended on 3 August with a total of 136 bids submitted, which was considered as a great success by the State Secretary at the Federal Ministry for Economic Affairs and Energy Rainer Baake.¹⁴⁰⁵ During this second round, the uniform pricing procedure has been used for the first time.

On 3 February 2015, the Ministry for Economic Affairs and Energy announced a new funding program for grid operating power systems.¹⁴⁰⁶ The program is aimed at supporting the development and piloting of grid systems and initiating them in a number of pilot regions. The ministry planned to provide up to EUR 80 million for at least two large showcase regions. The term “smart grid” describes the communicative connection of actors in the energy supply system to the power supply grid.¹⁴⁰⁷ Smart grids provide system integrity to feed-in electricity from up to 100% renewable energy. On 18 May, a “Citizens’ Dialogue On The Electricity Grid” initiative was launched by the Ministry in order to provide public participation in the debate on the grid expansion.¹⁴⁰⁸ It is aimed at creating an open, transparent dialogue between all stakeholders. Citizens’ bureaus in selected regions will in future serve as permanent contact points with the first bureau opened on 22 May 2015 in Quakenbrück.

¹⁴⁰¹ Neues Fördermodul Gestartet: Exportinitiative Präsentiert Deutsche Leuchtturmprojekte Für Energieeffizienz Im Ausland, Bundesministerium für Wirtschaft und Energie 16 January 2015. Access: 9 April 2015. <http://www.bmwi.de/DE/Presse/pressemitteilungen,did=679694.html>.

¹⁴⁰² Grüner Klimafonds Macht Mut Für Weltweites Klimaabkommen, Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung 20 November 2014. Access: 9 April 2015. <http://www.bmz.de/20141120-2>.

¹⁴⁰³ Gabriel: Erste Ausschreibungsrunde Photovoltaik-Freiflächenanlagen Kann Im Februar 2015 Starten, Bundesministerium für Wirtschaft und Energie 28 January 2015. Access: 9 April 2015. <http://www.bmwi.de/EN/Press/press-releases,did=688792.html>.

¹⁴⁰⁴ Wettbewerb Statt Feste Fördersätze: Bundesnetzagentur Startet Photovoltaik-Freiflächenausschreibungen, Bundesministerium für Wirtschaft und Energie 24 February 2015. Access: 9 April 2015. <http://www.bmwi.de/DE/Themen/energie,did=692236.html>.

¹⁴⁰⁵ Large Number Of Bids In Second Round Of Auctions For Ground-Mounted Photovoltaic Installations, Bundesministerium für Wirtschaft und Energie 6 June 2015. Access: 11.10.2015. <http://www.bmwi.de/EN/Press/press-releases,did=722612.html>.

¹⁴⁰⁶ Gabriel Startet Wettbewerb Für Schaufenster Zur Intelligenten Energieversorgung Der Zukunft, Bundesministerium für Wirtschaft und Energie 3 Februar 2015. Access: 9 April 2015. <http://www.bmwi.de/DE/Presse/pressemitteilungen,did=688488.html>.

¹⁴⁰⁷ Intelligente Netze Und Intelligente Zähler, Bundesministerium für Wirtschaft und Energie. Access: 9 April 2015. <http://www.bmwi.de/EN/Topics/Energy/Grids-and-grid-expansion/smart-grids,did=667688.html>.

¹⁴⁰⁸ Launch Of "Citizens' Dialogue On The Electricity Grid", Bundesministerium für Wirtschaft und Energie 18 May 2015. Access: 11.10.2015. <http://www.bmwi.de/EN/Press/press-releases,did=705980.html>.

On 9 February 2015, the Ministry for Economic Affairs and Energy published “Key Principles for the Package of Ordinances Governing Smart Grids.” In line with the Coalition Agreement, this document set out binding rules for the future use of smart meters.¹⁴⁰⁹ Smart measurement systems involve meters that can communicate, measure and visualize power consumption and have other functions for energy management by integration with power consumers and generators.¹⁴¹⁰ Their primary function is to enable more renewable energy to be integrated into the market.

On 10 February 2015, the final investment decision for the NordLink submarine cable between Norway and Germany was taken. It will enable the exchange of electricity generated from renewable energy sources. “This is an important step towards efficient trade and more security of supply for Norway and for Germany,” said Rainer Baake, State Secretary at Federal Ministry for Economic Affairs and Energy.¹⁴¹¹

On 13 May 2015, the inaugural meeting of the Energy Transition “Research and Innovation” Platform took place in the Federal Ministry for Economic Affairs and Energy.¹⁴¹² The Research and Innovation Platform acts as an advisory body for the Federal Ministry for Economic Affairs and Energy, hosting a dialogue on the strategic direction of energy research with the national stakeholders in the Federal Government and the business and scientific communities.¹⁴¹³ The outcome of the 1st session was the appointment of a “Structure Task Force,” which is to consider existing research structures of the Federal Ministry for Economic Affairs and Energy and to draft proposals of where and how an overall systems analysis can take place.

A wide discussion process takes place in Germany concerning the future of German electricity market. On 3 July 2015 the so-called White Paper was published by the Federal Ministry for Economic Affairs and Energy.¹⁴¹⁴ This is an extended and commented version of the Green Paper — a brochure of the Ministry which covers all the aspects of the electricity market transformation. The document contains the principles for 20 measures implementing the electricity market 2.0. The main feature of this market is that renewable energy sources will account for a huge part of it. In a study entitled ‘Analysis of selected factors impacting on the market value of renewable energies’ published on 15 September 2015 by BMWi it is highlighted that the measures described in detail in the White Paper will improve the market opportunities for renewables and reduce the funding need.¹⁴¹⁵ To make sure the power market is prepared to handle fluctuating energy levels of wind and solar energy the Ministry had worked in close cooperation with other states. For example, on 17 June 2015 a bilateral workshop for electricity market experts from industry, science and civil society was jointly organised by the U.S. Department of State, the U.S. Department of Energy and BMWi.¹⁴¹⁶ Apart from that, State Secretary at BMWi Rainer Baake appreciated the communication on electricity market design

¹⁴⁰⁹ Staatssekretär Baake: Smart Meter Wesentlicher Baustein Für Energiewende Und Energieeffizienz, Bundesministerium für Wirtschaft und Energie 9 Februar 2015. Access: 9 April 2015.

<http://www.bmwi.de/DE/Presse/pressemitteilungen,did=688488.html>.

¹⁴¹⁰ Intelligente Netze Und Intelligente Zähler, Bundesministerium für Wirtschaft und Energie. Access: 9 April 2015.

<http://www.bmwi.de/EN/Topics/Energy/Grids-and-grid-expansion/smart-grids,did=667690.html>.

¹⁴¹¹ Staatssekretär Baake Reist Zu Energiepolitischen Gesprächen nach Oslo, Bundesministerium für Wirtschaft und Energie 19 February 2015. Access: 9 April 2015. <http://www.bmwi.de/DE/Presse/pressemitteilungen,did=690986.html>.

¹⁴¹² Research And Innovation Key Elements For Successful Energy Transition, Bundesministerium für Wirtschaft und Energie 13 May 2015. Access: 11.10.2015. <http://www.bmwi.de/EN/Press/press-releases,did=706042.html>.

¹⁴¹³ Research and Innovation Platform, Bundesministerium für Wirtschaft und Energie. Access: 11.10.2015.

<http://www.bmwi.de/EN/Topics/Energy/energy-research-and-innovation/research-and-innovation-platform.html>.

¹⁴¹⁴ State Secretary Baake: Electricity Market 2.0 Ensures Security Of Supply, Bundesministerium für Wirtschaft und Energie 3 July 2015. Access: 11.10.2015. <http://www.bmwi.de/EN/Press/press-releases,did=719344.html>.

¹⁴¹⁵ State Secretary Baake: More Market Opportunities For Renewable Energies Due To Greater Flexibility, Bundesministerium für Wirtschaft und Energie 15 September 2015. Access: 11.10.2015. <http://www.bmwi.de/EN/Press/press-releases,did=727496.html>.

¹⁴¹⁶ “Designing The Future For Electricity”: Senior U.S. And German Experts Discuss The Future Design Of The Electricity Market, Bundesministerium für Wirtschaft und Energie 17 June 2015. Access: 11.10.2015. <http://www.bmwi.de/EN/Press/press-releases,did=716112.html>.

presented in Summer Package of the European Commission.¹⁴¹⁷ It is worth mentioning that a proposal for the ongoing reform of emissions trading for the period up to 2030 was also included in the Package.

During the compliance period Germany has taken actions to promote innovative energy technologies, including clean energy technologies. Thus, it is awarded a score of +1.

Analyst: Sergei Titov

India: +1

India has fully complied with the commitment to promote clean energy technologies.

On 8 January 2015, Arun K. Tripathy, Energy Director at the Ministry of New and Renewable Energy, presented the financial problems of solar rooftop projects to the meeting of officials from nationalized public sector and private sector banks, international financial institutions and other government agencies and invited them to take part in the New Solar Entrepreneurship scheme. It was decided to create a workgroup on the issue of financing this project, the main target of which is 40,000 megawatt peak grid-connected rooftop solar photovoltaic (PV) systems.¹⁴¹⁸

On 26 January 2015, the Ministry of New and Renewable Energy invited entrepreneurs to take part in “Grid Connected Rooftop and Small Solar Power Plants Programme.” The invitation lists the incentives for entrepreneurs to adopt these technologies, such as 15% subsidy on the capital cost of the system and the bank interest subsidy.¹⁴¹⁹

In March 2015, the Ministry of New and Renewable Energy published guidelines for the selection of 3,000 megawatt grid — “Connected Solar PV Power Projects under Batch-II ‘State Specific Bundling Scheme’.” The document explains what the national solar mission is — declaring that India has a goal of being a global leader in solar energy by 2022, gradually increasing its solar power capacity.¹⁴²⁰

On 5 March 2015, Tripathi expressing the sanctions of the President of India for implementing a project to set up of 15,000 megawatts of grid-connected solar PV power plants through NTPC Ltd. noticed that developers would be from both public and private sectors.¹⁴²¹

On 30 March 2015, the Ministry of New and Renewable Energy published physical progress in 2014-2015, where the targets of use of renewable energy sources are compared with achievements and cumulative achievements are calculated. India has implemented the plan for neither of sectors. However, progress is

¹⁴¹⁷ State Secretary Baake: Communication From The Commission Regarding Market Design Supports White Paper Process In Germany, Bundesministerium für Wirtschaft und Energie 15 July 2015. Access: 11.10.2015. <http://www.bmwi.de/EN/Press/press-releases,did=720410.html>.

¹⁴¹⁸ Ministry of New and Renewable Energy (Grid Connected Rooftop Solar Power Division) Office Memorandum, Ministry of New and Renewable Energy Government of India 9 February 2015. Access: 11 October 2015. <http://mnre.gov.in/file-manager/UserFiles/MoM-grid-connected-solar-rooftop-09022015.pdf>.

¹⁴¹⁹ Invitation of Application for Empanelment of Channel Partners/New Entrepreneurs, Ministry of New and Renewable Energy Government of India 26 January 2015. Access: 11 October 2015. <http://mnre.gov.in/file-manager/UserFiles/Notification-Regarding-Extension-of-date-for-Guidelines-for-Empanelment-of-Channel-Partner-for-GCRTE.pdf>.

¹⁴²⁰ Guidelines for Selection of 3000 MW Grid – Connected Solar PV Power Projects under Batch-II “State Specific Bundling Scheme”, Ministry of New and Renewable Energy Government of India March 2015. Access: 11 October 2015. <http://mnre.gov.in/file-manager/UserFiles/Final-draft-3000-MW-Tranche-1-Draft-Guidelines-State-Specific-Bundling-Scheme.pdf>.

¹⁴²¹ Implementation of Project for Setting up of 15,000 MW of Grid-Connected Solar PV Power Plants through NTPC Ltd., Ministry of New and Renewable Energy Government of India 5 March 2015. Access: 7 April 2015. <http://mnre.gov.in/file-manager/UserFiles/Scheme-for-15000-MW-through-NTPC-NVNVN.pdf>.

observed for all the types of energy except biomass power and gasification. Wind, small hydro and solar power have the largest capacity.¹⁴²²

On 1 April 2015, the Department of Commerce of the Ministry of Commerce and Industry issued the “Foreign Trade Policy” guidelines for the years 2015 — 2020, which stipulated that Export Obligation should be reduced for the exporters of Green Technology Products.¹⁴²³

On 23 April 2015, Sh. Piyush Goyal, Minister of State for Power, Coal and New and Renewable Energy, stated that the Ministry of New and Renewable Energy was to support organizing training programs within power projects and in the fields concerning maintenance of renewable energy systems.¹⁴²⁴

On 30 April 2015, the Ministry of New and Renewable Energy, announced that 165 biomass projects with a total capacity of about 1400 Mega Watts have been set up in the country as of 31 March, 2015. Moreover, it was noticed that during the last three years USD 8.4 billions (according to USD -INR exchange rate as of 30 April 2015) were allocated to finance biomass power projects.¹⁴²⁵

On 23 July 2015, Sh. Piyush Goyal, Minister of State (IC) for Power, Coal & New and Renewable Energy, stated that 55 cities in 27 states were recognized as so called “solar cities” within the frames of ‘Development of Solar Cities programme’.¹⁴²⁶ Earlier the government developed the criteria, according to which to become “solar” a city should take up numerous measures aiming at promoting energy efficiency and renewable energy.¹⁴²⁷

On 6 August 2015, Sh. Piyush Goyal, Minister of State for Power, Coal & New and Renewable Energy, stated that the budget of the National Clean Energy Fund, — an institution funding research and innovative projects in clean energy technologies, — has increased by USD 2.7 billion (according to USD -INR exchange rate as of 6 August 2015) in comparison to the previous year. The minister also noticed that 30 projects on adopting clean energy technologies out of 44 shortlisted by NCEF are to be financed by the end of the year 2016.¹⁴²⁸

On 13 August 2015, the Government of India adopted the new Solar Power Policy, according to which the target of National Solar Mission has been reconsidered: the targeted proposed capacity has been increased by 80000 MW by the year of 2022.¹⁴²⁹

On 14 August 2015, the Ministry of New and Renewable Energy has taken up a program, providing the distribution of renewable energy devices amongst rural and tribal populations. For this purpose, the Ministry

¹⁴²² Programme/ Scheme wise Physical Progress in 2014-15, Ministry of New and Renewable Energy Government of India 30 March 2015. Access: 11 October 2015. <http://mnre.gov.in/mission-and-vision-2/achievements/>.

¹⁴²³ Foreign Trade Policy, Department of Commerce, Ministry of Commerce and Industry Government of India 1 April 2015. Access: 11 October 2015. <http://dgft.gov.in/exim/2000/ftp2015-20E.pdf>.

¹⁴²⁴ Training in Renewable Power Sector, Ministry of New and Renewable Energy Government of India 23 April 2015. Access: 11 October 2015. <http://pib.nic.in/newsite/pmreleases.aspx?mincode=28>.

¹⁴²⁵ Generation of Electricity from Paddy Straw, Ministry of Commerce and Industry Government of India 30 April 2015. Access: 11 October 2015. <http://pib.nic.in/newsite/pmreleases.aspx?mincode=28>.

¹⁴²⁶ 55 Cities Approved for Solar Cities, Ministry of New and Renewable Energy Government of India 23 July 2015. Access: 11 October 2015. <http://pib.nic.in/newsite/pmreleases.aspx?mincode=28>.

¹⁴²⁷ 55 Solar Cities to be Developed in India, Indo-Asian News Services 23 July 2015. Access: 11 October 2015. <http://www.ndtv.com/india-news/55-solar-cities-to-be-developed-in-india-784596>.

¹⁴²⁸ National Clean Energy Fund, Ministry of New and Renewable Energy 6 August 2015. Access: 11 October 2015. <http://pib.nic.in/newsite/pmreleases.aspx?mincode=28>.

¹⁴²⁹ New Solar Power Policy, Press Information Bureau, Government of India 13 August 2015. Access: 11 October 2015. <http://pib.nic.in/newsite/pmreleases.aspx?mincode=28>.

of New and Renewable Energy will fund Compensatory Afforestation Fund Management and Planning Authority.¹⁴³⁰

On 9 September 2015, the Union Cabinet approved the National Offshore Wind Energy Policy, which is making it possible to allocate wind energy blocks in offshore, including the Exclusive Economic Zones, providing level playing field to all investors, as domestic, so international.¹⁴³¹

During the compliance period, India has taken actions to promote innovative energy technologies, including clean energy technologies. Thus, it is awarded a score of +1.

Analyst: Anastasiia Matiukhina

Indonesia: +1

Indonesia has fully complied with the commitment to promote clean energy technologies.

On 27 November 2014, Indonesian state-owned electricity company PLN and the government of the country announced their plans to build hydro power plants with a capacity of 6300MW within the next ten years.¹⁴³²

On 16 March 2015, Indonesian government increased biofuel mandatory for 2015 to 15%. This measure will help reduce dependency on diesel fuel import. It is also in line with the National Energy Policy that sets the target of increasing the share of renewable energy in national energy mix to 23% by 2025.¹⁴³³

On 9 April 2015, Indonesian minister of energy and mineral resources Sudirman Said announced the allocation of IDR 115 billion for renewable energy infrastructure development in Sumba Island. This island is to become an example of efficient renewable energy utilization and a source of experience to be further used in other regions of the country.¹⁴³⁴

On 8 October 2015, Indonesian ministry of Energy and Mineral Resources announced the development of the Centre of Research and Clean Energy Technology which is planned to be located in Bali.¹⁴³⁵ The same day, the Ministry signed a Memorandum of Understanding on this Centre of Excellence with the Asian Development Bank.¹⁴³⁶

During the compliance period Indonesia has taken actions to promote innovative energy technologies, including clean energy technologies. Thus, it is awarded a score of +1.

Analyst: Andrey Shelepon

¹⁴³⁰ Govt to Distribute Unnat Chulhas and Solar Devices to Rural and Tribal Population, Ministry of New and Renewable Energy Government of India 14 August 2015. Access: 11 October 2015. <http://pib.nic.in/newsite/pmreleases.aspx?mincode=28>.

¹⁴³¹ Approval of National Offshore Wind Energy Policy, Ministry of New and Renewable Energy Government of India 9 September 2015. Access: 11 October 2015. <http://pib.nic.in/newsite/pmreleases.aspx?mincode=28>.

¹⁴³² 6.300 MW PLTA in the Next Ten Years, Ministry of Energy and Mineral Resources of Indonesia 27 November 2014. Access date: 17 April 2015. <http://www.esdm.go.id/index-en/83-energy/7016-6300-mw-plta-in-the-next-ten-years.html>.

¹⁴³³ Government Increases Biofuel Mandatory, Ministry of Energy and Mineral Resources of Indonesia 16 March 2015. Access date: 17 April 2015. <http://www.esdm.go.id/index-en/83-energy/7182-government-increases-biofuel-mandatory.html>.

¹⁴³⁴ Sumba Island is the Sample for Renewable Energy Utilization, Ministry of Energy and Mineral Resources of Indonesia 8 April 2015. Access date: 17 April 2015. <http://www.esdm.go.id/index-en/83-energy/7211-sumba-island-is-the-sample-for-renewable-energy-utilization.html>.

¹⁴³⁵ Bali Will be a Center of Excellence on Clean Energy, Ministry of Energy and Mineral Resources of Indonesia 8 October 2015. Access date: 21 October 2015. <http://www.esdm.go.id/news-archives/general/49-general/7762-bali-wil-be-a-center-of-excellence-on-clean-energy.html>.

¹⁴³⁶ The Signing of MoU between Ministry of EMR and Asian Development Bank and Knowledge Partnership Dialogue on Center of Excellence for Clean Energy, Ministry of Energy and Mineral Resources of Indonesia 8 October 2015. Access date: 21 October 2015. <http://www.esdm.go.id/press-release/53-pressrelease/7765-the-signing-of-mou-between-ministry-of-emr-and-asian-development-bank-and-knowledge-partnership-dialogue-on-center-of-excellence-for-clean-energy-.html>.

Italy: +1

Italy has fully complied with the commitment to promote clean energy technologies.

On 24-25 November 2015, the Italian Ministry of Environment organized a workshop in Naples devoted to promoting renewable sources of energy. Among the issues discussed at the workshop were policy mechanisms and goals of renewable sources development, burden sharing, synergies between renewables and regional economies, etc.¹⁴³⁷

On 24 April 2015, Italian Minister of Economic Development Federica Guidi signed a decree allocating EUR 120 million for the needs of the *Energie Rinnovabili e Risparmio Energetico* program. These funds will help the companies with productive facilities in the regions of Calabria, Campania, Apulia and Sicily which want to invest in energy effective projects.¹⁴³⁸

Italy has taken action to promote clean energy technologies.

On 4 August 2015, Italian Minister of the Environment Gian Luca Galletti had a meeting with a delegation from the US state of Nevada headed by Governor Brian Edward Sandoval. The Memorandum of Understanding between was signed touching the issues of renewable energy. The parties agreed to exchange experience, best practices and technologies in hydro and renewable energy in general.¹⁴³⁹

During the compliance period Italy has taken actions to promote innovative energy technologies and clean energy technologies. Thus, it is awarded a score of +1.

Analyst: Andrei Sakbarov

Japan: +1

Japan has fully complied with the commitment to promote clean energy technologies.

On 22 January 2015, Agency for Natural Resources and Energy partially revised the ordinance for enforcement of the Act on special measures concerning procurement of electricity from renewable energy sources by electricity utilities, including development of an innovative system to assess a new output-control scheme.¹⁴⁴⁰

On 18 December 2014, the Agency for Natural Resources and Energy announced that a report titled “Revision of the Current Operation System for the Feed-in Tariff Scheme toward the Maximum Introduction of Renewable Energy” has been compiled.¹⁴⁴¹ Report concerns the shift from the current system to a system with a new output-control scheme and revision of the current operation system.

¹⁴³⁷ Fonti Rinnovabili: accesso ai fondi e opportunità per imprese, professionisti e amministrazioni pubbliche, Italian Ministry of the Environment 25 November 2014. Access: 17 May 2015. <http://www.minambiente.it/notizie/fonti-rinnovabili-accesso-ai-fondi-e-opportunita-impres-professionisti-e-amministrazioni>.

¹⁴³⁸ Efficienza Energetica 2015: 120 milioni per sostenibilità ed efficienza, Italian ministry of EconomicDevelopment 24 April 2015. Access: 17 May 2015. <http://www.sviluppoeconomico.gov.it/index.php/it/incentivi/energia/bando-efficienza-energetica>.

¹⁴³⁹ Clima: Galletti incontra il Governatore del Nevada, scambio di tecnologie su acqua e rinnovabili, Italian Ministry of the Environment 4 August 2015. Access: 20 October 2015. <http://www.minambiente.it/comunicati/clima-galletti-incontra-il-governatore-del-nevada-scambio-di-tecnologie-su-acqua-e>.

¹⁴⁴⁰ Promulgation of the Ministerial Ordinance and the Related Public Notices for Partially Revising the Ordinance for Enforcement of the Act on Special Measures Concerning Procurement of Electricity from Renewable Energy Sources by Electricity Utilities. Access: 22 April 2015. http://www.meti.go.jp/english/press/2015/0122_02.html

¹⁴⁴¹ ANRE Compiled a Report Titled “Revision of the Current Operation System of the Feed-in Tariff Scheme toward the Maximum Introduction of Renewable Energy” . Access: 22 April 2015. http://www.meti.go.jp/english/press/2014/1218_01.html

On 24 March 2015, the Cabinet decided to approve the Bill for the Act for the Improvement of the energy saving performance of buildings.¹⁴⁴² The bill is to stipulate innovative measures, to establish new system for authorizing a plan submitted by businesses to improve energy saving performance.

During the compliance period Japan has taken actions to promote innovative energy technologies, including clean energy technologies. Thus, it is awarded a score of +1.

Analyst: Vitaly Nagornov

Korea: +1

Korea has fully complied with the commitment to promote clean energy technologies.

On 25 November 2015, a program to build environmentally friendly “zero energy housing” test bed was launched in Seoul. The project worth KRW 44.2 billion aims to build 121 housing units in three seven-storied apartment buildings and a number of townhouses. The test bed is to employ technologies which will allow to avoid using fossil fuels for heating, air conditioning, warm water, lighting, and ventilation.¹⁴⁴³

On 22 December 2014, a 1.5-megawatt solar energy power plant in Puerto Ayora, Galápagos Islands, Ecuador, was officially completed. The project was carried out by the Korean International Cooperation Agency (KOICA) in cooperation with the government of Ecuador.¹⁴⁴⁴

On 9 January 2015, the creation of a new type of solar panels was announced by the research team led by the Sungkyunkwan University professor Seok Sang-il. The new battery is described as “a next-generation, more economical perovskite-based solar battery” and “the world’s most efficient solar cell.” The research was co-sponsored by the Korean Ministry of Science, ICT & Future Planning.¹⁴⁴⁵

On 19 March 2015, Korea International Cooperation Agency launched a three-week program Sustainable Energy Development and Policy involving 15 government officials responsible for energy management and policy from Jordan. The program’s objectives included: assistance in understanding various activities and policies on sustainable energy including renewable energy and green energy; learning of recent technological developments and policy directions in energy; exchanging views on urgent energy issues in Korea and Jordan; and strengthening future cooperation in sustainable energy development between the two countries.¹⁴⁴⁶

During the compliance period Korea has taken actions to promote innovative energy technologies, including clean energy technologies. Thus, it is awarded a score of +1.

Analyst: Andrei Sakharov

Mexico: +1

Mexico has fully complied with the commitment to promote clean energy technologies.

In December 2014, the Mexican Secretariat of Energy (SENER), Electric Power Saving Trust Fund (Fideicomiso para el Ahorro de Energía Eléctrica [FIDE]) and DICONSA (a state-owned company) distributed 38.9 million of energy-efficient lamps in the rural communities. The rural citizens could exchange

¹⁴⁴² Cabinet Decision on the Bill for the Act for the Improvement of the Energy Saving Performance of Buildings. Access: 22 April 2015. http://www.meti.go.jp/english/press/2015/0324_03.html

¹⁴⁴³ Zero energy housing eliminating any need for a heating bill will be built in the Nowon district, South Korean Ministry of Land, Infrastructure and Transport 28 May 2015. Access: 25 November 2014. <http://goo.gl/Q2sEzQ>.

¹⁴⁴⁴ Solar power provides electricity to Galápagos, Korean Government 30 December 2014. Access: 22 October 2015. <http://www.korea.net/NewsFocus/Policies/view?articleId=124281>.

¹⁴⁴⁵ Researchers develop world’s most efficient solar cell, Korean Government 15 January 2015. Access: 20 October 2015. <http://www.korea.net/NewsFocus/Sci-Tech/view?articleId=124891>.

¹⁴⁴⁶ Sustainable Energy Development and Policy (Jordan). Korea International Cooperation Agency 17 March 2015. Access: 3 June 2015. http://www.koica.go.kr/english/board/whats_new/1319418_3545.html.

their lamps for energy-efficient lamps in 30 stores, 274 rural stores and more than 27,000 benches benefiting 7.7 million families.¹⁴⁴⁷

Starting from 1 January 2015, 40 watt light bulbs are not sold in Mexico. This measure intends to decrease energy consumption in the country as well as to reduce greenhouse gas emissions equivalent to 500,000 tons of carbon dioxide per year. In addition SENER, FIDE and DICONSA will launch a program for fluorescent lamps distribution in four Mexican states.¹⁴⁴⁸

In January 2015, the Mexican National Commission for the Efficient Use of Energy (Conuee) in cooperation with Super-efficient Equipment and Appliance Deployment (SEAD) Initiative launched software to evaluate street lightings. The program helps to estimate quality of light and energy consumption of street lightings by use of photometric analysis.¹⁴⁴⁹

On 20 January 2015, Juan José Guerra Abud, Mexican Minister for Environment and Natural Resources, met with Duncan Taylor, United Kingdom Ambassador to Mexico, to discuss strengthening bilateral cooperation in environment and clean energy spheres. The meeting was also attended by senior Mexican and UK energy and climate officials.¹⁴⁵⁰

In March 2015, Mexico's state oil company Pemex launched its first-ever sales of gasoline mixed with cleaner-burning ethanol to reduce greenhouse gas emissions. The 5.8 percent ethanol is mixed with Pemex's top selling Magna gasoline brand and lower emissions by 35 percent. Pemex will invest about USD 58 million to build necessary infrastructure for the project at its Ciudad Madero and Minatitlan refineries. Pemex also canceled a planned USD 2.8 billion investment to boost ultra-low sulfur diesel production announced in September as an additional measure to reduce pollution.¹⁴⁵¹

On 27 March 2015, Mexico announced its commitment to reduce greenhouse gas emissions after 2020, pledging to peak those emissions by 2026 and reduce them 22 percent below a predetermined "business as usual" level by 2030. Mexico also committed to reduce its black carbon emissions 51 percent.¹⁴⁵²

On 27 March 2015, Mexico and the US signed the joint statement on climate policy cooperation in which they committed to harmonize their efforts and policies towards their common climate goals in particular in developing clean energy to boost economic growth. The countries also agreed to launch "a new high-level bilateral clean energy and climate policy task force to further deepen policy and regulatory coordination in specific areas including clean electricity, grid modernization, appliance standards, and energy efficiency, as well as promoting more fuel efficient automobile fleets in both countries, global and regional climate modeling, weather forecasting and early alerts system."¹⁴⁵³

¹⁴⁴⁷ Apoya Diconsa el Programa de Ahorro de Energía. 31 December 2014. Date of assess: 23 February 2015.

http://www.sedesol.gob.mx/es/SEDESOL/Comunicados/_rid/57/2732/apoya-diconsa-el-programa-de-ahorro-de-energia.

<http://www.diconsa.gob.mx/index.php/sala-de-prensa/728-continua-diconsa-con-el-programa-ahorrante-una-luz.html>.

¹⁴⁴⁸ Ya no se venderán lámparas incandescentes de 40 watts o más. 20 January 2015. Date of assess: 23 February 2015.

<http://www.presidencia.gob.mx/ya-no-se-venderan-lamparas-incandescentes-de-40-watts-o-mas/>.

¹⁴⁴⁹ Conuee promueve software para evaluación de luminarias de alumbrado public. 16 January 2015. Date of assess: 23 February 2015. <http://www.iluminet.com/software-alumbrado-conuee-iluminacion/>.

¹⁴⁵⁰ México y Reino Unido refrendan compromiso de colaboración ambiental. 20 January 2015. Date of assess: 23 February 2015. <http://saladeprensa.semarnat.gob.mx/index.php/noticias/2006-mexico-y-reino-unido-refrendan-compromiso-de-colaboracion-ambiental>.

¹⁴⁵¹ Mexico's Pemex launches ethanol biofuel program to cut emissions. 19 March 2015. Date of assess: 28 September 2015.

<http://lta.reuters.com/article/marketsNews/idLTLAL2NOWL2E720150319>.

¹⁴⁵² Mexico announces ambitious post-2020 emission reduction target. 27 March 2015. Date of assess: 28 September 2015.

<https://www.edf.org/media/mexico-announces-ambitious-post-2020-emission-reduction-target>.

¹⁴⁵³ Joint Statement on U.S.-Mexico Climate Policy Cooperation. 27 March 2015. Date of assess: 28 September 2015.

<https://www.whitehouse.gov/the-press-office/2015/03/27/joint-statement-us-mexico-climate-policy-cooperation>.

On 28 April 2015, the FIDE invited the companies to participate in the Program on Supporting Distributed Generation. The program is designated for high consumption domestic consumers (DAC)¹⁴⁵⁴ and SMEs — tariff 2 users. The program is aimed to encourage the purchase of 500 photovoltaic systems¹⁴⁵⁵ and 6 efficient cogeneration systems thereby to promote a use of renewable technologies in Mexico.¹⁴⁵⁶ 10 percent of the each system costs will be covered by the Energy Transition and its Sustainable Use Fund (FOTEASE).

On 18 June 2015, the 102nd Session of the FIDE Technical Committee was held to present the results of the first quarter of 2015. According to the participants, during the reported period 74 projects of photovoltaic systems (53 — in the SMEs sector) were funded with a total capacity of 705.61 kW. These projects are in line with the Mexican Law for the Use of Renewable Energies and Financing the Energy Transition (LAERFTE) aimed at reducing the generation of energy from fossil fuels by use of renewable sources. The participants also noted the progress within the program “Eco-Business Credit” which supported more than 900 SMEs to get 2,832 items of high-efficient equipment mainly refrigerators, air conditioners, efficient lighting systems and electrical substations during the first quarter of 2015. The participants of the event also noted that since 2015 the program includes new technologies such as capacitors, chillers and solar-heat water collectors which help SMEs to reduce their electricity costs.¹⁴⁵⁷

On 8 July 2015, a series of focus groups aimed at boosting a program “Eco-Business Credit” activities were organized by the FIDE, CREARA energy efficiency and energy saving experts aimed at further expansion of the program. The participants of the focus groups included the representatives of the companies of the program, in particular GASADI, S.A. de C.V., Imbera, Maximoda Muebles, Voomer, Distribuidora Ríovalle, Distribuidora Rhino Maquinaria S.A. de C.V., PHP and Glacial authorized as the program dealers.¹⁴⁵⁸

On 13 July 2015, the FIDE met with the mission of the U.S. Agency for International Development (USAID) to Guatemala to exchange the experiences in energy efficiency and programs in this sphere. The representatives of the USAID recognized the FIDE work and emphasized that the program “Eco-Business Credit” is a best model and could be implemented in other countries of the region. The participants agreed that the market trends should be deeply explored to identify the barriers to place energy efficient items as well as introduce an evaluation system to report on the program outputs and results as well as identify the needed modifications to make it more effective.¹⁴⁵⁹

In August 2015, more 8 million energy-saving lamps were delivered to 1,712,000 persons through DICONSA shops in a number of communities within the national program of replacement incandescent bulbs. One household is granted by 5 free energy-saving lamps in return of at least one incandescent bulb. This measure is a part of the national programme “Save a light” launched by the Mexican Federal Government in July

¹⁴⁵⁴ http://www.leonardo-energy.org/sites/leonardo-energy/files/documents-and-links/pv_grid_parity_monitor_-_mexico_-_issue_1_english.pdf.

¹⁴⁵⁵ http://www.energy.ca.gov/commission/international_cooperation/documents/2015-08-19-21_workshop/presentations/Efrain_Villanueva_Arcos_SENER.pdf

¹⁴⁵⁶ FIDE presenta nuevo Programa de Apoyo a la Generación Distribuida. 28 April 2015. Date of assess: 27 September 2015. http://www.fide.org.mx/index.php?option=com_content&view=article&id=602:abril-28-2015-fide-presenta-nuevo-programa-de-apoyo-a-la-generacion-distribuida&catid=57:noticias&Itemid=267.

¹⁴⁵⁷ Importante avance en financiamiento de Proyectos de Generación Distribuida en el primer trimestre de 2015: FIDE. 18 June 2015. Date of assess: 28 September 2015. http://www.fide.org.mx/index.php?option=com_content&view=article&id=604:junio-18-2015-importante-avance-en-financiamiento-de-proyectos-de-generacion-distribuida-en-el-primer-trimestre-de-2015-fide&catid=57:noticias&Itemid=267.

¹⁴⁵⁸ Realiza FIDE actividades con grupos focales para incrementar acciones del Programa Eco-Crédito Empresarial. 8 July 2015. Date of assess: 28 September 2015. http://www.fide.org.mx/index.php?option=com_content&view=article&id=606:realiza-fide-actividades-con-grupos-focales-para-incrementar-acciones-del-programa-eco-credito-empresarial&catid=57:noticias&Itemid=267.

¹⁴⁵⁹ FIDE realiza intercambio de experiencias con Guatemala. 13 July 2015. Date of assess: 28 September 2015. http://www.fide.org.mx/index.php?option=com_content&view=article&id=607:fide-realiza-intercambio-de-experiencias-con-guatemala&catid=57:noticias&Itemid=267.

2015¹⁴⁶⁰ aimed at replacement of incandescent bulbs in the Mexican cities with population of up to 100,000 inhabitants. In addition to reducing energy consumption and protecting the environment it helps Mexican families to reduce their payments for energy. The programme is a joint effort by SENER, FIDE and DICONSA.¹⁴⁶¹

On 7 August 2015, the FIDE held a meeting with the representatives of the Colombian Network of Knowledge on Energy Efficiency. The meeting was aimed at exchanging experience in energy saving and efficiency spheres. The FIDE shared its experience in implementing energy efficiency projects including increasing awareness on energy saving needs. The participants agreed to elaborate communication strategies to strengthen the relationships with business and experts and work together to establish the mechanisms for development, financing and dissemination energy efficiency projects.¹⁴⁶²

On 21 August 2015, the Electric Power Saving Trust Fund (FIDE) held the 103rd Session of the Technical Committee at which the implemented activities of second quarter of 2015 were presented. According to the General Director of the FIDE Talán Raul Ramirez, 40 new projects were approved: 18 photovoltaic systems for residential use and 22 for companies. 52 projects in the energy efficiency sphere, including the ones aimed at reducing energy consumption of air conditioners and transformers were financed. A program “Eco-Business Credit” implemented by the FIDE supported more than 1,121 micro, small and medium entrepreneurs to replace their out-dated equipment to new efficient one. So more than 2,000 equipment items were replaced, including commercial refrigerators, air conditioners, lighting systems and electrical substations. As estimate, the implemented measures will save 204.45 GWh per year, 250 million pesos per year for the Mexican citizens and avoid emissions of about 100 tons of carbon dioxide.¹⁴⁶³

On 25 September 2015, Mexican President Enrique Peña Nieto launched a geothermal station Los Azufres III, Fase I in Michoacán state. The total investment to this project was USD 57 million. The station will generate power for 800,000 citizens. Due to use of the clean technologies the station will help to avoid emissions of 177,000 tons of carbon dioxide into the atmosphere per year.¹⁴⁶⁴ At the present time the Federal Electricity Commission (CFE) of Mexico develops geothermal energy five projects similar to Los Azufres III aimed at implementation of one of the General Law on Climate Change objectives to provide at least 35 percent of electricity from clean sources by 2024.

During the compliance period Mexico has taken actions to promote innovative clean energy technologies. Thus, it has been awarded a score of +1.

Analyst: Elizaveta Safonkina

Russia: +1

Russia has fully complied with the commitment to promote clean energy technologies.

¹⁴⁶⁰ Más de 2 mil millones de pesos de ahorros con el programa de sustitución de focos “Ahórrate una luz”. 22 July 2015. Date of assess: 27 September 2015. http://www.fide.org.mx/index.php?option=com_content&view=article&id=608:mexico-df-a-22-de-julio-de-2015-mas-de-2-mil-millones-de-pesos-de-ahorros-con-el-programa-de-sustitucion-de-focos-ahorrate-una-luz&catid=57:noticias&Itemid=267

¹⁴⁶¹ Avanzan Veracruz y Oaxaca en la entrega de focos ahorradores. 13 August 2015. Date of assess: 27 September 2015. http://www.fide.org.mx/index.php?option=com_content&view=article&id=616:agosto-13-2015-avanzan-veracruz-y-oaxaca-en-la-entrega-de-focos-ahorradores&catid=57:noticias&Itemid=267.

¹⁴⁶² Red Colombiana de Conocimiento en Eficiencia Energética busca trabajo conjunto con el FIDE. 7 August 2015. Date of assess: 27 September 2015. http://www.fide.org.mx/index.php?option=com_content&view=article&id=615:agosto-07-2015-red-colombiana-de-conocimiento-en-eficiencia-energetica-busca-trabajo-conjunto-con-el-fide&catid=57:noticias&Itemid=267.

¹⁴⁶³ FIDE presenta avance significativo en el programa Ahórrate una luz ante Comité Técnico. 21 August 2015. Date of assess: 27 September 2015. http://www.fide.org.mx/index.php?option=com_content&view=article&id=621:agosto-21-2015-fide-presenta-avance-significativo-en-el-programa-ahorrate-una-luz-ante-comite-tecnico&catid=57:noticias&Itemid=267.

¹⁴⁶⁴ Central Geo-Termo-Eléctrica Los Azufres III, Fase I. Date of assess: 3 October 2015. <http://www.gob.mx/presidencia/articulos/central-geo-termo-electrica-los-azufres-iii-fase-i>.

On 9 December 2014, the Government of the Russian Federation approved the plan of the implementation of the “Energy efficiency and energy development” program prepared by the Ministry of Energy. It provides an increase in government spending by 6.844 billion rubles in 2014-16. Implementation of the program, according to the government, will result in reduction of energy intensity of the Russian economy by 12.7 per cent by 2020 (compared to 2007). The program is also aimed at upgrading of the Russian electric energy production production capacities through the implementation of both domestic and foreign innovative energy technologies.¹⁴⁶⁵ The sub-program 6 of the Plan approved by the government provides for the development of renewable sources of energy, including through direct government subsidies on renewable energy sources’ connection to power grids.¹⁴⁶⁶

On 23 January 2015, the Government of the Russian Federation approved a decree on stimulating renewable energy sources in retail electricity markets. This document will allow to improve the mechanisms supporting generating companies employing renewable energy technologies, through enhanced modalities of long-term tariff regulation of such companies. These mechanisms apply to green energy facilities, utilizing biogas, biomass, landfill gas and other renewable energy sources.¹⁴⁶⁷

On 1 October 2015, the draft of the renewed Energy Strategy of the Russian Federation for the period up to 2035 was introduced to the government.¹⁴⁶⁸ The draft strategy, inter alia, provides for the measures aimed at increasing the share of renewable energy in the country’s energy mix and increasing investment in developing renewable energy sources.¹⁴⁶⁹

During the compliance period Russia has taken actions to promote innovative energy technologies, including clean energy technologies. Thus, it is awarded a score of +1.

Analyst: Andrei Sakharov

Saudi Arabia: +1

Saudi Arabia has fully complied with the commitment to promote clean energy technologies.

On 5 May 2015, a memorandum of joint cooperation was signed between King Abdullah City for Atomic and Renewable Energy (K.A.CARE) and Al Mediana Al Munawara Municipality. K.A.CARE is a state entity established by royal decree in 2010 to build “a sustainable future for Saudi Arabia by developing a substantial alternative energy capacity fully supported by world-class local industries.”¹⁴⁷⁰ The memorandum signed by the two parties provides for carrying out a joint study to develop renewable energy system in Al Madinah Al Monawara area, measuring renewable energy resources potential, developing solutions and renewable energy stations, promoting education and technical training, as well as developing industries and services relevant to

¹⁴⁶⁵ On approval of the new version of the “Energy efficiency and energy development” state program, Government of Russia 15 April 2014. Access: 11 June 2015. <http://government.ru/docs/11951>.

¹⁴⁶⁶ Government of Russia Decree No. 2445-p, Government of Russia 3 December 2014. Access: 11 June 2015.. <http://government.ru/media/files/aRtaG8E5Rys.pdf>.

¹⁴⁶⁷ On stimulating renewable energy sources in retail electricity markets, Government of Russia 23 January 2015. Access: 11 June 2015. <http://government.ru/docs/16633/>.

¹⁴⁶⁸ The draft of the renewed Energy Strategy of the Russian Federation introduced to the government, Russian Energy Ministry 1 October 2015. Access: 21 October 2015. http://minenergo.gov.ru/press/min_news/3459.html.

¹⁴⁶⁹ Russia’s Energy Strategy for the period up to 2035, Russian Energy Ministry 1 October 2015. Access: 21 October 2015. <http://minenergo.gov.ru/upload/%D0%9F%D1%80%D0%BE%D0%B5%D0%BA%D1%82%20%D0%AD%D0%BD%D0%B5%D1%80%D0%B3%D0%B5%D1%82%D0%B8%D1%87%D0%B5%D1%81%D0%BA%D0%BE%D0%B9%20%D1%81%D1%82%D1%80%D0%B0%D1%82%D0%B5%D0%B3%D0%B8%D0%B8%20%D0%A0%D0%BE%D1%81%D1%81%D0%B8%D0%B8%20%D0%BD%D0%B0%20%D0%BF%D0%B5%D1%80%D0%B8%D0%BE%D0%B4%20%D0%B4%D0%BE%202035.pdf>.

¹⁴⁷⁰ The Establishing Order, K.A.CARE. Access: 21 May 2015. http://www.kacare.gov.sa/en/?page_id=71.

renewable energy in the area. The parties will focus on cooperation in developing solar and wind sources of energy.¹⁴⁷¹

On 18 October 2015, President of the Royal Commission of Jubail and Yanbu' Prince Saud ibn Abdullah Ibn Thonayyan Al-Saudi and President of King Abdullah City for Atomic and Renewable Energy (KACARE) signed a cooperation agreement to conduct a feasibility study on the establishment and operation of a 50-Megawatt solar energy station, which is to be built in Yanbu' Industrial City.¹⁴⁷²

During the compliance period Saudi Arabia has taken actions to promote innovative clean energy technologies. Thus, it is awarded a score of +1.

Analyst: Andrei Sakharov

South Africa: -1

South Africa has failed to comply with the commitment to promote clean energy technologies.

No actions by South Africa to promote innovative energy technologies have been registered during the compliance period. Thus it has been awarded a score of -1.

Analyst: Lyudmila Tarasenko

Turkey: +1

Turkey has fully complied with the commitment to promote clean energy technologies.

On 30 January 2015, Turkish president Recep Tayyip Erdoğan attended to the opening ceremony of Geycek Wind Power Plant. The president highlighted Turkey's commitment to the renewable energy and informed that the government will introduce more encouraging incentives for investments in renewable energy.¹⁴⁷³ Currently implemented initiatives of this kind include interest-free loans for renewable energy production and for projects to improve energy efficiency and reduce environmental impact.¹⁴⁷⁴

On 30 March 2015, a Letter of Intent on Cooperation in the Sphere of Energy between the Ministry of Infrastructure of the Republic of Slovenia and the Ministry of Energy and Natural Resources of the Republic of Turkey was signed. The document provides for stronger cooperation between Turkey and Slovenia in the energy sphere, including natural gas and renewable energy.¹⁴⁷⁵

¹⁴⁷¹ King Abdullah City for Atomic and Renewable Energy and Al Mediana Al Munawara Municipality sign a memorandum of joint cooperation, K.A.CARE 6 May 2015. Access: 21 May 2015. <http://www.kacare.gov.sa/en/?p=1695>.

¹⁴⁷² King Abdullah City For Atomic And Renewable Energy (Kacare) And The Royal Commission For Jubail And Yanbu' Sign The Agreement On The Establishment And Operation Of A Solar Station, KACARE 18 October 2015. Access: 22 October 2015. <http://www.kacare.gov.sa/en/?p=1823>.

¹⁴⁷³ We are determined to carry Turkey to its 2023 goals with an understanding of balanced and sustainable development, Presidency of the Republic of Turkey 30 January 2015. Access: 28 April 2015. <https://www.tccb.gov.tr/news/397/92129/we-are-determined-to-carry-turkey-to-its-2023-goals-with-an-understanding-of-balanced-and-sustainabl.html>.

¹⁴⁷⁴ World Investment Report 2014, UNCTAD 30 April 2014. Access: 28 April 2015. http://unctad.org/en/PublicationsLibrary/wir2014_en.pdf.

¹⁴⁷⁵ The relations between Turkey and Slovenia will grow stronger in all spheres, Presidency of the Republic of Turkey 30 March 2015. Access: 28 April 2015. <http://www.tccb.gov.tr/content.asp?caid=397&cid=92754&categoryName=news&header=the-relations-between-turkey-and-slovenia-will-grow-stronger-in-all-spheres>.

On 4 May 2015, Minister of Energy and Natural Resources Taner Yildiz launched the construction of the marine facilities for the Akkuyu nuclear power plant. The investment in the project will reach USD 22 billion.¹⁴⁷⁶

In 2014, Turkish ministry of energy and natural resources informed that photovoltaic plant licenses will be given to 600 MW of installed capacity as a result of the technical evaluations of the applications to the Energy Market Regulatory Authority. This capacity will be increased in the coming years to reach a target of 3000 MW installed capacity of licensed photovoltaic plants by 2023.¹⁴⁷⁷ The ministry also plans to double the capacity of geothermal power plants and develop other innovative energy facilities.¹⁴⁷⁸ According to the World Bank, “Turkey is aiming for a share of electricity generated from renewable sources of at least 30% of total installed capacity by 2023, mainly through utilizing technically and economically viable hydro potential and 20,000MW of wind-installed capacity.” Ministry of energy and natural resources of Turkey currently works in partnership with the EBRD and other institutions to implement a project worth USD 475 million aimed at strengthening the transmission system and facilitating large-scale renewable energy generation, including the installation of 600 MW of wind power plants.¹⁴⁷⁹

During the compliance period Turkey has taken actions to promote innovative energy technologies, including clean energy technologies. Thus, it is awarded a score of +1.

Analyst: Nadezhda Sporysheva

United Kingdom: +1

The United Kingdom has fully complied with the commitment to promote clean energy technologies.

On 25 February 2015, 40 new technologies in energy sector which had won funding through the first round of Innovate UK’s Energy Catalyst program were announced. The program is designed to help reduce carbon emissions, increase security of energy supply and cut its cost. The government will provide GBP 24.5 million of funding for the winning projects.¹⁴⁸⁰

On 25 June 2015, the UK Department of Energy and Climate Change announced the testing of nine innovative heat network projects across the country as part of the Heat Network Small Business Research Initiative competition. The government provided GBP 6 million to support the tests that will be underway until March 2016.¹⁴⁸¹

The UK Department for International Development is currently engaged in the project in Bangladesh aimed at climate change mitigation and providing access to clean energy for the rural poor in off-grid areas of the country. The total project financing by end-March 2017 will amount to GBP 20 million.¹⁴⁸²

¹⁴⁷⁶ Groundbreaking Ceremony of Akkuyu Marine Facilities Construction, Ministry of Energy and Natural Resources of Turkey 4 May 2015. Access: 21 October 2015. <http://www.enerji.gov.tr/en-US/News/Groundbreaking-Ceremony-of-Akkuyu-Marine-Facilities-Construction>.

¹⁴⁷⁷ Solar, Ministry of Energy and Natural Resources of Turkey 2014. Access: 28 April 2015. <http://www.enerji.gov.tr/en-US/Pages/Solar>.

¹⁴⁷⁸ Geothermal, Ministry of Energy and Natural Resources of Turkey 2014. Access: 28 April 2015. <http://www.enerji.gov.tr/en-US/Pages/Geothermal>.

¹⁴⁷⁹ World Bank Group – Turkey Partnership: Country Program Snapshot, World Bank April 2015. Access: 28 April 2015. <http://www.worldbank.org/content/dam/Worldbank/document/eca/Turkey-Snapshot.pdf>.

¹⁴⁸⁰ Government invests £25 million in game-changing green technologies, UK Government 25 February 2015. Access date: 17 April 2015. <https://www.gov.uk/government/news/government-invests-25-million-in-game-changing-green-technologies>.

¹⁴⁸¹ Heat network innovation competition, UK Government 25 June 2015. Access date: 21 October 2015. <https://www.gov.uk/government/news/heat-network-innovation-competition>.

¹⁴⁸² Providing Clean Energy to the Rural Poor of Bangladesh, Development Tracker 27 March 2015. Access date: 17 April 2015. <http://devtracker.dfid.gov.uk/projects/GB-1-202976/>.

During the compliance period the UK has taken actions to promote innovative energy technologies, including clean energy technologies. Thus, it is awarded a score of +1.

Analyst: Andrey Shelepov

United States: +1

The United States has fully complied with the commitment to promote clean energy technologies. It has implemented policies to encourage the development of innovative energy technologies, including clean energy technologies.

On 10 December 2014, the US Department of Energy provided USD 12.5 billion in loan guarantees to promote innovative nuclear energy projects. The whole loan guarantee package to support innovative energy projects has reached USD 40 billion, including projects in such areas as fossil energy, renewable energy, advanced technology vehicle manufacturing.¹⁴⁸³

On 16 December 2014, the Department of Energy's Advanced Research Projects Agency — Energy (ARPA-E) awarded USD 60 million for 22 innovative projects aimed at detecting and measuring methane emissions and developing thermal management systems that reduce the energy needed to heat and cool buildings.¹⁴⁸⁴

On 31 December 2014, the Department of Energy finalized the new standards for general service fluorescent lamps and automatic commercial ice makers, which will contribute to the reduction of carbon dioxide emissions and reduce electricity bills for American households.¹⁴⁸⁵

On 7 January 2015, ARPA-E made its third USD 125 million open funding opportunity announcement to promote disruptive new energy technologies which are beyond the focus of existing ARPA-E programs.¹⁴⁸⁶

On 22 January 2015, the Department of Energy awarded more than USD 55 million to support clean vehicle technologies, which will improve energy efficiency and reduce petroleum consumption. The department has also announced up to USD 35 million to support hydrogen and fuel cell technologies.¹⁴⁸⁷

On 29 January 2015, the Department of Energy pledged more than USD 59 million to promote solar innovation. USD 45 million will be spent on solar technologies commercialization and more than USD 14 million will be awarded to help communities create solar deployment plans.¹⁴⁸⁸

On 30 January 2015, the Department of Energy promised to renew funding for the Consortium for the Advanced Simulation of Light Water Reactors (CASL), which is engaged with virtual nuclear reactor

¹⁴⁸³ Department of Energy Issues Final \$12.5 Billion Advanced Nuclear Energy Loan Guarantee Solicitation, U.S. Department of Energy 10 December 2014. Access: 16 April 2015. <http://energy.gov/articles/department-energy-issues-final-125-billion-advanced-nuclear-energy-loan-guarantee>.

¹⁴⁸⁴ Department of Energy Announces 22 New Projects to Enable Emissions Reductions and Improve Energy Efficiency, U.S. Department of Energy 16 December 2014. Access: 16 April 2015. <http://energy.gov/articles/department-energy-announces-22-new-projects-enable-emissions-reductions-and-improve-energy>.

¹⁴⁸⁵ New Energy Efficiency Standards to Help Americans Save Money by Saving Energy, Cut Carbon Pollution, U.S. Department of Energy 31 December 2014. Access: 16 April 2015. <http://energy.gov/articles/new-energy-efficiency-standards-help-americans-save-money-saving-energy-cut-carbon>.

¹⁴⁸⁶ Secretary Moniz Announces \$125 Million OPEN Solicitation for Transformational Energy Projects, U.S. Department of Energy 7 January 2015. Access: 16 April 2015. <http://energy.gov/articles/secretary-moniz-announces-125-million-open-solicitation-transformational-energy-projects>.

¹⁴⁸⁷ U.S. Department of Transportation Announces \$55 Million in Grants To Put More Zero-Emission Buses Into Service Across America, U.S. Department of Transportation 5 February 2015. Access: 19 April 2015. <http://www.dot.gov/briefing-room/us-department-transportation-announces-55-million-grants-put-more-zero-emission-buses>.

¹⁴⁸⁸ Energy Department Announces More Than \$59 Million Investment in Solar, U.S. Department of Energy 29 January 2015. Access: 16 April 2015. <http://energy.gov/articles/energy-department-announces-more-59-million-investment-solar>.

analyzing. CASL will be awarded up to USD 121.5 million in the next five years, subject to congressional appropriations, to extend its modeling and simulation tools to include new nuclear reactor designs.¹⁴⁸⁹

On 2 February 2015, US Secretary of Energy Ernest Moniz presented the Department of Energy's USD 30 billion fiscal year 2016 budget request, which is 9% higher than fiscal year 2015 budget. The proposed budget comprises USD 4.8 million to support energy innovation and USD 5.34 billion to promote discovery research across the sciences.¹⁴⁹⁰

On 5 February 2015, the US Department of Transportation's Federal Transit Administration awarded USD 55 million to 10 projects to put innovative, energy-efficient buses on the road. This will help to improve energy efficiency.¹⁴⁹¹

On 11 February 2015, the Department of Energy launched the Office of Technology Transitions (OTT) to facilitate the commercialization of department's research. OTT will manage the nearly USD 20 million Energy Technology Commercialization Fund and closely cooperate with national laboratories and companies to promote the transition of new technologies to the market.¹⁴⁹²

On 9 April 2015, the Department of Energy pledged USD 200 million for a next-generation supercomputer Aurora to the Argonne Leadership Computing Facility and USD 10 million for a high-performance computing research and development program DesignForward to the department's Office of Science and National Nuclear Security Administration. The delivery of Aurora is planned for 2018; Aurora will be open to all scientific users. These investments will promote new low-carbon energy technologies.¹⁴⁹³

On 28 April 2015, the Department of Energy announced the restart of the Joint Center for Artificial Photosynthesis (JCAP), which was originally opened in 2010 to deliver new breakthrough technologies for generating liquid transportation fuels from sunlight, water and carbon dioxide. For this aim the Department of Energy pledged USD 75 million.¹⁴⁹⁴

On 5 June 2015, the Department of Energy awarded USD 60 million for 68 nuclear energy research and infrastructure projects, including university projects.¹⁴⁹⁵

On 18 June 2015, the Department of Energy awarded USD 55 million for 18 new research projects in the sphere of efficient residential combined heat and power generation and biomass crop development.¹⁴⁹⁶

¹⁴⁸⁹ Energy Department Announces Five Year Renewal of Funding for First Energy Innovation Hub, U.S. Department of Energy 30 January 2015. Access: 16 April 2015. <http://energy.gov/articles/energy-department-announces-five-year-renewal-funding-first-energy-innovation-hub>.

¹⁴⁹⁰ Energy Department Presents FY16 Budget Request, U.S. Department of Energy 2 February 2015. <http://energy.gov/articles/energy-department-presents-fy16-budget-request>.

¹⁴⁹¹ U.S. Department of Transportation Announces \$55 Million in Grants To Put More Zero-Emission Buses Into Service Across America, the U.S. Department of Transportation 5 February 2015. Access: 30 April 2015. <http://www.dot.gov/briefing-room/us-department-transportation-announces-55-million-grants-put-more-zero-emission-buses>.

¹⁴⁹² Energy Department Announces New Office of Technology Transitions, U.S. Department of Energy 11 February 2015. Access: 16 April 2015. <http://energy.gov/articles/energy-department-announces-new-office-technology-transitions>.

¹⁴⁹³ U.S. Department of Energy Awards \$200 Million for Next- Generation Supercomputer at Argonne National Laboratory, U.S. Department of Energy 9 April 2015. Access: 16 April 2015. <http://energy.gov/articles/us-department-energy-awards-200-million-next-generation-supercomputer-argonne-national>.

¹⁴⁹⁴ Energy Department to Provide \$75 Million for 'Fuels from Sunlight' Hub, U.S. Department of Energy 28 April 2015. Access: 1 October 2015. <http://energy.gov/articles/energy-department-provide-75-million-fuels-sunlight-hub>.

¹⁴⁹⁵ Energy Department Invests \$60 Million to Advance Nuclear Technology, U.S. Department of Energy 5 June 2015. Access: 7 October 2015. <http://energy.gov/articles/energy-department-invests-60-million-advance-nuclear-technology>.

¹⁴⁹⁶ Department of Energy Announces 18 New Projects to Accelerate Technologies for Efficient Residential Combined Heat and Power Generation and Bioenergy Crop Development, U.S. Department of Energy 18 June 2015. Access: 7 October 2015. <http://energy.gov/articles/department-energy-announces-18-new-projects-accelerate-technologies-efficient-residential>.

On 24 August 2015, US President Barack Obama announced USD 1 billion in loan guarantees for commercial-scale distributed energy projects and USD 24 million in funding for 11 innovative solar energy projects. These announcements will be realized through the DOE's programs.¹⁴⁹⁷

On 16 September 2015, the Department of Energy pledged over USD 102 million to advance solar energy technologies and make them more affordable. Some projects are to be realized in partnership with business, universities, national laboratories and non-profit organizations.¹⁴⁹⁸

On 16 September 2015, the Department of Energy announced USD 70 million in funding for a new Clean Energy Manufacturing Innovation Institute specializing on smart manufacturing, i.e. on increasing energy efficiency in manufacturing processes.¹⁴⁹⁹

The United States has also taken steps to encourage the development of innovative energy technologies in cooperation with other countries.

On 4 March 2015, the Department of Energy announced USD 12.5 million for a new technical track under the US-China Clean Energy Research Center (CERC) over the next five years. This funding will be matched by USD 12.5 million by the CERC partners and by USD 25 million by Chinese counterparts for a total of USD 50 million. CERC initiatives comprise research, development and deployment of clean vehicles, building energy efficiency, and promoting advanced coal technologies including carbon capture and storage by teams of scientists and engineers from the US and China.¹⁵⁰⁰

The United States has taken actions to promote the development of innovative energy technologies, including clean energy technologies. Thus, it has been awarded a score of +1.

Analyst: Tatiana Lanshina

European Union: +1

European Union has fully complied with the commitment to promote clean energy technologies.

On 26 November 2014, the European Commission announced an Investment Plan to stimulate economic growth and employment in the EU. The Plan includes the creation of a new European Fund for Strategic Investments to mobilize at least USD 394 billion of additional investment over the next three years (2015-2017) with the focus on renewable energy among other tasks.¹⁵⁰¹

On 25 February 2015, the European Commission set out Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy. The strategy has to provide transition to a low-carbon society ensuring that locally produced energy — including from renewables — can be absorbed easily and

¹⁴⁹⁷ President Obama Announces More Than a Billion Dollars in Energy Department Initiatives to Advance Innovative Clean Energy Technologies, U.S. Department of Energy 24 August 2015. Access: 7 October 2015. <http://energy.gov/articles/president-obama-announces-more-billion-dollars-energy-department-initiatives-advance>.

¹⁴⁹⁸ Energy Department Announces \$102 Million to Tackle Solar Challenges, Expand Access to Clean Electricity, U.S. Department of Energy 16 September 2015. Access: 6 October 2015. <http://energy.gov/articles/energy-department-announces-102-million-tackle-solar-challenges-expand-access-clean>.

¹⁴⁹⁹ Energy Department Announces \$70 Million for Innovation Institute on Smart Manufacturing, U.S. Department of Energy 16 September 2015. Access: 6 October 2015. <http://energy.gov/articles/energy-department-announces-70-million-innovation-institute-smart-manufacturing>.

¹⁵⁰⁰ U.S.-China Clean Energy Research Center Issues Solicitation to Address the Energy-Water Nexus, U.S. Department of Energy 4 March 2015. Access: 17 April 2015. <http://energy.gov/articles/us-china-clean-energy-research-center-issues-solicitation-address-energy-water-nexus>.

¹⁵⁰¹ EU launches Investment Offensive to boost jobs and growth, European Commission 26 November 2014. Access: 18 April 2015. http://europa.eu/rapid/press-release_IP-14-2128_en.htm

efficiently into the grid; promoting EU technological leadership, through developing the next generation of renewables technology.¹⁵⁰²

On 5 March 2015, the European Commission opened the call for proposals under the Connecting Europe Facility to increase investments into key trans-European energy infrastructure projects. USD 110 million will be made available for energy projects including innovative energy projects. This money will also attract additional financing by private and public investors.¹⁵⁰³

On 30 March 2015, the European Commission has approved the creation of a joint venture by Global Infrastructure Management of the US and ACS, Servicios, Comunicaciones y Energía of Spain that will develop, build and operate renewable energy assets.¹⁵⁰⁴

On 14 July 2015, EU Member States agreed to invest EUR 150 million to 20 key trans-European energy infrastructure projects, including projects aimed at the integration of renewable energy sources into the electricity grid.¹⁵⁰⁵

On 15 July 2015, the European Commission presented its new proposals for the Europe energy sphere and launched a Public Consultation on how to redesign Europe's electricity market to deliver real benefits from new technologies and facilitate investments, especially in renewables and low carbon technologies.¹⁵⁰⁶

On 15 July the European Commission also made proposals to revise the EU emissions trading system to provide stronger incentives for innovation. And the European Commission also announced that an Innovative Fund will be set up to support investments into renewable energy, carbon capture and storage and low-carbon innovation in energy intensive industry.¹⁵⁰⁷

During the compliance period European Union has taken actions to promote innovative including clean energy technologies. Thus, it has been awarded a score of +1.

Analyst: Andrei Sakharov

¹⁵⁰² Energy Union: secure, sustainable, competitive, affordable energy for every European, European Commission 25 February 2015. Access: 18 April 2015. http://europa.eu/rapid/press-release_IP-15-4497_en.htm

¹⁵⁰³ Completing the internal energy market: €100 million released to connect European energy networks, European Commission 5 March 2015. Access: 18 April 2015. http://europa.eu/rapid/press-release_IP-15-4560_en.htm

¹⁵⁰⁴ Mergers: Commission clears joint venture between Global Infrastructure Management and ACS in renewable energy sector, European Commission 30 March 2015. Access: 18 April 2015. http://europa.eu/rapid/press-release_MEX-15-4728_en.htm

¹⁵⁰⁵ Energy: EU invests €150 million in energy infrastructure, European Commission 14 July 2015. Access: 10 October 2015. http://europa.eu/rapid/press-release_IP-15-5362_en.htm

¹⁵⁰⁶ Transforming Europe's energy system - Commission's energy summer package leads the way, European Commission 15 July 2015. Access: 10 October 2015. http://europa.eu/rapid/press-release_IP-15-5358_en.htm

¹⁵⁰⁷ Questions and answers on the proposal to revise the EU emissions trading system (EU ETS), European Commission 15 July 2015. Access: 10 October 2015. http://europa.eu/rapid/press-release_MEMO-15-5352_en.htm