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at the National Research University Higher School of Economics, Moscow  
present

## **2013 St. Petersburg G20 Summit Final Compliance Report**

7 September 2013 to 30 September 2014

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## 7. Energy: Clean Technology

“[We commit] to take steps to support the development of cleaner and more efficient energy technologies to enhance the efficiency of markets and shift towards a more sustainable energy future.”

*G20 St. Petersburg Leaders Declaration*

### Assessment

	Lack of Compliance	Partial Compliance	Full Compliance
Argentina		0	
Australia	-1		
Brazil			+1
Canada		0	
China			+1
France			+1
Germany			+1
India			+1
Indonesia			+1
Italy		0	
Japan		0	
Korea		0	
Mexico			+1
Russia			+1
Saudi Arabia		0	
South Africa		0	
Turkey			+1
United Kingdom			+1
United States			+1
European Union			+1
Average		+0.55	

### Background

The G20 leaders made their first commitment to develop energy efficiency and clean energy technologies at the 2009 London Summit. 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. This commitment was reinforced at the 2010 Seoul Summit. At the 2011 Cannes Summit, leaders developed the commitment further by referencing the United Nations Secretary General’s Sustainable Energy for All initiative.<sup>946</sup> At the 2013 St. Petersburg Summit, the leaders once again reaffirmed their commitment to cleaner and more efficient technologies, but also highlighted the importance of enhancing the efficiency of markets and shifting towards a more sustainable energy future.

### Commitment Features

This commitment states that the G20 members will support the development of clean and energy efficient technologies to enhance the efficiency of markets with the long-term goal of contributing to a

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<sup>946</sup> Cannes Summit Final Declaration: Building Our Common Future, G20 Information Center (Toronto) 4 November 2011. Date of Access: 4 February 2014. <http://www.g20.utoronto.ca/2011/2011-cannes-declaration-111104-en.html>.

more sustainable future. The United Nations Secretary General’s Sustainable Energy for All initiative suggests the following examples of policies that overcome barriers to energy efficiency:

- Establishment of unified sets of standards for energy efficiency
- Instruments that help overcome the high initial costs of efficiency applications.<sup>947</sup>

Examples of policies that assist in spurring innovation and deployment of clean and efficient energy technologies include:

- 1) The establishment of an emission trading mechanism that would enable private companies to sell carbon credits they gained from investing in clean energy technology research and development
- 2) The implementation of credits and tax credits for private investment in clean energy technology research and development
- 3) The establishment of privileged loans for energy efficiency and clean technology research and development
- 4) Setting up a certification system for companies that invest in energy efficiency and clean energy technology research and development

To achieve full compliance with this commitment the G20 member must support the development of clean and energy efficient technologies while also supporting the development of markets. Actions taken to solely support the development to new clean and energy efficient technologies without consideration or additional support to increase the efficiency of the market will result in a score of partial compliance.

#### Scoring Guidelines

-1	Member does not take measures to support the development of cleaner and more efficient energy technologies AND to enhance the efficiency of energy markets.
0	Member takes measures to support the development of cleaner and more efficient energy technologies OR to enhance the efficiency of energy markets.
+1	Member takes measures to support the development of cleaner and more efficient energy technologies AND to enhance the efficiency of energy markets.

*Lead Analyst: Philip Gazaleh*

#### Argentina: 0

Argentina has partially complied with its commitment to support the development of cleaner and more efficient energy technologies, to enhance the efficiency of markets and shift towards a more sustainable energy future.

On 13 February 2014, the Argentine state-owned enterprise Yacimientos Petrolíferos Fiscales (YPF) purchased reserves of natural gas estimated at 540 billion cubic feet, an expansion of 15 per cent, from Apache Corp.<sup>948</sup>

<sup>947</sup> Sustainable Energy for All: A Framework for Action, The Secretary General’s High-level Group on sustainable Energy for All (New York) 1 January 2012. Date of Access: 5 February 2014. [http://www.se4all.org/wp-content/uploads/2013/09/SE\\_for\\_All\\_-\\_Framework\\_for\\_Action\\_FINAL.pdf](http://www.se4all.org/wp-content/uploads/2013/09/SE_for_All_-_Framework_for_Action_FINAL.pdf).

<sup>948</sup> Apache Exits Argentina in \$800 Million Asset Sale to YPF, Bloomberg (Buenos Aires) 13 February 2014. Date of Access: 25 February 2014. <http://www.bloomberg.com/news/2014-02-12/apache-exits-argentine-after-800-million-energy-sale-to-ypf-1-.html>.

On 19 February 2014, Argentina and India announced a bilateral agreement to strengthen renewable energy cooperation.<sup>949</sup> Antonio Bonafatti, Governor of Santa Fe, said that increased cooperation would encourage Indian investment in solar and wind energy.

On 25 February 2014, the board of directors of Repsol approved a USD5 billion settlement with the Argentine government regarding its 2012 nationalization of Repsol's controlling interest in YPF. The deal was praised by YPF President Miguel Galuccio, who referred to YPF as "a fundamental tool for the country's energy future."<sup>950</sup> The deal paves the way for YPF to explore the Vaca Muerta shale oil-and-gas fields, which was the intention behind the initial expropriation.<sup>951</sup>

In March 2014, the Argentinian government supported the development of the country, which was the intention behind the initial exis going into five projects in different parts of the country, to investigate design, manufacture and maintenance of wind turbines via the government-funded National Agency for Science and Technology.<sup>952</sup>

On 21 May 2014, Argentina and the United States signed a bilateral agreement to enhance technical exchanges in the fields of unconventional hydrocarbons, smart grids, nuclear and renewable energy, and energy efficiency.<sup>953</sup>

On 28 August 2014, YPF and the Malaysian state-owned enterprise Petroliam Nasional Berhad signed an agreement to jointly develop the La Amarga Chica oil field within the Vaca Muerta. The deal includes an initial investment of USD500 million, with the potential to add up to USD9 billion over the next decade.<sup>954</sup>

Argentina's combination of steps encouraging investment in clean and efficient energy technologies as well as those significantly expanding oil production, as well as its lack of support for the development of clean energy markets result in its partial compliance.

Thus, Argentina is awarded a score of 0.

*Analyst: Colin McEwen and Mie Leonora Heiberg*

### **Australia: -1**

Australia has failed to comply with its commitment to support the development of cleaner and more efficient energy technologies, to enhance the efficiency of markets and shift towards a more sustainable energy future.

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<sup>949</sup> India, Argentina to Strengthen Ties in Renewable Energy, The Hindu Business Line (New Delhi) 19 February 2014. Date of Access: 25 February 2014. <http://www.thehindubusinessline.com/economy/india-argentina-to-strengthen-ties-in-renewable-energy/article5705953.ece>.

<sup>950</sup> Spain's Repsol Agrees to \$5-Billion Settlement with Argentina over YPF, Reuters (Buenos Aires) 25 February 2014. Date of Access: 25 February 2014. <http://www.reuters.com/article/2014/02/25/us-repsol-argentina-idUSBREA101LJ20140225>.

<sup>951</sup> Argentina's YPF: Swallowed Pride, The Economist (Buenos Aires) 28 November 2013. Date of Access: 25 February 2014. <http://www.economist.com/news/americas/21590939-deal-repsol-small-step-towards-reversing-energy-deficit-swallowed-pride>.

<sup>952</sup> Argentina moves to fund wind industry initiatives, Windpower Monthly (Teddington) 20 March 2014. Access Date: 14 October 2014. <http://www.windpowermonthly.com/article/1286238/argentina-moves-fund-wind-industry-initiatives>

<sup>953</sup> Argentina and the U.S. signed an agreement for energy cooperation, Embassy of Argentina in Washington, D.C. (Washington) 22 May 2014. Date of Access: 28 September 2014. <http://embassyofargentina.us/embassyofargentina.us/en/news/140522acuerdoenergetico.html>.

<sup>954</sup> Fracking Deal Is Reached by YPF, Petronas, The Wall Street Journal (New York) 28 August, 2014. Date of Access: 28 September 2014. <http://online.wsj.com/articles/fracking-deal-is-reached-by-ypf-petronas-1409209249>.

On 13 November 2013, Prime Minister Tony Abbott introduced legislation to repeal the Clean Energy Act 2011, which established a carbon price to be in place for three years before transitioning to an emissions trading mechanism in 2015.<sup>955</sup> The legislation also includes a provision to reduce funding to the Australian Renewable Energy Agency, which funds renewable energy projects as well as research and development, by AUD435 million over three years.<sup>956</sup> The legislation passed the Australian House of Representatives on 21 November 2014,<sup>957</sup> and passed the Senate on 17 July 2014, receiving Royal Assent the same day.<sup>958</sup>

On 23 January 2014, Prime Minister Abbott restated his intent to repeal the Clean Energy Act at the World Economic Forum, saying “to boost private sector growth and employment, the new government is cutting red tape and reducing the tax burden by scrapping the carbon tax and the mining tax.”<sup>959</sup>

On 17 February 2014, Minister for Industry Ian Macfarlane and Minister for the Environment Greg Hunt announced a review of Australia’s Renewable Energy Target (RET) program. The reviewing panel reported on 28 August 2014. Among its recommendations were closing the Large-scale RET or setting annual targets to match demand, abolishing or accelerating the phase-out of the Small-scale Renewable Energy Scheme (SRES), and ceasing statutory reviews to reduce investor uncertainty.<sup>960</sup>

On 15 May 2014, Prime Minister Abbott introduced legislation to repeal the Energy Efficiency Opportunities Act of 2006. On 11 September 2014, having passed both the House of Representatives and the Senate, the bill received Royal Assent.<sup>961</sup> During the program’s first five-year cycle, it had identified opportunities helping to reduce annual energy use by 2.7 per cent, and was generally “effective in addressing information barriers.”<sup>962</sup>

On 17 July 2014, the Australian Senate passed the repeal of the Clean Energy Act. This abolishes the country’s carbon pricing mechanism from 1 July 2014.<sup>963</sup> Prime Minister Tony Abbot claimed, “This is great news for Australian families and for our nation’s small businesses.” Opposition leader Bill Shorten

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<sup>955</sup> Tony Abbott Introduces Legislation to Repeal Carbon Tax After ‘Electricity Bill’ Row, ABC News (Canberra) 13 November 2013. Date of Access: 11 February 2014. <http://www.abc.net.au/news/2013-11-13/abbott-introduces-carbon-tax-repeal-bill/5088524>.

<sup>956</sup> Renewable Energy Cuts a Disappointing Sting in Carbon Tail, Clean Energy Council (Melbourne) 13 November 2013. Date of Access: 12 February 2014. <https://www.cleanenergycouncil.org.au/media-centre/media-releases/2013-media-releases/november-2013/131113-arena.html>.

<sup>957</sup> House of Representatives Votes to Scrap the Carbon Tax, Office of Minister for the Environment Greg Hunt (Canberra) 21 November 2013. Date of Access: 12 February 2014. <http://www.greghunt.com.au/media/mediareleases/tabid/86/articletype/articleview/articleid/2667/house-of-representatives-votes-to-scrap-the-carbon-tax.aspx>.

<sup>958</sup> Clean Energy Legislation (Carbon Tax Repeal) Bill 2014, Parliament of Australia (Canberra) 17 July 2014. Date of Access: 27 September 2014. [http://www.aph.gov.au/Parliamentary\\_Business/Bills\\_Legislation/Bills\\_Search\\_Results/Result?bld=r5311](http://www.aph.gov.au/Parliamentary_Business/Bills_Legislation/Bills_Search_Results/Result?bld=r5311).

<sup>959</sup> Abbott at Davos: Getting the Fundamentals Right, G20 Information Centre (Toronto) 23 January 2014. Date of Access: 12 February 2014. <http://www.g20.utoronto.ca/2014/2014-abbott-davos.html>.

<sup>960</sup> Executive Summary, RET Review Report (Canberra) 28 August 2014. Date of Access: 27 September 2014. [http://retreview.dpmpc.gov.au/sites/default/files/files/RET\\_Review\\_Report\\_Exec\\_Summary.pdf](http://retreview.dpmpc.gov.au/sites/default/files/files/RET_Review_Report_Exec_Summary.pdf).

<sup>961</sup> Energy Efficiency Opportunities (Repeal) Bill 2014, Parliament of Australia (Canberra) 11 September 2014. Date of Access: 27 September 2014. [http://www.aph.gov.au/Parliamentary\\_Business/Bills\\_Legislation/Bills\\_Search\\_Results/Result?bld=r5232](http://www.aph.gov.au/Parliamentary_Business/Bills_Legislation/Bills_Search_Results/Result?bld=r5232).

<sup>962</sup> Program Results, Energy Efficiency Opportunities Program (Canberra) 15 August 2014. Date of Access: 27 September 2014. <http://eex.gov.au/energy-management/energy-efficiency-opportunities/>.

<sup>963</sup> Carbon Pricing Mechanism Repeal, Australian Government Clean Energy Regulator (Canberra) 18 July 2014. Access Date: 14 October 2014. <http://www.cleanenergyregulator.gov.au/Carbon-Pricing-Mechanism/Carbon-pricing-mechanism-repeal/Pages/default.aspx>

said: “Today Prime Minister Tony Abbott has made Australia the first country to reverse action on climate change.”<sup>964</sup>

On 28 July 2014, Australian Environment Minister, Greg Hunt, approved a coal and rail project worth a total of AUD16.5 billion in the state of Queensland’s Galilee Basin.<sup>965</sup> According to Mr Hunt, the approval was given under 36 environmental conditions “imposed to ensure the protection of the environment, with a specific focus on the protection of groundwater.”<sup>966</sup> The Carmichael Coal and Rail project will dig up and transport 60 million tonnes of coal each year.

House of Representatives and the Senate, the bill received Royal Assent.<sup>967</sup> During the program’s first five-year cycle, it had identified opportunities helping to reduce annual energy use by 2.7 per cent, and was generally “effective in addressing information barriers.”<sup>968</sup>

The Emission Reduction Fund legislation was introduced to the Australian Parliament in June 2014. The Fund aims to provide incentives for emissions reduction activities across the Australian economy. The government has committed \$2.55 billion to fund businesses and organisations to invest in new technologies to improve energy efficiency and reduce emissions in the industrial, commercial and agricultural sectors, using a reverse auction process. Organisations will undertake projects which will be assessed for environmental and commercial viability.<sup>969</sup>

On 26 August 2014, Parliamentary Secretary for Industry Bob Baldwin announced \$21.5 million funding for 12 new solar research and development projects at an Australian Renewable Energy Agency (ARENA) event at the University of New South Wales (UNSW).<sup>970</sup>

As per its reduction of funds for research and development as well as its repeal of both energy efficiency efforts and emissions trading during this compliance cycle, Australia is found to not have complied with this commitment.

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<sup>964</sup> Australia’s carbon tax is gone: A selection of the cheers, jeers and fears, The Guardian (London) 17 July 2014. Access Date: 14 October 2014. <http://www.theguardian.com/world/2014/jul/17/australias-carbon-tax-is-gone-a-selection-of-the-cheers-jeers-and-fears>

<sup>965</sup> Largest coal mine in Australia: federal government gives Carmichael go-ahead, The Guardian (London) 28 July 2014. Access Date: 14 October 2014. <http://www.theguardian.com/environment/2014/jul/28/largest-coal-mine-in-australia-federal-government-gives-carmichael-go-ahead>

<sup>966</sup> Strictest condition on the Carmichael Coal Mine project, Greg Hunt MP (Hastings Vic) 28 July 2014. Access Date: 14 October 2014. <http://www.greghunt.com.au/Home/LatestNews/tabid/133/articleType/ArticleView/articleId/2917/categoryId/21/Strictest-conditions-on-Carmichael-Coal-Mine-project.aspx>

<sup>967</sup> Energy Efficiency Opportunities (Repeal) Bill 2014, Parliament of Australia (Canberra) 11 September 2014. Date of Access: 27 September 2014.

[http://www.aph.gov.au/Parliamentary\\_Business/Bills\\_Legislation/Bills\\_Search\\_Results/Result?bid=r5232](http://www.aph.gov.au/Parliamentary_Business/Bills_Legislation/Bills_Search_Results/Result?bid=r5232).

<sup>968</sup> Program Results, Energy Efficiency Opportunities Program (Canberra) 15 August 2014. Date of Access: 27 September 2014. <http://eex.gov.au/energy-management/energy-efficiency-opportunities/>.

<sup>969</sup> Australian Government, Emissions Reduction Fund, Date of Access: 11 November 2014. <http://www.environment.gov.au/climate-change/emissions-reduction-fund>

<sup>970</sup> Parliamentary Secretary to the Ministry of Industry, Federal Government invests \$21.5 million in home-grown ingenuity, 26 August 2014, Date of Access: 11 November 2014. <http://www.minister.industry.gov.au/ministers/baldwin/media-releases/federal-government-invests-215-million-home-grown-ingenuity>

It is thus awarded a score of -1.

*Analyst: Colin McEwen and Mei Leonora Heiberg*

## **Brazil +1**

Brazil has fully complied with its commitment to support the development of cleaner and more efficient energy technologies, to enhance the efficiency of markets and shift towards a more sustainable energy future.

Throughout the compliance period, the Brazilian Electrical Regulatory Agency (ANEEL) undertook a number of tariff adjustments and hearings related to both conventional and clean energy plants. These tariffs were given to industries to promote the development of new plants to add to the nation's energy network, and also to residential consumers to offset the cost of using renewable energies. ANEEL used auctions as another financial tool in order to increase competition in, and attractiveness of, renewable energy projects.

In September 2013, an auction for wind power energy procurement generated a savings of 5.55 per cent off the set ceiling megawatt-hour rate for the 66 winning projects.<sup>971</sup> The sales and purchase contracts were set for terms of 20 years, amounting to sustained savings for the project investors. In the November A-3 auction, 15 gigawatts of wind and three gigawatts of solar projects were registered. Over 20 gigawatts of renewables projects competed in December's A-5 tender.<sup>972</sup>

On 10 December 2013, ANEEL announced that the total value of quotas to fund the Program of Incentive to Alternative Electric Energy Sources (PROINFA) in 2014 would be BRL2.8 billion.<sup>973</sup> There would be 131 plants in the program from the clean energy sectors of hydroelectric, wind power, and biomass-powered thermoelectric, which may generate up to 11.1 million megawatt hours.<sup>974</sup>

Brazil's first state-level solar-only tender auction, held on 20 December 2013, generated BRL597 million in investments from both national and international bidders and added 122.82 megawatts of solar projects to the energy sector.<sup>975</sup>

On 26 December 2013, ANEEL announced a voluntary "White Tariff," which assigned three different energy rates to different times of the day — peak, intermediate and off-peak — Monday to Friday, with off-peak charges on weekends and holidays.<sup>976</sup> The three different rates replaced the conventional flat rate, with the installation of household meters necessary to charge peak rates coming at no cost to the

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<sup>971</sup> Wind power auction records an average discount of 5.55%, ANEEL (Brasilia) 2 September 2013. Date of Access: 6 October 2014.

[http://www.aneel.gov.br/aplicacoes/noticias\\_area/arquivo.cfm?tipo=PDF&idNoticia=7333&idAreaNoticia=347](http://www.aneel.gov.br/aplicacoes/noticias_area/arquivo.cfm?tipo=PDF&idNoticia=7333&idAreaNoticia=347).

<sup>972</sup> Renewable Energy Country Attractiveness Index (RECAI), EY (London) November 2013. Date of Access: 6 October 2014. [http://www.ey.com/Publication/vwLUAssets/RECAI\\_39\\_-\\_Nov\\_2013/\\$FILE/RECAI\\_Issue\\_39\\_Nov\\_2013.pdf](http://www.ey.com/Publication/vwLUAssets/RECAI_39_-_Nov_2013/$FILE/RECAI_Issue_39_Nov_2013.pdf).

<sup>973</sup> ANEEL Approves Proinfa Funding Value for 2014, ANEEL (Brasilia) 22 December 2013. Date of Access: 6 October 2014. [http://www.aneel.gov.br/aplicacoes/noticias\\_area/arquivo.cfm?tipo=PDF&idNoticia=7671&idAreaNoticia=347](http://www.aneel.gov.br/aplicacoes/noticias_area/arquivo.cfm?tipo=PDF&idNoticia=7671&idAreaNoticia=347).

<sup>974</sup> ANEEL Approves Proinfa Funding Value for 2014, ANEEL (Brasilia) 22 December 2013. Date of Access: 6 October 2014. [http://www.aneel.gov.br/aplicacoes/noticias\\_area/arquivo.cfm?tipo=PDF&idNoticia=7671&idAreaNoticia=347](http://www.aneel.gov.br/aplicacoes/noticias_area/arquivo.cfm?tipo=PDF&idNoticia=7671&idAreaNoticia=347).

<sup>975</sup> Brazilian State Approves 123MW of Solar Developments in Energy Auction, PV Tech (London) 2 January 2014. Date of Access: 6 October 2014. [http://www.pv-tech.org/news/brazil\\_gains\\_122mw\\_of\\_solar\\_developments\\_after\\_state\\_energy\\_auction](http://www.pv-tech.org/news/brazil_gains_122mw_of_solar_developments_after_state_energy_auction).

<sup>976</sup> White Tariff Category Will Offer Different Tariff Rates Depending on the Consumption Time, ANEEL (Brasilia) 26 December 2013. Date of Access: 6 October 2014.

[http://www.aneel.gov.br/aplicacoes/noticias\\_area/arquivo.cfm?tipo=PDF&idNoticia=7673&idAreaNoticia=347](http://www.aneel.gov.br/aplicacoes/noticias_area/arquivo.cfm?tipo=PDF&idNoticia=7673&idAreaNoticia=347).

consumer.<sup>977</sup> This type of billing is meant to encourage a reduction in energy consumption during peak hours through monetary savings incentives.<sup>978</sup>

From January 2014 onwards, “turbine models that incorporate a gearbox must assure that the gearbox, generator and DFIG panel are produced locally. For models without a gearbox, at least three of the four main wind-farm elements (towers, blades, nacelles and hubs) must be produced or assembled in Brazil.”<sup>979</sup> By 2016, 70 per cent of the turbine will be required to be produced in Brazil.<sup>980</sup> While this requirement for domestic supply has created a bottleneck in supply, it is believed this will contribute to a more sustainable, established domestic market in the near future.<sup>981</sup>

On 28 March 2014, the President of Eletrobras, Brazil’s national electricity company, Jose de Costa, presented the Master Plan for Business and Management for 2014-2018. This plan estimates a reduction in electricity costs by EUR1.2 billion per year from the use of green sources of energy. It also calls for studies undertaken in conjunction with the advice of German consultancy Ronald Berger, in order to further reduce costs to the electrical network.<sup>982</sup>

In order to offset some of the activation costs associated with thermoelectric plants, as well as the cost of power purchases not already covered by the Existing Energy Auction 2013, the Electric Energy Trading Chamber created a new fund to allocate loans to various distributors that will be available to distributors on 2 April 2014.<sup>983</sup>

On 7 April 2014, ANEEL announced the quota for the Energy Development Account for 2014 as BRL1.6 billion. The Treasury had contributed a further BRL4 million in February, bringing the total to BRL5.6 billion.<sup>984</sup> Some of these funds will be used towards granting tariffs, subsidies and other financial incentives to the green energy sector in Brazil.

On 10 April 2014, the Minister of Mines and Energy Edison Lobao signed a concession agreement establishing the hydroelectric power plant Hydroelectric Sao Manoel, which will generate 700 megawatts of installed capacity to the National Interconnected System beginning in 2018.<sup>985</sup>

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<sup>977</sup> White Tariff Category Will Offer Different Tariff Rates Depending on the Consumption Time, ANEEL (Brasilia) 26 December 2013. Date of Access: 6 October 2014. [http://www.aneel.gov.br/aplicacoes/noticias\\_area/arquivo.cfm?tipo=PDF&idNoticia=7673&idAreaNoticia=347](http://www.aneel.gov.br/aplicacoes/noticias_area/arquivo.cfm?tipo=PDF&idNoticia=7673&idAreaNoticia=347).

<sup>978</sup> Interview with Mr. Pepitone da Nobrega Director of ANEEL, IPEEC Newsletter Issue 7, IPEEC (Paris) June 2014. Date of Access: 6 October 2014. <http://ipeec.org/newsletters/download/id/898.html>.

<sup>979</sup> Wind Energy in Brazil, Ministry of Economic Affairs in The Netherlands (The Hague) March 31 2014. Date of Access: 6 October 2014. <http://www.rvo.nl/sites/default/files/2014/08/Wind Study Brazil 2014.pdf>.

<sup>980</sup> Wind Energy in Brazil, Ministry of Economic Affairs in The Netherlands (The Hague) March 31 2014. Date of Access: 6 October 2014. <http://www.rvo.nl/sites/default/files/2014/08/Wind Study Brazil 2014.pdf>.

<sup>981</sup> Wind Energy in Brazil, Ministry of Economic Affairs in The Netherlands (The Hague) March 31 2014. Date of Access: 6 October 2014. <http://www.rvo.nl/sites/default/files/2014/08/Wind Study Brazil 2014.pdf>.

<sup>982</sup> Eletrobras in the World, Eletrobras: Energia Para Novos Tempos (Rio de Janeiro) June 2014. Date of Access: 6 October 2014. <http://www.eletrabras.com/ELB/services/DocumentManagement/FileDownload.EZSvc.asp?DocumentID=%7B962D62E5-1CF3-4DA5-8C2B-EBE54FAFE6F6%7D&ServiceInstUID=%7BEB1F1DDA-8DEF-44B6-880D-28F13D844095%7D>.

<sup>983</sup> Posted decree on the establishment of ACR Account CCEE, Ministry of Mines and Energy (Brasilia) 2 April 2014. Date of Access: 13 April 2014. [http://www.mme.gov.br/mme/noticias/destaque2/destaque\\_399.html](http://www.mme.gov.br/mme/noticias/destaque2/destaque_399.html).

<sup>984</sup> ANEEL define quotas da CDE para 2014 no valor de R\$1,6 bilhão, Brazilian Electricity Regulatory Agency (Brasilia) 7 April 2014. Date of Access: 13 April 2014. [http://www.aneel.gov.br/aplicacoes/noticias/Output\\_Noticias.cfm?Identidade=7827&id\\_area=90](http://www.aneel.gov.br/aplicacoes/noticias/Output_Noticias.cfm?Identidade=7827&id_area=90).

<sup>985</sup> Minister signs a contract granting the hydroelectric São Manoel, 700 MW, Ministry of Mines and Energy (Brasilia) 10 April 2014. Date of Access: 13 April 2014. [http://www.mme.gov.br/mme/noticias/destaque\\_foto/destaque\\_480.html](http://www.mme.gov.br/mme/noticias/destaque_foto/destaque_480.html).

For the 2014 World Cup in Brazil, five stadiums were LEED (Leadership in Energy and Environmental Design) certified, including Maracana stadium, which features photovoltaic panels on the roof, the Castelao Arena, which features a 12.7 per cent reduction in annual energy consumption, and Arena Fonte Nova which purchased 35 per cent of its power from renewable sources.<sup>986</sup>

On 10 September 2014, the Brazilian National Electricity Agency stated that by 2023 Brazil would have the capacity to generate 22.4 gigawatts of wind power. The Brazilian government plans to buy 17 gigawatts of wind power over the next ten years. Overall Brazil plans to invest BRL301 billion to increase energy supplies during the next ten years, also including investments in oil production, which are expected to reach BRL879 billion.<sup>987</sup>

Brazil has fully complied with this energy commitment through its efforts to increase the number of clean energy projects and developments, its extensive use of government-sponsored auctions and the provision of new funds to overcome barriers to efficiency, and its investments and other incentives channelled through governmental organizations, which in turn enhances the efficiency of energy markets.

Thus, Brazil is awarded a score of +1.

*Analysts: Kayla Rimer and Mei Leonora Heiberg*

#### **Canada: 0**

Canada has partially complied with its commitment to support the development of cleaner and more efficient energy technologies, to enhance the efficiency of markets and shift towards a more sustainable energy future.

Since 2009, Canada has invested CAD795 million in various projects to create “a suite of clean energy technologies and the knowledge to ensure uptake of the technologies.”<sup>988</sup> In the Economic Action Plan 2013, the Canadian government committed CAD325 million over eight years to Sustainable Development Technology Canada to support the development of new clean technologies, “which can save businesses money, create high-paying jobs and drive innovation.”<sup>989</sup>

This is a continuation of the Canadian government’s pledge in May 2013 to support new innovation projects across Canada through the ecoENERGY Innovation Initiative,<sup>990</sup> which is providing CAD268.2 million through 2016 to support projects “that produce and use energy in a cleaner and efficient manner.”<sup>991</sup>

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<sup>986</sup> U.S. Green Building Council Announces LEED Certification for World Cup Stadiums, U.S. Green Building Council (Washington) 17 June 2014. Date of Access: 6 October 2014. <http://www.usgbc.org/articles/us-green-building-council-announces-leed-certification-world-cup-stadiums>.

<sup>987</sup> Brazil Will Boost Wind Energy as Drought Undermines Hydro, Bloomberg 11 September 2014. Access Date: 15 October 2014. <http://www.businessweek.com/news/2014-09-11/brazil-will-boost-wind-energy-as-drought-undermines-hydro>

<sup>988</sup> Clean Energy Fund, Ministry of Finance (Ottawa) 24 July 2013. Date of Access: 28 February 2014. <http://actionplan.gc.ca/en/initiative/clean-energy-fund>.

<sup>989</sup> Harper Government Announces Job-Creating Clean Technology Project in Quebec, Natural Resources Canada (Ottawa) 27 September 2013. Date of Access: 28 February 2014. <https://www.nrcan.gc.ca/media-room/news-release/2013/11500>.

<sup>990</sup> PM announces energy innovation projects across Canada, Office of the Prime Minister (Ottawa) 3 May 2013. Date of Access: 28 February 2014. <http://pm.gc.ca/eng/node/32636>.

<sup>991</sup> Minister Duncan Announces Funding for Clean Technology Project in British Columbia, Natural Resources Canada (Victoria), 8 August 2014. Date of Access: 6 October 2014. <http://news.gc.ca/web/article-en.do?crtr.sj1D=&crtr.mnthndVI=9&mthd=advSrch&crtr.dpt1D=6683&nid=874439&crtr.lc1D=&crtr.tp1D=&crtr.yrStrtVI=2014&crtr.kw=&crtr.dyStrtVI=1&crtr.aud1D=&crtr.mnthStrtVI=1&crtr.page=4&crtr.yrndVI=2020&crtr.dyndVI=4>.

On 8 August 2014, the Canadian government declared that it would invest CAD600,800 in Powering Plug-In Electric Vehicles with Renewable Energy Supply in the province British Columbia through the ecoENERGY Innovation Initiative. The project should help generate a better understanding of intermittent renewable electricity sources such as solar and wind and the storage potential in electric vehicle batteries.<sup>992</sup>

Canada has encouraged effective policies that overcome barriers to energy efficiency, but it has not taken actions to enhance the efficiency of energy markets.

Thus, Canada is awarded a score of 0.

*Analyst: Anthony Marchese and Mei Leonora Heiberg*

### **China: +1**

China has fully complied with its commitment to support the development of cleaner and more efficient energy technologies, to enhance the efficiency of markets and shift towards a more sustainable energy future.

On 22 September 2013, China's Ministry of Finance announced that it would provide tax breaks to manufacturers of solar products. In an official statement, the ministry declared that producers of solar power products would receive immediate refunds of 50 per cent of value-added taxes. The Government of China continues to offer support and protection to an industry that is dealing with a grim outlook, massive overcapacity and weak demand.<sup>993</sup>

Under China's new pricing regime introduced in March 2013, the National Development and Reform Commission has the right to adjust domestic fuel prices when international crude prices change by more than CNY50 per tonne for gasoline and diesel within ten consecutive working days. According to national news reports, multiple increases in retail fuel prices in the country throughout 2013 indicate a fulfillment of this commitment.<sup>994</sup> In light of severe air pollution, the government has said consumers will need to bear the higher prices that come with tighter fuel standards.<sup>995</sup>

The government renewed its commitment to cut energy intensity per unit of GDP by 16 per cent during the 12<sup>th</sup> Five-Year Plan (2011-2015). China has put strong regulatory policies and financial incentives in place to ensure the targets are met.<sup>996</sup> During the South-South knowledge exchange in China on 16-20 June 2014, top Chinese energy efficiency experts pointed out that the national government had allocated more than CNY15 billion during the 11<sup>th</sup> Five-Year Plan period, with additional funds from provincial governments.

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<sup>992</sup> ecoENERGY Innovation Initiative - University of Victoria's Powering Plug-In Electric Vehicles with Renewable Energy Supply in British Columbia Project, Government of Canada (Ottawa) 8 August 2014. Access Date: 16 October 2014. <http://news.gc.ca/web/article-en.do?nid=874429>

<sup>993</sup> China to offer tax breaks to solar power manufacturers, Reuters (Shanghai), 29 September 2013. Date of Access: 18 March 2013. <http://www.reuters.com/article/2013/09/29/us-china-solar-idUSBRE98SOCJ20130929>.

<sup>994</sup> China raises retail oil prices, Chinese Central Television (Beijing), 28 November 2013. Date of Access: 18 March 2013. <http://english.cntv.cn/20131128/104806.shtml>.

<sup>995</sup> China Says Consumers Need to Bear Some Costs of Tighter Fuel Standards, Wall Street Journal (Beijing), 23 September 2013. Date of Access: 18 March 2013. <http://online.wsj.com/news/articles/SB10001424052702304713704579093110900429746>.

<sup>996</sup> Bringing China's Energy Efficiency Experience to the World: Knowledge Exchange with Asian Countries, World Bank (Washington) 27 June 2014. Date of Access: 12 October 2014. <http://www.worldbank.org/en/news/feature/2014/06/27/bringing-chinas-energy-efficiency-experience-to-the-world-knowledge-exchange-with-asian-countries>.

The Chinese government also pledged CNY286 billion to renewable energy development and CNY376 billion to energy-conservation projects between 2011 and 2015.<sup>997</sup> Investment in coal-fired electricity generation has continued to decline since 2005.

China has encouraged effective policies that overcome barriers to efficiency and both enhances the efficiency of markets and shifts toward an energy sustainable future.

Thus, China is given a score of +1.

*Analyst: Joy Rogers*

### **France: +1**

France has fully complied with its commitment to support the development of cleaner and more efficient energy technologies, to enhance the efficiency of markets and shift towards a more sustainable energy future.

In order to meet its green energy needs, the French government created the Investments for the Future Programme (IPA) in 2010, which has four investment sub-programs under the management of the French Agency for the Environment and Energy Management (ADEME.) These sub-programs are development of new technologies in renewable energies, smart grid testing and research, circular economy testing and research, as well as development of new technologies in low carbon vehicle and other transportation. In order to carry out these programs, and encourage competition in the green energy sector, ADEME created specific financial tools, including state aids of refundable, and non-refundable grants, and equity tools, where the state invests in projects of various sizes in the renewable-energies field.<sup>998</sup> These financial tools also importantly serve to overcome barriers to green energy markets, as it the potential for profit increases, and the risk factor decreases, when investors take advantage of these tools.

Throughout the period in question, the French government made progress in many aspects of its IPA programme. On 29 October 2013, Minister of Ecology, Sustainable Development and Energy Philippe Martin announced the creation of three new institutes of energy transition in order to increase the energy efficiency across all sectors of the economy. These institutes would focus on providing research and development, sharing resources, selecting projects based on energy efficiency requirements and advancing the energy technologies used in sustainable construction projects, urban planning in cities, and photovoltaic projects.<sup>999</sup>

On 21 October 2013, the Ministry of Territorial Equality and Housing together with the Ministry of Ecology, Sustainable Development and Energy launched the “I eco-renovated, I saved” campaign. Through partnerships with the Agency for Environmental and Energy Management, the National Housing Agency and the National Agency for Housing Information, subsidies, premiums, and tax credits were offered to homeowners in order to entice them to refurbish, renovate and build their homes according to energy efficient guidelines. This campaign was created for two reasons. The first was to educate the French public on the importance and economic benefit of incorporating green

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<sup>997</sup> China’s climate commitment, He Jiankun & Nicholas Stern 25 July 2014. Date of Access: 12 October 2014. <http://tckctck.org/2014/07/jiankun-nicholas-stern-chinas-climate-commitment/63741>.

<sup>998</sup> Energy Policy Highlights, International Energy Agency (Paris) November 2013. Date of Access: 9 April 2014. [http://www.iea.org/publications/freepublications/publication/Energy\\_Policy\\_Highlights\\_2013.pdf](http://www.iea.org/publications/freepublications/publication/Energy_Policy_Highlights_2013.pdf).

<sup>999</sup> Launch of Three New Institutions of Energy Transition, Ministry of Ecology, Sustainable Development and Technology (Paris) 20 November 2013. Date of Access: 9 April 2014. <http://www.developpement-durable.gouv.fr/Lancement-de-trois-nouveaux.html>.

technologies in the housing market. The second was to achieve the goal of a 38 per cent reduction of energy consumption in the building sector by 2020. It has been updated twice since the beginning of 2014.<sup>1000</sup>

Throughout November 2013, the Bonus-Malus system was updated and the scale of penalties and bonuses increased.<sup>1001</sup> This system is designed to reward those who purchase vehicles with low carbon emissions and punish those who purchase high emission cars. Although this is a self-contained system, it does promote the creation of a “green-friendly” car market and encourage technological advancements in this field.

Instituting new regulations on cars was not the only advancement made during the month of November. A significant step was also taken by the Regulatory Commission of Energy (CRE) to increase the potential use of Smart Grids. On 14 November 2013, the CRE launched a public consultation to “define the technical, economic and legal smart grids.”<sup>1002</sup>

On 31 December 2013, the Government of France added five new pollutants to the General Tax on Polluting Activities. This tax was instituted in order to promote the use of cleaner energy technologies by industry and to gradually phase out the use of heavy pollutants in large-scale industry.<sup>1003</sup>

On 23 January 2014, Philippe Martin welcomed the European Commission’s proposal for the energy-climate policy in 2030 and reiterated its consistency with previous French renewable energy targets.<sup>1004</sup> France also welcomed the third round of the EU Emissions Trading System, initiated on 9 September 2013.<sup>1005</sup>

On 27 and 28 January 2014, the leaders of France and Turkey met and signed agreements increasing bilateral trade and investment. These agreements focused on expanding France’s energy and industrial partnerships with Turkey and included significant sections on renewable energy development, environmental protection, energy efficiency and nuclear project management.<sup>1006</sup> France would relay best practices information based on its own research and development and would share its technical expertise in the aforementioned fields in order to expand its markets in clean energy technology development abroad.

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<sup>1000</sup> The Energy Plan Home Renovation Is Launched, Ministry of Ecology, Sustainable Development and Technology (Paris) 21 October 2013. Date of Access: 9 April 2014. <http://www.developpement-durable.gouv.fr/Le-plan-de-renovation-energetique,34265.html>.

<sup>1001</sup> Bonus-Malus 2014, Ministry of Ecology, Sustainable Development and Technology (Paris) 27 January 2014. Date of Access: 6 April 2014. <http://www.developpement-durable.gouv.fr/Bonus-Malus-2014.html>.

<sup>1002</sup> Consultation on the Development of Smart Grids in Low Voltage, Ministry of Ecology, Sustainable Development and Technology (Paris) 14 November 2013. Date of Access: 6 April 2014. <http://www.developpement-durable.gouv.fr/Consultation-sur-le-developpement.html>.

<sup>1003</sup> Finance Act 2013: 5 New Pollutants Subject to TGAP, Ministry of Ecology, Sustainable Development and Technology (Paris) 7 February 2014. Date of Access: 9 April 2014. <http://www.developpement-durable.gouv.fr/Les-seuils-d-assujettissement-des.html>.

<sup>1004</sup> Climate-Energy Package, Proposals of the European Commission, Ministry of Ecology, Sustainable Development and Technology (Paris) 23 January 2014. Date of Access: 9 April 2014. <http://www.developpement-durable.gouv.fr/Paquet-Energie-Climat-2030,37298.html>.

<sup>1005</sup> Exchange System EUA’s, Ministry of Ecology, Sustainable Development and Technology (Paris) 9 September 2013. Date of Access: 6 April 2014. <http://www.developpement-durable.gouv.fr/-Systeme-d-echange-de-quotas-.html>.

<sup>1006</sup> State Visit to Turkey, Energy and Transport at the Heart of Trade, Ministry of Ecology, Sustainable Development and Technology (Paris) 20 February 2014. Date of Access: 6 April 2014. <http://www.developpement-durable.gouv.fr/Visite-Etat-en-Turquie-l-energie.html>.

The French government issued a call for expressions of interest related to hydrogen and fuel cells in 2013 in order to increase the storage potential of renewable technologies and natural gas. On 30 January 2014, the winning project — GRHYD — was announced.<sup>1007</sup> In follow-up, the French government issued another call for expressions of interest for renewable energies, to be completed by early 2015.<sup>1008</sup> These government-sponsored competitions serve to bring the most efficient clean energy technologies to the table, draw attention to the need for these technologies and the market demands they meet, and contribute to research in their various fields.

In order to spur innovations in clean photovoltaic technology, the Department of Ecology, Sustainable Development and Energy has issued two rounds of tenders for projects dedicated to large photovoltaic systems. The requirements also specify various aspects of clean technology, including “tak[ing] into account the carbon balance of projects, their impact on the environment and their contribution to research and development.”<sup>1009</sup> On 27 February and 28 March 2014, the rounds of winners were announced amounting to 177 and 121 projects respectively, for a total installed capacity of 40.3 and 380 megawatts.<sup>1010</sup> Another round of tenders was also announced for the near future. These tenders are essentially government subsidies issued to the winning projects as one of the financial tools the ADEME created to achieve its Investments for the Future Programme.

On 18 June 2014, a new energy transition bill was presented by Energy Minister Segolene Royal, which seeks to reduce France’s dependence on nuclear energy as well as reduce the use of fossil fuels.<sup>1011</sup> In ADEME’s September-October 2014 International Newsletter, President of ADEME Bruno Lechevin stated that the draft bill has been finalized, but the final Act has not yet been passed.<sup>1012</sup>

France has developed new green energy technologies, overcome barriers to efficiency through government-sponsored competition and the provision of tenders, subsidies and grants, and its incorporation of green technologies in the residential and industrial sectors through taxes, bonuses and other incentives.

Thus, France is awarded a score of +1.

*Analyst: Kayla Rimer*

### **Germany: +1**

Germany has fully complied with its energy commitment to encourage effective policies that overcome barriers to efficiency, and enhance the efficiency of markets towards a sustainable energy future.

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<sup>1007</sup> Energy Storage, Ministry of Ecology, Sustainable Development and Technology (Paris) 28 February 2014. Date of Access: 9 April 2014. <http://www.developpement-durable.gouv.fr/Transformer-en-hydrogene-l,30305.html>.

<sup>1008</sup> Investments for the Future: Launch of the Call for Expressions of Interest “Renewable Energy”, Ministry of Ecology, Sustainable Development and Technology (Paris) 6 February 2014. Date of Access: 9 April 2014. <http://www.developpement-durable.gouv.fr/Investissements-d-Avenir-lancement,37465.html>.

<sup>1009</sup> Tender for Photovoltaic Systems: Winners Selected, Ministry of Ecology, Sustainable Development and Technology (Paris) 27 February 2014. Date of Access: 6 April 2014. <http://www.developpement-durable.gouv.fr/Appel-d-offres-pour-installations,37642.html>.

<sup>1010</sup> Bidding for large PV plants: 380 megawatts of new projects, Ministry of Ecology, Sustainable Development and Technology (Paris) 28 March 2014. Date of Access: 9 April 2014. <http://www.developpement-durable.gouv.fr/Appel-d-offres-pour-installations,38317.html>.

<sup>1011</sup> France unveils ambitious bill to boost green energy, France 24 (Paris) 18 June 2014. Date of Access: 6 October 2014. <http://www.france24.com/en/20140618-france-government-green-energy-bill-unveiled-segolene-royal-environment/>.

<sup>1012</sup> ADEME International Newsletter No.30, ADEME (Paris) October 2014. Date of Access: 6 October 2014. <http://ademe-et-vous.ademe.fr/sites/default/files/international-newsletter/30/ademe-lettreinter30gb.pdf>.

On 22 May 2014, the European Commission adopted the German Partnership Agreement for the use of the European Structural and Investment Funds (ESIF) in Germany from 2014 to 2020.<sup>1013</sup> One of the investment strategy objectives of this package targets the promotion of renewable energy and energy efficiency.

On 18 June 2014, the German government submitted its third National Energy Efficiency Plan, which outlined its past and current efforts to promote market development of the energy efficiency sector.<sup>1014</sup> The plan outlines mechanisms such as tolls on trucks and energy taxes to reach the European Union's 2020 reduction targets.<sup>1015</sup>

This practical commitment is accompanied by a rhetorical commitment as seen on a 20 March 2014 statement by Chancellor Angela Merkel to the Bundestag, calling progress to boost energy efficiency a priority.<sup>1016</sup> The Minister of Economic Affairs and Energy Sigmar Gabriel demonstrated Germany's commitment for effective policies by negotiating and then applauding the European Union's Energy Efficiency Proposal released on 23 July 2014.<sup>1017</sup> Germany's efforts have earned it the top spot on the International Energy Efficiency Scorecard released by the American Council of Energy-Efficient Economy on 17 July 2014.<sup>1018</sup>

Despite this progress, an expert commission released a report in May 2014 encouraging Germany to step up its commitment to its "Energy Concept" plan if it were to meet its goals by 2050.<sup>1019</sup> The report identified further investment in the building and transport sectors as crucial areas for improvement. However, it did note of Germany's existing successes in improving energy efficiency, which has included standard-setting, enforcing regulatory mechanisms, promotion of investment, and measurements to provide a pricing scheme.<sup>1020</sup>

On 18 June 2014, the German government adopted the third National Energy Efficiency Action Plan. It describes the main existing measures and tools to increase energy efficiency and save energy in

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<sup>1013</sup> German Partnership Agreement to Implement the European Structural and Investment Funds Approved, Federal Ministry for Economic Affairs and Energy (Berlin) 22 May 2014. Date of Access: 2 October 2014. <http://www.bmwi.de/EN/Press/press-releases,did=640550.html>.

<sup>1014</sup> 3. Nationaler Energieeffizienz-Aktionsplan (NEEAP) 2014 der Bundesrepublik Deutschland, Ministry of Economic Affairs and Energy (Berlin) 18 June 2014. Date of Access: 2 October 2014. <http://www.bmwi.de/BMWi/Redaktion/PDF/M-O/nationaler-energieeffizienz-aktionsplan-2014,property=pdf,bereich=bmwi2012,sprache=de,rwb=true.pdf>.

<sup>1015</sup> Nationaler Energieeffizienz-Aktionsplan (NEEAP) 2014 der Bundesrepublik Deutschland, Ministry of Economic Affairs and Energy (Berlin) 30 April 2014. Date of Access: 2 October 2014. [http://www.energieeffizienz-online.info/fileadmin/edl-richtlinie/Downloads/Downloads\\_2014/NEEAP\\_2014.pdf](http://www.energieeffizienz-online.info/fileadmin/edl-richtlinie/Downloads/Downloads_2014/NEEAP_2014.pdf).

<sup>1016</sup> Making Europe Strong, The Federal Chancellor (Berlin) 20 March 2014. Date of Access: 2 October 2014. <http://www.bundeskanzlerin.de/Content/EN/Artikel/2014/03/2014-03-20-regierungserklaerung-er.html>.

<sup>1017</sup> Federal Minister Sigmar Gabriel Welcomes Commission's Proposal for Ambitious Energy-Efficiency Target, Ministry of Economic Affairs and Energy (Berlin) 23 July 2014. Date of Access: 2 October 2014. <http://www.bmwi.de/EN/Press/press-releases,did=648702.html>.

<sup>1018</sup> Germany Tops World Energy Efficiency Ranking, Germany Trade and Invest (Berlin) 17 July 2014. Date of Access: 2 October 2014. <http://www.gtai.de/GTAI/Navigation/EN/Meta/press,did=1051702.html>.

<sup>1019</sup> Statement on the Second Monitoring Report by the German Government for 2012, Energy of the Future Commission on the Monitoring Process (Berlin) March 2014. Date of Access: 2 October 2014. <http://www.bmwi.de/English/Redaktion/Pdf/statement-on-the-second-monitoring-report-by-the-german-government-for-2012,property=pdf,bereich=bmwi2012,sprache=en,rwb=true.pdf>.

<sup>1020</sup> Statement on the Second Monitoring Report by the German Government for 2012, Energy of the Future Commission on the Monitoring Process (Berlin) March 2014. Date of Access: 2 October 2014. <http://www.bmwi.de/English/Redaktion/Pdf/statement-on-the-second-monitoring-report-by-the-german-government-for-2012,property=pdf,bereich=bmwi2012,sprache=en,rwb=true.pdf>.

Germany and will be submitted to the EU Commission as part of Germany's reporting obligations under the EU Energy Efficiency Directive.<sup>1021</sup>

On 11 July 2014, the German Renewable Energy Act (EEG 2014) was passed by the main and upper house of the German Parliament, which means that the law took effect 1 August 2014. The European Commission found the EEG 2014 to be in line with the EU's rules, stating that it: "provides support for the production of electricity from renewable energy sources and from mining gas. It also reduces the financial burden on energy-intensive users and certain auto-generators by reducing their level of payment of the EEG-surcharge."<sup>1022</sup>

Germany has and continues to support the development of clean and energy efficient technologies and supports the development of the energy market through various actions.

Thus, Germany receives a score of +1.

*Analyst: Emily Tsui and Mei Leonora Heiberg*

### **India: +1**

India has fully complied with its commitment to encourage effective policies that overcome barriers to energy efficiency, and enhance the efficiency of markets towards an energy sustainable future.

Shortly after the 2013 St. Petersburg Summit, the Government of India demonstrated its commitment to promote renewable energy projects. On 25 September 2013, the Ministry of New and Renewable Energy set a target of generation of 10,000 megawatts of power through solar energy by year 2017. This builds on an ambitious target set by the prime minister to install 20,000 megawatts of grid solar power and 2,000 megawatts of off-grid solar applications, and 20 million square metres of solar thermal collector area by 31 March 2022.<sup>1023</sup>

The government announced in August 2013 that it approved generation-based incentives for wind power projects. This scheme would provide an incentive INR0.5 per unit of electricity fed to the grid.<sup>1024</sup> Furthermore, the Indian Ministry of New and Renewable Energy has implemented a policy initiative to develop sixty Indian cities through the use of solar power. A press release from the Government of India outlined 55 cities that have been granted principal approval and 45 cities that have been sanctioned to begin planning renewable energy projects.<sup>1025</sup>

There has been a growing emphasis on promoting favourable conditions for developing solar manufacturing capability and use of off-grid and grid-connected solar energy systems, provided through

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<sup>1021</sup> National Energieeffizienz-Aktionspläne (NEEAP) der Bundesrepublik Deutschland, Bundesstelle für energie effizienz (Berlin). Access Date: 16 October 2014. [http://www.bfee-online.de/bfee/energieeffizienz\\_in\\_deutschland/energieeffizienzaktionsplan/](http://www.bfee-online.de/bfee/energieeffizienz_in_deutschland/energieeffizienzaktionsplan/)

<sup>1022</sup> State aid: Commission approves German renewable energy law EEG 2014, European Commission (Brussels) 23 July 2014. Access Date: 16 October 2014. [http://europa.eu/rapid/press-release\\_IP-14-867\\_en.htm](http://europa.eu/rapid/press-release_IP-14-867_en.htm)

<sup>1023</sup> Target to develop 10,000 MW Power through Solar Energy by 2017, Government of India (New Delhi) 25 September 2013. Date of Access: 19 March 2013. <http://pib.nic.in/newsite/pmreleases.aspx>.

<sup>1024</sup> Generation Based Incentive Scheme, Government of India (New Delhi) 30 August 2013. Date of Access: 19 March 2013. <http://pib.nic.in/newsite/pmreleases.aspx>.

<sup>1025</sup> Solar Cities, Ministry of New and Renewable Energy, Government of India (New Delhi) 11 December 2013. Date of Access: 19 March 2013. <http://pib.nic.in/newsite/pmreleases.aspx>.

financial initiatives.<sup>1026</sup> The government has allocated a total amount of INR6.9 billion for promotion of renewable energy sources through fiscal and financial incentives.<sup>1027</sup>

On 4 August 2014, the Indian government set an additional target of capacity of 29,800 megawatts from various renewable energy sources. The target comprises of 15,000 megawatts from wind, 10,000 megawatts from solar, 2,100 megawatts from small hydropower and 2,700 MW from bio-power.<sup>1028</sup>

On 30 September 2014, U.S. President Barack Obama and Prime Minister Modi agreed to a new and enhanced strategic partnership on clean energy and energy security.<sup>1029</sup> They agreed to expand the US-India Partnership to Advance Clean Energy through a collection of priority initiatives such as: (1) a new Energy Smart Cities Partnership; (2) a new program to scale-up renewable energy integration into India's power grid; (3) cooperation to support India's efforts to upgrade its alternative energy institutes; (4) an expansion of the Promoting Energy Access through Clean Energy program.

India has encouraged effective policies that overcome barriers to efficiency and both enhances the efficiency of markets and shifts towards an energy sustainable future.

Thus, India is given a score of +1.

*Analyst: Joy Rogers and Mei Leonora Heiberg*

### **Indonesia: +1**

Indonesia has fully complied with its commitment to encourage effective policies that overcome barriers to energy efficiency, and enhance the efficiency of markets towards an energy sustainable future.

On 4 February 2014, the House of Representatives passed the National Energy Policy, setting renewable energy requirements.<sup>1030</sup> Indonesian Minister of Energy and Mineral Resources Jero Wacik, said, "the new policy would reduce gasoline dependency and increase the use of renewable energy."<sup>1031</sup>

The Government of Indonesia announced its plan to build hydroelectric plants at 239 dams owned by the Public Works Ministry, as part of its renewable energy initiative.<sup>1032</sup> As part of the project, the government planned to begin the construction of four hydropower plants in East Java within the year.<sup>1033</sup> Director-General for New and Renewable Energy Ridha Mulyana of the Ministry of Energy and Mineral Resources stated, "we will rent the dams to developers so they will only be responsible for

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<sup>1026</sup> Initiatives for Promotion of Renewable Energy, Government of India (New Delhi) 17 December 2013. Date of Access: 19 March 2013. <http://pib.nic.in/newsite/pmreleases.aspx>.

<sup>1027</sup> Promotion of Solar Energy, Government of India (New Delhi) 17 December 2013. Date of Access: 19 March 2013. <http://pib.nic.in/newsite/pmreleases.aspx>.

<sup>1028</sup> Power generation from renewable energy sources, Government of India (New Delhi) 4 August 2014. Access Date: 17 October 2014. <http://pib.nic.in/newsite/pmreleases.aspx?mincode=28>

<sup>1029</sup> US-India Joint Statement, The White House: Office of the Press Secretary (Washington) 30 September 2014. Date of Access: 12 October 2014. <http://www.whitehouse.gov/the-press-office/2014/09/30/us-india-joint-statement>.

<sup>1030</sup> House of Representatives Passes National Energy Policy, Jakarta Globe (Jakarta) 4 February 2014. Date of Access: 27 February 2014. <http://www.thejakartaglobe.com/news/house-of-representatives-passes-national-energy-policy>.

<sup>1031</sup> House of Representatives Passes National Energy Policy, Jakarta Globe (Jakarta) 4 February 2014. Date of Access: 27 February 2014. <http://www.thejakartaglobe.com/news/house-of-representatives-passes-national-energy-policy>.

<sup>1032</sup> Indonesia to Build More Hydropower Plants to Boost Alternative Energy, Jakarta Globe (Jakarta) 27 February 2014. Date of Access: 27 February 2014. <http://www.thejakartaglobe.com/business/indonesia-to-build-more-hydropower-plants-to-boost-alternative-energy/>.

<sup>1033</sup> Indonesia to Build More Hydropower Plants to Boost Alternative Energy, Jakarta Globe (Jakarta) 27 February 2014. Date of Access: 27 February 2014. <http://www.thejakartaglobe.com/business/indonesia-to-build-more-hydropower-plants-to-boost-alternative-energy/>.

building the power generators,” which would lessen developers’ burden for investment costs.<sup>1034</sup> This policy would support the efficiency of the energy market by reducing burden for developers.

Indonesia’s state-owned power company plans to build a 145-kilometre electric line linking customers in West Kalimantan with hydroelectric plants in neighbouring Sarawak, Malaysia.<sup>1035</sup> This project would provide cheaper electricity and cut carbon emissions by 400,000 tons a year by 2020, as the region has used oil to provide power to the province.<sup>1036</sup>

In August 2013, Indonesia introduced a policy to increase the use of biodiesel to reduce oil consumption.<sup>1037</sup> The Ministry of Energy and Mineral Resources issued a new regulation to raise the minimum bio content in diesel to ten per cent and to 20 per cent especially for the power industry.<sup>1038</sup>

On 4 February 2014, Geothermal Director Tisnaldi at the Ministry of Energy and Mineral Resources announced government plans to operate three geothermal plants in Patuha and Cibuni in West Java, and Ulumbu in Manggarai, East Nusa Tenggara.<sup>1039</sup> Indonesia seeks to focus on more of this renewable energy source amid rising fuel costs.<sup>1040</sup>

The Government of Indonesia has distributed USD1 billion worth of funds to 11 provinces, including the Province of Jambi. This province has used part of the funds to develop watermills (PLTKAs), micro-hydro power plants (PLTMHs) and biogas that provide a renewable source of electricity and gas energy to the residents of Senamat Ulu village.<sup>1041</sup>

On 26 August 2014, the Indonesian House of Representatives (DPR) passed a law to bolster the geothermal energy industry.<sup>1042</sup> A key aspect of the law specifies that the development of geothermal energy would no longer be considered mining. The law also addresses higher prices for electricity produced by geothermal sources to help cover costs of production. “Geothermal energy will ensure

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<sup>1034</sup> Indonesia to Build More Hydropower Plants to Boost Alternative Energy, Jakarta Globe (Jakarta) 27 February 2014. Date of Access: 27 February 2014. <http://www.thejakartaglobe.com/business/indonesia-to-build-more-hydropower-plants-to-boost-alternative-energy/>.

<sup>1035</sup> ADB to Fund Sarawak-West Kalimantan Hydroelectric Power Project, Jakarta Globe (Jakarta) 28 August 2013. Date of Access: 27 February 2014. <http://www.thejakartaglobe.com/news/adb-to-fund-sarawak-west-kalimantan-hydroelectric-power-project/>.

<sup>1036</sup> ADB to Fund Sarawak-West Kalimantan Hydroelectric Power Project, Jakarta Globe (Jakarta) 28 August 2013. Date of Access: 27 February 2014. <http://www.thejakartaglobe.com/news/adb-to-fund-sarawak-west-kalimantan-hydroelectric-power-project/>.

<sup>1037</sup> Government Is Claiming Early Success With Economic Package, Jakarta Globe (Jakarta) 28 August 2013. Date of Access: 27 February 2014. <http://www.thejakartaglobe.com/business/government-is-claiming-early-success-with-economic-package/>.

<sup>1038</sup> Government Is Claiming Early Success With Economic Package, Jakarta Globe (Jakarta) 28 August 2013. Date of Access: 27 February 2014. <http://www.thejakartaglobe.com/business/government-is-claiming-early-success-with-economic-package/>.

<sup>1039</sup> Three Geothermal Plants With 62 MW to Go On Line in Indonesia This Year, Jakarta Globe (Jakarta) 4 February 2014. Date of Access: 27 February 2014. <http://www.thejakartaglobe.com/business/three-geothermal-plants-with-62-mw-to-go-on-line-in-indonesia-this-year/>.

<sup>1040</sup> Three Geothermal Plants With 62 MW to Go On Line in Indonesia This Year, Jakarta Globe (Jakarta) 4 February 2014. Date of Access: 27 February 2014. <http://www.thejakartaglobe.com/business/three-geothermal-plants-with-62-mw-to-go-on-line-in-indonesia-this-year/>.

<sup>1041</sup> Villagers’ use of renewable energy recognized internationally, Jakarta Globe (Jakarta) 7 May 2014. Date of Access: 5 October 2014. <http://www.thejakartapost.com/news/2014/05/07/villagers-use-renewable-energy-recognized-internationally.html>.

<sup>1042</sup> Legal Barrier to geothermal development removed, Jakarta Globe (Jakarta) 27 August 2014. Date of Access: 5 October 2014. <http://www.thejakartapost.com/news/2014/08/27/legal-barrier-geothermal-development-removed.html>.

energy independence. We are increasingly optimistic because this is a renewable energy that can replace oil,” said DPR Deputy Speaker Pramono Anung.

Indonesia has supported the development of clean and energy efficient technologies and supports the efficiency of the energy market through various actions including policies.

Thus, Indonesia receives a score of +1.

*Analyst: Cindy Ou*

### **Italy: 0**

Italy has partially complied with its commitment to support the development of cleaner and more efficient energy technologies and to enhance the efficiency of markets and shift towards a more sustainable energy future.

In March 2013, the Italian government published a new strategy that outlined its energy needs, goals and policies through 2020 in a document entitled New Energy Strategy: For a More Competitive and Sustainable Energy. While the Italian government published the new energy strategy and supported increased energy market efficiency, it did not support the development of cleaner and more efficient energy technologies specifically.

The Italian government scaled back its efforts to develop clean energy technologies throughout the compliance period. Compared to the various investments undertaken in the years and months prior, Italy has offered little support to the energy sector to help with the development of cleaner and more efficient energy technologies.

In order to enhance the monitoring of water, gas and electricity for distribution and consumption purposes, the Italian Regulatory Authority for Electricity and Gas and Water issued a call for Smart Meter pilot projects on 23 September 2013.<sup>1043</sup>

With regards to new gas market mechanisms, the Italian Gas Exchange Market was launched in October 2013. The exchange is meant to increase market efficiency by fixing the price of gas to a more reliable European virtual trading point, by adopting European codes and regulations on gas management, and by undertaking a number of infrastructure improvements that streamline gas delivery, storage and set-up future liquefied natural gas projects.<sup>1044</sup>

The authority also changed two financial systems related to energy efficiency and use in January 2014. The first relates to the Energy Efficiency Credits (TEE) and the second to the electrical grid rate. The first change was a redefinition of the tariffs associated with the TEE and a new mechanism to streamline the process of allocating tariffs to make it easier and more efficient to issue them in a timely manner.<sup>1045</sup> The second, which came into effect on 1 January 2014, was meant as an incentive for residents to switch to solar energy and other renewables that are not tied to the electrical grid. This new rate rewards homes with high energy efficiency by charging for the cost of the grid services, not the

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<sup>1043</sup> Energy: Incentives to Pilot Projects for “Smart” Gas, Electricity and Water Meters, Italian Regulatory Authority for Electricity and Gas (Milan) 23 September 2013. Date of Access: 12 April 2014.  
[http://www.autorita.energia.it/it/com\\_stampa/13/130923smart.htm](http://www.autorita.energia.it/it/com_stampa/13/130923smart.htm).

<sup>1044</sup> Energy Policy Highlights, International Energy Agency (Paris) November 2013. Date of Access: 9 April 2014.  
[http://www.iea.org/publications/freepublications/publication/Energy\\_Policy\\_Highlights\\_2013.pdf](http://www.iea.org/publications/freepublications/publication/Energy_Policy_Highlights_2013.pdf).

<sup>1045</sup> The New Tariffs for Covering the Costs of Energy Efficiency Credits Have Been Redefined, Italian Regulatory Authority for Electricity and Gas (Milan) 28 January 2014. Date of Access: 12 April 2014.  
[http://www.autorita.energia.it/it/inglese/press\\_note/14/140128.htm](http://www.autorita.energia.it/it/inglese/press_note/14/140128.htm).

volume of electricity itself.<sup>1046</sup> The authority hopes to encourage the use of heat pumps and other renewable energies in residential homes.

There are three different statistics that show the Government of Italy's expenditures on financial incentives and renewable energy investments. The Gestore Servizi Energetici (GSE) is a state-owned company that promotes and supports renewable energy sources in Italy. It keeps track of the "yearly indicative cumulative cost of incentives" that the Italian government issued in relation to renewable energies. These incentives include: feed-in tariffs (for photovoltaic and thermodynamic residential projects); White Certificates (energy efficiency trading scheme); tax incentives to large-scale plants (according to Ministerial Decree of 6 June 2012); and other government-sponsored incentives. According to their statistics, the cost of these incentives had risen from EUR4.51 billion on 31 August 2013 to EUR5.03 billion on 31 January 2014, amounting to a total government spending of EUR52 million in five months.<sup>1047</sup>

On 25 March 2014, the consulting firm Eclareon published a study on solar energy, which found that the cost of electricity produced by photovoltaic systems had reached parity with other conventional forms of electricity in the beginning of 2014.<sup>1048</sup> This parity will go a long way in helping Italy to achieve its 26.4 per cent renewable energy by 2020 target, and was possible largely because of a government tax credit subsidy system that incentivized solar panel installation in households for residential use.<sup>1049</sup> In fact, advancements in photovoltaic technology and incentivizing their use in both household and commercial sectors has been a key focus of the Italian government, as solar represents the widest renewable energy use in the country at 88 per cent.<sup>1050</sup>

On 2 April 2014, a second market mechanism was introduced. The authority adopted resolution 137/2014/R/gas to facilitate improved gas bidding mechanisms, efficient allocation of gas "bundles" and defining terms to avoid future misunderstandings.<sup>1051</sup> This resolution came over a year in advance of the 1 November 2015 deadline set by the European Union and is intended to improve efficiencies in the gas market.

On 24 April 2014, the Network of European Water Service Regulators (WAREG) was founded "to promote Europe-wide coordination between water service regulatory authorities."<sup>1052</sup> The goal is to

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<sup>1046</sup> Electricity: the 2014 New Network Tariff for 'Sustainable Heating,' Italian Regulatory Authority for Electricity and Gas (Milan) 23 December 2013. Date of Access: 12 April 2014.

[http://www.autorita.energia.it/it/inglese/press\\_releases/13/131223cs.htm](http://www.autorita.energia.it/it/inglese/press_releases/13/131223cs.htm).

<sup>1047</sup> Just updated the Renewable-energy support cost Counter, Gestore Servizi Energetici (Rome) 8 April 2014. Date of Access 12 April 2014. <http://www.gse.it/en/pressroom/News/Pages/Updated-Renewable-Energy-Cost-Counter.aspx>.

<sup>1048</sup> PV is Already Competitive Against Retail Electricity in the Commercial Sector of Major European Markets, Eclareon (Berlin) 25 March 2014. Date of Access: 12 March 2014. <http://www.eclareon.com/en/pv-already-competitive-against-retail-electricity-commercial-sector-major-european-markets-0>.

<sup>1049</sup> Solar Thermal in Italy: Government Approves New Subsidy Scheme, The Solar Keymark (Brussels) 2 January 2013. Date of Access: 12 April 2014. <http://www.estif.org/solarkeymarknew/press-room/news/97-italy-government-approves-new-subsidy-scheme>.

<sup>1050</sup> Who's Winning the Clean Energy Race?, The PEW Charitable Trusts (Washington) 3 April 2014. Date of Access: 12 April 2014. <http://www.pewtrusts.org/en/research-and-analysis/reports/2014/04/03/whos-winning-the-clean-energy-race-2013>.

<sup>1051</sup> Gas: the new European regulations on transmission capacity adopted in advance, Italian Regulatory Authority for Electricity and Gas (Milan) 2 April 2014. Date of Access: 12 April 2014. [http://www.autorita.energia.it/it/nota\\_stampa/14/140402.htm](http://www.autorita.energia.it/it/nota_stampa/14/140402.htm).

<sup>1052</sup> Water: announcing WAREG, the Network of 11 European water service regulators, Italian Regulatory Authority for Electricity and Gas (Milan) 24 April 2014. Date of Access: 5 October 2014. [http://www.autorita.energia.it/it/inglese/press\\_releases/14/140424.htm](http://www.autorita.energia.it/it/inglese/press_releases/14/140424.htm).

encourage investment, high quality efficient service, environmental sustainability and customer protection between European water service regulatory authorities.

The PEW Research Center provides statistics on Italy's investments in renewable energy. It was ranked number nine on PEW's Top Ten Countries in Clean Energy Investment 2013 with an investment intensity of 0.20 (per dollar of gross domestic product). It ranked number seven on Installed Renewable Energy Capacity 2013 at 34 gigawatts and number five on Small-Distributed Capacity Investment (residential and small-commercial projects less than 1 megawatt).<sup>1053</sup>

Italy has undertaken efforts to change and update financial mechanisms for energy use and gas markets, but has not demonstrated support to the development of cleaner and more efficient energy technologies beyond the aforementioned market mechanisms.

Thus, Italy was awarded a score of 0.

*Analyst: Cindy Ou*

### **Japan: 0**

Japan has partially complied with its commitment to encourage effective policies that overcome barriers to energy efficiency, and enhance the efficiency of markets towards an energy sustainable future.

In the fiscal year 2013, Japan installed 73 megawatts of wind capacity, the lowest numbers since 2001.<sup>1054</sup> The government continues to cut subsidies and reduce incentives for solar power.<sup>1055</sup>

On 22 November 2013, Japan enacted the Act on Promotion of Generating Renewable Energy Harmonized with Healthy Development of Agriculture, Forestry and Fishery. This act will "revitalize farming, timber, and fishery villages and create various energy sources by the introduction of renewable energy production in such villages." This act is expected to increase the range of land potentially available across the country for solar, wind and biomass projects.<sup>1056</sup>

Deutsche Bank AG Tokyo Branch, in partnership with the Structured Finance Energy and Infrastructure teams in London and Singapore, announced its support in solar financing for an additional three to six projects in the coming 12 to 18 months.<sup>1057</sup> "A JPY11.2 billion non-recourse construction loan facility was signed to be used for the construction of a large-scale 31.6 megawatt solar photovoltaic plant in Japan."

Japan has demonstrated strong support in the promotion of renewable energy, however it has not enacted policy to enhance energy market efficiencies.

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<sup>1053</sup> Who's Winning the Clean Energy Race?, The PEW Charitable Trusts (Washington) 3 April 2014. Date of Access: 12 April 2014. <http://www.pewtrusts.org/en/research-and-analysis/reports/2014/04/03/whos-winning-the-clean-energy-race-2013>.

<sup>1054</sup> Wind lobby raps environment reports, The Japan Times (Tokyo) 14 February 2014. Date of Access: 12 April 2014. <http://www.japantimes.co.jp/news/2014/02/14/business/wind-lobby-raps-environment-reports/>.

<sup>1055</sup> Lessons from Japan: How the Nation Can Super-charge its Clean-energy Economy, Renewable Energy World (Tokyo) 13 November 2013. Date of Access: 14 April 2014. <http://www.renewableenergyworld.com/rea/news/article/2013/11/lessons-from-japan-how-the-nation-can-supercharge-its-clean-energy-economy>.

<sup>1056</sup> Japan: Renewable Energy Production to Aid Agricultural, Forestry and Fishing Villages, Law Library of Congress (Washington) 18 December 2013. Date of Access: 13 April 2014. [http://www.loc.gov/lawweb/servlet/lloc\\_news?disp3\\_l205403794\\_text](http://www.loc.gov/lawweb/servlet/lloc_news?disp3_l205403794_text).

<sup>1057</sup> Deutsche Bank makes a strong commitment to renewable energy development in Japan, Deutsche Bank (Frankfurt) 15 July 2014. Date of Access: 12 October 2014. [https://www.db.com/cr/en/concrete-renewable\\_energy\\_development\\_in\\_japan.htm](https://www.db.com/cr/en/concrete-renewable_energy_development_in_japan.htm).

Thus, Japan has been awarded a score of 0.

*Analyst: Joy Rogers*

### **Korea: 0**

Korea has partially complied with its commitment to encourage effective policies that overcome barriers to energy efficiency, and enhance the efficiency of markets towards an energy sustainable future.

On 13 January 2014, the Korean Ministry of Environment announced that the securities exchange Korea Exchange (KRX) will host the trading of carbon permits for its emissions trading mechanism, which is scheduled to launch on 1 January 2015.<sup>1058</sup>

On 6 February 2014, the Korean Ministry of Trade, Industry and Energy announced that, with a recent amendment to the Energy Use Rationalization Act, local automakers and importers of foreign vehicles who fail to meet the fuel consumption efficiency level of 17 kilometers per liter would pay a penalty surcharge. The rate is equal to KRW82,352 per km/L short of the target per car sold.<sup>1059</sup>

On 29 May 2014, the Korean Ministry of Environment announced that the emissions trading mechanism would feature a total cap on emissions from power generators and manufacturers at 1.64 billion tones for the period 2015-2017. In addition, the Ministry estimated that permits would trade for approximately USD20. The penalty per permit for firms that do not meet their targets was set at USD98.<sup>1060</sup>

On 2 September 2014, the Korean Ministry of Strategy and Finance announced a delay in a proposed tax on vehicle emissions to the end of 2020. Minister Choi Kyunghwan said that the tax would burden industry too much if it were launched at the same time as the emissions trading mechanism.<sup>1061</sup>

On 11 September 2014, the Korean Ministry of Environment revised the cap on emissions approximately three per cent upward, to a total of 1.687 billion tones.<sup>1062</sup>

Korea has demonstrated ongoing efforts to establish an emission trading mechanism and increased enforcement of energy efficiency standards, however it has not demonstrated support for the development of cleaner and more efficient technologies.

Thus, Korea is awarded a score of 0.

*Analyst: Colin McEwen*

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<sup>1058</sup> Korean Exchange Wins Bid to Host Nation's Carbon Trading, Reuters (Beijing) 13 January 2014. Date of Access: 11 February 2014. <http://www.reuters.com/article/2014/01/14/south-korea-carbon-idusl3n0kj18t20140114>.

<sup>1059</sup> Local Automakers and Importers Subject to Penalty if Fuel Efficiency Standards Not Met, Korean Ministry of Trade, Industry and Energy (Seoul) 6 February 2014. Date of Access: 12 February 2014. [http://www.mke.go.kr/language/eng/news/news\\_view.jsp?seq=1213&srchType=1&srchWord=&tableNm=E\\_01\\_01&pageNo=1&ctx=#](http://www.mke.go.kr/language/eng/news/news_view.jsp?seq=1213&srchType=1&srchWord=&tableNm=E_01_01&pageNo=1&ctx=#) -.

<sup>1060</sup> S. Korea releases tough CO2 caps on utilities, industry, Reuters (Beijing) 28 May 2014. Date of Access: 28 September 2014. <http://uk.reuters.com/article/2014/05/28/southkorea-carbon-idUKL3N0OE1TO20140528>.

<sup>1061</sup> South Korea delays smog tax; starts emissions trading in 2015 - finance minister, Reuters (Seoul) 2 September 2014. Date of Access: 28 September 2014. <http://uk.reuters.com/article/2014/09/02/southkorea-carbon-idUKL3N0R31S620140902>.

<sup>1062</sup> S. Korea increases emissions cap in proposed carbon trading scheme, Reuters (Beijing) 11 September 2014. Date of Access: 28 September 2014. <http://uk.reuters.com/article/2014/09/11/carbon-southkorea-idUKL3N0RC2N720140911>.

## **Mexico: +1**

Mexico has fully complied with its commitment to encourage effective policies that overcome barriers to energy efficiency, and enhance the efficiency of markets towards an energy sustainable future.

On 13 December 2013, Mexico passed the new Energy Reform that ends the 75-year-old oil, gas and electricity monopoly and boosts private investments in the energy sector.<sup>1063</sup> This government's policy not only increased efficiency of the energy market, but also targeted clean energy to occupy 35 per cent of the energy market.<sup>1064</sup>

The Mexican government has set clear targets for the wind power sector, generating 2 gigawatts per year for the next decade.<sup>1065</sup> Moreover, the Mexican Wind Energy Association (AMDEE) has set a target of 12,000 megawatts of wind power by 2022, which is 10,000 megawatts more than the current capacity.

Mexico has started another renewable energy program with construction of the biggest solar power plant in Latin America, Aura Solar I — a 30-megawatt solar farm in La Paz, Mexico.<sup>1066</sup> According to Greentech Media, with the solar market's installed base, Mexico is expected to quadruple from 60 megawatts to 240 megawatts by the end of 2014.

After the Energy Reform, Mexico also showed an improvement of clean, efficiency technologies by water management for the energy sector. Large corporations that engaged in investment of Mexico's energy sector began to adopt water treatment facility at their energy plants, which save substantial amounts of water use in the production process.<sup>1067</sup> Volkswagen planned to construct a new water treatment facility in 2015, which will account for over EUR220 thousand of cost savings per year.

On 1 January 2014, the Mexican government introduced its carbon tax to reduce fossil fuels. The tax is set at approximately USD3.50 per ton CO<sub>2</sub>e. Firms will be allowed to fulfill their tax liability by using offset credits, which is a reduction in CO<sub>2</sub> made elsewhere in order to compensate for the emission.<sup>1068</sup> The tax should also help boost the relative cost-competitiveness of renewable energy.<sup>1069</sup>

On 29 July 2014, California and Mexico signed a bilateral agreement focused on developing integration of energy markets and joint development of clean energy technologies.<sup>1070</sup> California and Mexico have agreed to collaborate on a number of standards and targets, including reduction of green house

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<sup>1063</sup> Mexico Passes Oil Bill Seen Luring \$20 Billion a Year, Bloomberg (Mexico City) 13 December 2013. Date of Access: 27 February 2014. <http://www.bloomberg.com/news/2013-12-12/mexico-lower-house-passes-oil-overhaul-to-break-state-monopoly.html>.

<sup>1064</sup> Mexico Aims to Be Major Global Wind Energy Player, The Daily Fusion (New York) 5 March 2014. Date of Access: 5 March 2014. <http://dailyfusion.net/2014/03/mexico-aims-to-be-major-global-wind-energy-player-27035/>.

<sup>1065</sup> Mexico Aims to Be Major Global Wind Energy Player, The Daily Fusion (New York) 5 March 2014. Date of Access: 5 March 2014. <http://dailyfusion.net/2014/03/mexico-aims-to-be-major-global-wind-energy-player-27035/>.

<sup>1066</sup> Mexico Building Latin America's Largest Solar Farm To Replace Old, Dirty Oil-Power Plant, Think Progress (Washington) 25 February 2014. Date of Access: 7 March 2014. <http://thinkprogress.org/climate/2014/02/25/3328651/mexico-large-solar-plant-paz/>.

<sup>1067</sup> Private Sector's Contribution to Water Management, Renewable Energy Mexico (Mexico) 7 March 2014. Date of Access: 7 March 2014. <http://www.renewableenergymexico.com/?p=965>.

<sup>1068</sup> Mexico announces ETS plans and introduces a carbon tax, icap (Berlin) 14 June 2014. Access Date: 18 October 2014. <https://icapcarbonaction.com/news/news-archive/221-mexico-announces-ets-plans-and-introduces-a-carbon-tax>

<sup>1069</sup> Renewable energy country attractiveness index, Ernst and Young June 2014. Access Date: 16 October 14. [http://www.ey.com/Publication/vwLUAssets/Reusable\\_Energy\\_Country\\_Attractiveness\\_Index\\_41\\_-\\_June\\_2014/\\$FILE/EY-Renewable-Energy-Country-Attractiveness-Index-41-June-2014.pdf](http://www.ey.com/Publication/vwLUAssets/Reusable_Energy_Country_Attractiveness_Index_41_-_June_2014/$FILE/EY-Renewable-Energy-Country-Attractiveness-Index-41-June-2014.pdf)

<sup>1070</sup> California joins Mexico in clean energy pact, Bloomberg (Los Angeles) 30 July 2014. Date of Access: 5 October 2014. <http://www.bloomberg.com/news/2014-07-30/california-mexico-sign-agreements-to-cooperate-on-clean-energy-climate.html>.

gases.<sup>1071</sup> Additionally, California has offered to share its experience creating a carbon emissions trading scheme.<sup>1072</sup> This agreement signals Mexico's efforts to develop clean energy technologies through collaboration and knowledge sharing.

On 2 June 2014, the Inter-American Development Bank announced its plans to develop a risk mitigation program for private geothermal energy projects together with Nacional Financiera and the Mexican Ministry of Energy. The aim of the program is to reduce the risk associated with the exploration of geothermal energy, with an expectation to generate 300 megawatts in a period of six years.<sup>1073</sup> According to the Mexican government, the agreement could help develop up to 2 gigawatts in additional capacity by 2020.<sup>1074</sup>

On 11 August 2014, President Enrique Peña Nieto signed into law secondary legislation, or implementing laws, that put into effect and substantiate the Energy Reform passed on 13 December 2013. The secondary legislation clarifies the fiscal and tax requirements required for joint ventures and private investment in Mexico's energy sector and outline the governance and political responsibilities of the Mexican government.<sup>1075</sup> Private investment in the energy sector in Mexico will allow for increased efficiency of energy markets.

On 11 August 2014, Mexican President Peña Nieto signed a new Energy Reform into law.<sup>1076</sup> The legislative overhaul of the energy sector will open up the market to more private sector competition and could generate an additional USD20 billion in foreign direct investment, according to estimates from Bank of America.<sup>1077</sup> Mexico Energy Secretary Pedro Coldwell claims the country has 57 gigawatts of potential renewable energy capacity, of which 20 gigawatts can be generated at competitive prices.

Mexico has complied with its commitment to support the development of clean and energy efficient technologies and supports the efficiency of the energy market through various actions including policies.

Thus, Mexico receives a score of +1.

*Analyst: Emma Stanton and Mei Leonora Heiberg*

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<sup>1071</sup> California joins Mexico in clean energy pact, Bloomberg (Los Angeles) 30 July 2014. Date of Access: 5 October 2014. <http://www.bloomberg.com/news/2014-07-30/california-mexico-sign-agreements-to-cooperate-on-clean-energy-climate.html>.

<sup>1072</sup> California joins Mexico in clean energy pact, Bloomberg (Los Angeles) 30 July 2014. Date of Access: 5 October 2014. <http://www.bloomberg.com/news/2014-07-30/california-mexico-sign-agreements-to-cooperate-on-clean-energy-climate.html>.

<sup>1073</sup> Mexico to develop a Risk Mitigation Program for private geothermal energy projects with support from the IDB, IDB (Washington) 2 June 2014. Access Date: 18 October 2014. <http://www.iadb.org/en/news/news-releases/2014-06-02/mexico-to-develop-geothermal-energy-with-idb-support,10830.html>

<sup>1074</sup> Renewable energy country attractiveness index, Ernst and Young June 2014. Access Date: 16 October 14. [http://www.ey.com/Publication/vwLUAssets/Renewable\\_Energy\\_Country\\_Attractiveness\\_Index\\_41\\_-\\_June\\_2014/\\$FILE/EY-Renewable-Energy-Country-Attractiveness-Index-41-June-2014.pdf](http://www.ey.com/Publication/vwLUAssets/Renewable_Energy_Country_Attractiveness_Index_41_-_June_2014/$FILE/EY-Renewable-Energy-Country-Attractiveness-Index-41-June-2014.pdf)

<sup>1075</sup> Mexico's Energy Reforms Become Law, Brookings Institute (Washington) 14 August 2014. Date of Access: 5 October 2014 <http://www.brookings.edu/research/articles/2014/08/14-mexico-energy-law-negroponte>.

<sup>1076</sup> Mexico's Energy Reforms become law, Brookings (Washington) 14 August 2014. Access Date: 18 October 2014. <http://www.brookings.edu/research/articles/2014/08/14-mexico-energy-law-negroponte>

<sup>1077</sup> Renewable energy country attractiveness index, Ernst and Young June 2014. Access Date: 16 October 14. [http://www.ey.com/Publication/vwLUAssets/Renewable\\_Energy\\_Country\\_Attractiveness\\_Index\\_41\\_-\\_June\\_2014/\\$FILE/EY-Renewable-Energy-Country-Attractiveness-Index-41-June-2014.pdf](http://www.ey.com/Publication/vwLUAssets/Renewable_Energy_Country_Attractiveness_Index_41_-_June_2014/$FILE/EY-Renewable-Energy-Country-Attractiveness-Index-41-June-2014.pdf)

## Russia: +1

Russia has fully complied with its commitment to encourage effective policies that overcome barriers to energy efficiency, and enhance the efficiency of markets towards an energy sustainable future.

On 22 November 2013, in his address to the “All-Russian meeting for increasing energy efficiency in regions: monitoring the research, replication of the successful experience” at the Energy Efficiency and Energy Saving forum, Deputy Energy Minister Anton Inyutsyn said that the state program “Energy conservation and enhancing energy efficiency until 2020” allocates RUB6.1 trillion, including RUB5.6 trillion of extra-budgetary resources, to energy-efficiency projects.<sup>1078</sup>

On 25 November 2013, Russian President Vladimir Putin signed a federal law No. 316, which increased penalties for citizens and legal entities violating rules of energy consumption and conservation.<sup>1079</sup>

In 2014, the Russian Ministry of Energy plans to allocate RUB4.9 billion from the federal budget on co-financing energy conservation and energy efficiency projects.<sup>1080</sup>

On 17 February 2014, the Russian government issued decree No. 116 approving measures to stimulate electricity generation using renewable energy sources. Among other things the decree amends the rules for development and approval of the projected electrical energy development projects.<sup>1081</sup>

On 15 April 2014, the Russian government approved a new version of the “Energy efficiency and energy development” program. It provides an increase in government spending by RUB6.844 billion 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.<sup>1082</sup>

On 18 February 2014, the Russian energy company JSC Russian Grids concluded an agreement to connect the first solar power plant in the country to the electric grid by 2015. The building of the power plant is to be finished in the third quarter of 2014. Interregional Distribution Grid Company of Siberia (JSC MRSK of Siberia), a subsidiary of OAO Rosseti, will conduct the technical work to connect the solar power plant in Kosh-Agach (Altai Republic) to the grid.<sup>1083</sup> The Russian Government is the controlling shareholder of JSC Russian Grids with 85.31 per cent of the company’s ordinary shares.<sup>1084</sup>

Russia has demonstrated strong support in the promotion of renewable energy, and enacted policy to enhance energy market efficiencies.

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<sup>1078</sup> The participants of the Energy ministry took part in the second day of the ENES-2013 forum, Russian Ministry of Energy (Moscow) 22 November 2013. Date of Access: 17 April 2014.

[http://minenergo.gov.ru/press/min\\_news/17638.html?sphrase\\_id=600929](http://minenergo.gov.ru/press/min_news/17638.html?sphrase_id=600929).

<sup>1079</sup> Vladimir Putin signed a law “On amending article 7.19 and 9.11 of the Russian Federation Administrative Offence Code,” President of Russia (Moscow) 25 November 2013. Date of Access: 17 April 2014.

<http://news.kremlin.ru/acts/19691>.

<sup>1080</sup> Discussion on the implementation of the subprogram “Energy conservation and energy efficiency” took place in the Energy Ministry, Russian Ministry of Energy (Moscow) 10 February 2014. Date of Access: 21 April 2014.

[http://minenergo.gov.ru/press/min\\_news/17638.html?sphrase\\_id=600929](http://minenergo.gov.ru/press/min_news/17638.html?sphrase_id=600929).

<sup>1081</sup> On measures to normalize and stimulate generation and use of electric energy based on renewable energy sources, Government of Russia (Moscow) 21 February 2014. Date of Access: 13 August 2014. <http://government.ru/docs/10666>.

<sup>1082</sup> On approval of the new version of the “Energy efficiency and energy development” state program, Government of Russia (Moscow) 15 April 2014. Date of Access: 13 August 2014. <http://government.ru/docs/11951>.

<sup>1083</sup> In 2015 Rosseti will connect the first solar power plant to the electric grid, Rosseti (Moscow) 18 February 2014. Date of Access: 23 September 2014. [http://www.rosseti.ru/press/news/index.php?ELEMENT\\_ID=16220](http://www.rosseti.ru/press/news/index.php?ELEMENT_ID=16220).

<sup>1084</sup> OAO Rosseti Quarterly Report 4th Quarter 2013, Rosseti (Moscow) 13 February 2014. Date of Access: 23 September 2014. <http://www.rosseti.ru/upload/Doc/qr0413.pdf>.

Thus, Russia is awarded a score of +1.

*Analyst: Andrei Sakbarov*

### **Saudi Arabia: 0**

Saudi Arabia has partially complied with its commitment to encourage effective policies that overcome barriers to energy efficiency, and enhance the efficiency of markets towards an energy sustainable future.

In July 2013, Saudi Arabia began to support its renewable energy programs by installing 70 stations that will measure the potential for energy production from sun, wind and geothermal sources.<sup>1085</sup> The government targets the installation of 23.9 gigawatts of renewable power capacity by 2020 and 54.1 gigawatts by 2032.

On 20 February 2014, the Government of Saudi Arabia announced its plan to invest USD173 billion on energy projects between 2014 and 2018, marking the highest amount of investment in the Arab world.<sup>1086</sup>

On 28 February 2014, Saudi Basic Industries Corporation (SABIC) and the King Abdullah City for Atomic and Renewable Energy (KACARE) signed a research and development agreement to cooperate for technology development.<sup>1087</sup> Under the agreement, SABIC and KACARE, in the focus area of technology and innovation, will develop “a range of protocols for evaluation and feasibility of renewable energies including, solar, wind, and municipal waste, with specific attention given to electricity or steam generation for industrial usage, and energy storage.”

On 7 August 2014 Waleed Husain Abu Al-Faraj, the vice president of Saudi Arabia’s King Abdullah City for Atomic and Renewable Energy (K.A.CARE), and Hwan Min Gang, the chief financial officer of the Chinese National Nuclear Corporation (CNNC) signed an agreement in which China and Saudi Arabia pledged to cooperate in the development of renewable energy and nuclear energy. As China is a world leader in the production of solar photovoltaic panels, the agreement will aid Saudi Arabia in increasing the development of clean energy technologies and in enhancing the energy market.<sup>1088</sup>

It is estimated that Saudi Arabia will spend up to USD100 million on renewable energy by 2032; thus, allowing for a growth in the energy market. The Government of Saudi Arabia aims that by 2032, 30 per cent of the nation’s energy supply will come from solar energy, and nine per cent from wind.<sup>1089</sup>

While strongly supporting the development of cleaner and more efficient clean technologies during this compliance cycle, Saudi Arabia has not however enacted policy to enhance energy market efficiencies.

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<sup>1085</sup> Saudi Arabia Pushes Renewable Energy Programs, Wants to Become Solar-Powered Efficient and Capable by 2032, International Business Times (Australia) 4 July 2013. Date of Access: 7 March 2014.

<http://au.ibtimes.com/articles/486391/20130704/saudi-arabia-renewable-energy-solar-power.htm> - .UxyTzkKwKdU.

<sup>1086</sup> Saudi five-year energy spend to hit \$173bn, Arabian Business (Dubai) 20 February 2014. Date of Access: 7 March 2014. <http://www.arabianbusiness.com/saudi-five-year-energy-spend-hit-173bn-539625.html>.

<sup>1087</sup> SABIC, KACARE tie up for renewable energy studies, Arab News (Saudi Arabia) 28 February 2014. Date of Access: 7 March 2014. <http://www.arabnews.com/news/532361>.

<sup>1088</sup> China, Saudi Arabia Sign New Energy Agreement, The Australian (Sydney) 15 August 2014. Date of Access: 27 September 2014. <http://www.theaustralian.com.au/business/mining-energy/china-saudi-arabia-sign-new-energy-agreement/story-e6frg9df-1227025276198?nk=c8511da4241d2e19f7e77f9143081c8c>.

<sup>1089</sup> China, Saudi Arabia Sign New Energy Agreement, The Australian (Sydney) 15 August 2014. Date of Access: 27 September 2014. <http://www.theaustralian.com.au/business/mining-energy/china-saudi-arabia-sign-new-energy-agreement/story-e6frg9df-1227025276198?nk=c8511da4241d2e19f7e77f9143081c8c>.

Saudi Arabia is thus awarded a 0 for partial compliance.

*Analyst: Virginia Arsenault*

### **South Africa: 0**

South Africa has partially complied with its commitment to encourage effective policies that overcome barriers to energy efficiency, and enhance the efficiency of markets towards an energy sustainable future.

On 15 April 2014, Energy Minister Ben Martins announced an expansion of its renewable energy program. Since December 2011, the South African government approved 64 independent renewable energy projects, and the expansion in April 2014 means that 3,900 Megawatts of energy will come from renewable energy, mostly solar and wind, and will be available in South Africa.<sup>1090</sup>

South Africa has demonstrated strong support in the promotion of renewable energy, however it has not enacted policy to enhance energy market efficiencies.

Thus, South Africa receives a score of 0 for partial compliance.

*Analyst: Virginia Arsenault*

### **Turkey: +1**

Turkey has fully complied with its energy commitment to encourage effective policies that overcome barriers to efficiency, and enhance the efficiency of markets towards an energy sustainable future.

On 9 May 2014, the Turkish government adopted an investment incentive scheme that targeted manufacturing industries, waste recovery, and underground gas storage investments.<sup>1091</sup> This is expected to save TRY65 billion in import dependency costs by the year 2030.<sup>1092</sup>

On 2 July 2014, Turkey adopted the Energy Efficiency Improvement Program within the 10<sup>th</sup> Development Plan of Turkey, which aimed to harness the waste heat of existing coal-fired thermal power plants and to create a market for the sales of waste heat energy.<sup>1093</sup> There has been no update on the status of the plan since. Energy efficiency is largely developed through secondary legislation in Turkey, and is enacted by public and private institutions and non-governmental organizations that target the power sector, construction sector, industry and services, public sector, transport, and home appliances.<sup>1094</sup>

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<sup>1090</sup> South Africa to Procure still more Renewable Energy, South Africa Info (Johannesburg) 15 April 2014. Date of Access: 27 September 2014. <http://www.southafrica.info/business/economy/infrastructure/energy-150414.htm> - .VCbv-\_ldVqU.

<sup>1091</sup> Investment Incentives Expanded to Cover Energy Efficiency Projects, Republic of Turkey Prime Ministry Investment Support and Promotion Agency (Aksam) 20 June 2014. Date of Access: 5 October 2014. <http://www.invest.gov.tr/en-US/infocenter/news/Pages/200614-turkey-energy-saving-investment-incentives.aspx>.

<sup>1092</sup> Investment Incentives Expanded to Cover Energy Efficiency Projects, Republic of Turkey Prime Ministry Investment Support and Promotion Agency (Aksam) 20 June 2014. Date of Access: 5 October 2014. <http://www.invest.gov.tr/en-US/infocenter/news/Pages/200614-turkey-energy-saving-investment-incentives.aspx>.

<sup>1093</sup> In-Depth Energy Efficiency Policy review of the Republic of Turkey, Energy Charter Secretariat (Brussels) 2014. Date of Access: 5 October 2014. [http://www.encharter.org/fileadmin/user\\_upload/Publications/Turkey\\_EE\\_2014\\_ENG.pdf](http://www.encharter.org/fileadmin/user_upload/Publications/Turkey_EE_2014_ENG.pdf).

<sup>1094</sup> In-Depth Energy Efficiency Policy review of the Republic of Turkey, Energy Charter Secretariat (Brussels) 2014. Date of Access: 5 October 2014. [http://www.encharter.org/fileadmin/user\\_upload/Publications/Turkey\\_EE\\_2014\\_ENG.pdf](http://www.encharter.org/fileadmin/user_upload/Publications/Turkey_EE_2014_ENG.pdf).

In early September 2014, the Turkish government reaffirmed its commitment to promote energy efficiency through diversifying energy resources and investment in technologies.<sup>1095</sup> However, the announcement stressed the development of these manners through the use of primary energy resources.<sup>1096</sup> The plan is that by 2023, solar energy will constitute 30 per cent of the country's overall energy production.<sup>1097</sup>

On 31 July 2014, the Energy Charter released a review of the energy efficiency policy of Turkey which noted the continuation of privatisation in the power and gas sector.<sup>1098</sup> The eligible customer limit in the context of gas usage has been lowered to 4.5 GWh in 2014.<sup>1099</sup> The energy efficiency policy of Turkey is analogous to reducing imports and using domestic resources to sustain demand.

Financial schemes such as the 17 September 2014 USD96 million loan from the International Finance Corporation to a large private group to promote energy efficiency and renewable energy projects demonstrate the work the government is taking to invest in meeting the domestic demand.<sup>1100</sup>

On 21 September 2014, Finance Minister Mehmet Simsek announced that a tax-incentive model to promote the sale of energy-efficient goods and goods with low carbon-dioxide emissions.<sup>1101</sup> These rebates include home improvements and energy-efficient appliances.<sup>1102</sup>

Turkey has outlined renewable energy policy measures as well as policies to increase the efficiency of the energy market.

Thus, Turkey has been awarded a score of +1.

*Analyst: Emily Tsui*

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

The United Kingdom has fully complied with its commitment to encourage effective policies that overcome barriers to energy efficiency, and enhance the efficiency of markets towards an energy sustainable future.

In November 2012, the UK government announced an energy policy agreement that, “will deliver a durable, long term signal to investors,”<sup>1103</sup> including a de-carbonization target range for 2030. After

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<sup>1095</sup> “Energy” Chapter of the 62<sup>nd</sup> Turkish Government’s New Program, The Journal of Turkish Weekly (Ankara) 17 September 2014. Date of Access: 5 October 2014. <http://www.turkishweekly.net/news/172186/-energy-chapter-of-the-62nd-turkish-government-39-s-new-program.html>.

<sup>1096</sup> “Energy” Chapter of the 62<sup>nd</sup> Turkish Government’s New Program, The Journal of Turkish Weekly (Ankara) 17 September 2014. Date of Access: 5 October 2014. <http://www.turkishweekly.net/news/172186/-energy-chapter-of-the-62nd-turkish-government-39-s-new-program.html>.

<sup>1097</sup> GDRE Background and Status, European Energy Network (Ankara). Date of Access: 5 October 2014. <http://www.enr-network.org/GDRE.html>.

<sup>1098</sup> In-Depth Energy Efficiency Policy review of the Republic of Turkey, Energy Charter Secretariat (Brussels) 2014. Date of Access: 5 October 2014. <http://www.encharter.org/index.php?id=275&L=0>.

<sup>1099</sup> In-Depth Energy Efficiency Policy review of the Republic of Turkey, Energy Charter Secretariat (Brussels) 2014. Date of Access: 5 October 2014. [http://www.encharter.org/fileadmin/user\\_upload/Publications/Turkey\\_EE\\_2014\\_ENG.pdf](http://www.encharter.org/fileadmin/user_upload/Publications/Turkey_EE_2014_ENG.pdf).

<sup>1100</sup> IFC Lends \$96 Million to Yapi Kredi Leasing to Promote Energy Efficiency and Renewable Energy in Turkey, International Finance Corporation (Istanbul) 17 September 2014. Date of Access: 5 October 2014. <http://ifcext.ifc.org/IFCExt/pressroom/IFCPressRoom.nsf/0/E6A2B6A578FBDB4A85257D560046DCF3?OpenDocument>.

<sup>1101</sup> Turkey’s War Against Energy-Monster Refrigerators, Daily Sabah (Istanbul) 21 September 2014. Date of Access: 5 October 2014. <http://www.dailysabah.com/economy/2014/09/21/turkeys-war-against-energymonster-refrigerators>.

<sup>1102</sup> Turkey’s War Against Energy-Monster Refrigerators, Daily Sabah (Istanbul) 21 September 2014. Date of Access: 5 October 2014. <http://www.dailysabah.com/economy/2014/09/21/turkeys-war-against-energymonster-refrigerators>.

multiple levels of debate and amendments, the Energy Act received Royal Assent on 18 December 2013.<sup>1104</sup> The final statute incorporates various energy initiatives, ranging from consumer protection, to de-carbonization, to nuclear regulation. However, the most pertinent to clean technologies are measures to attract GBP110 billion in investment to upgrade the electricity market. Reforms include: (1) long-term contracts to provide incentives for low-carbon investment; (2) power purchase agreements to ensure the availability of contracts for renewable generators; (3) transition agreements for renewable investments, and (4) limits on carbon dioxide emissions from new fossil fuel power stations.

In 2014, the United Kingdom also called for shifts towards an energy sustainable future. On 24 January 2014, Prime Minister David Cameron addressed the World Economic Forum in Davos highlighting renewable energy, Britain's GBP16 billion of investment in nuclear energy, and the expanding offshore wind market.<sup>1105</sup> Secretary of State for Energy and Climate Change Ed Davey echoed these calls to adapt stewardship to ensure that "low-carbon energy resources have a secure future"<sup>1106</sup> in the United Kingdom. Both statements are furthered by the creation and actions of the Green Investment Bank, a GBP3 billion initiative to "mobilize private capital to make a significant contribution to the development of a green economy."<sup>1107</sup>

On 23 April 2014, the UK government unveiled eight major renewable energy projects. According to the Department of Energy and Climate Change the projects could provide up to 4.5 gigawatts of power to the UK's energy supply. The projects include offshore wind farms, coal to biomass conversions and a biomass plant, and were offered under Contracts for Difference, a part of the UK government's Electricity Market Reform Program.<sup>1108</sup>

The United Kingdom has encouraged effective policies that overcome barriers to energy efficiency, enhanced the efficiency of markets and shifts toward an energy sustainable future.

Thus, the UK receives a score of +1 for full compliance.

*Analyst: Anthony Marchese and Mei Leonora Heiberg*

### **United States: +1**

The United States has fully complied with its commitment to encourage effective policies that overcome barriers to energy efficiency, and enhance the efficiency of markets towards an energy sustainable future.

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<sup>1103</sup> Energy Act: Decarbonisation, Department of Energy & Climate Change (London) 18 December 2013. Date of Access: 28 February 2014. [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/266868/Decarbonisation\\_Policy\\_Brief\\_RA.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/266868/Decarbonisation_Policy_Brief_RA.pdf).

<sup>1104</sup> Energy Act, Department of Energy & Climate Change (London) 18 December 2013. Date of Access: 28 February 2014. <https://www.gov.uk/government/collections/energy-act>.

<sup>1105</sup> Speech by David Cameron at the World Economic Forum, 10 Downing Street (London) 30 January 2014. Date of Access: 28 February 2014. <https://www.gov.uk/government/speeches/world-economic-forum-davos-2014-speech-by-david-cameron--2>.

<sup>1106</sup> North Sea Still has Vital Role in Keeping the Lights On, The Daily Telegraph (London) 24 February 2014. Date of Access: 28 February 2014. <http://www.telegraph.co.uk/finance/newsbysector/energy/10656808/North-Sea-still-has-vital-role-in-keeping-the-lights-on.html>.

<sup>1107</sup> Green Bank Opens for Business, Green Investment Bank (London) 27 November 2012. Date of Access: 28 February 2014. <http://www.greeninvestmentbank.com/media-centre/gib-news/green-bank-opens-for-business.html>.

<sup>1108</sup> Government unveils eight major new renewable projects, supporting 8,500 green jobs, Gov.uk (London) 23 April 2014. Access Date: 18 October. <https://www.gov.uk/government/news/government-unveils-eight-major-new-renewables-projects-supporting-8500-green-jobs>

The United States has built on previous policies to encourage clean energy investment and development. The American Recovery and Reinvestment Act of 2009 included a 30 per cent tax credit valued at USD2.3 billion for “investments in manufacturing facilities for clean energy technologies.”<sup>1109</sup>

On 12 December 2013, an additional USD150 million was released for projects of “domestic manufacturing of a wide range of renewable energy and energy efficiency products.”<sup>1110</sup> These tax credits are in conjunction with the approval of a variety of projects, such as USD7 million for cost-effective hydrogen and fuel cell technologies,<sup>1111</sup> and USD50 million to accelerate development of high-tech, fuel-efficient automobiles.<sup>1112</sup>

On 20 March 2014, the Energy Department announced USD17 million accelerate clean energy innovation in small businesses, including projects to develop “energy technologies with a strong potential for commercialization and job creation.”<sup>1113</sup>

On 20 June 2014, Secretary of Energy Ernest Moniz announced USD3.2 million to launch the National Incubator Initiative for Clean Energy to “drive innovation and foster cooperation in the clean energy business community.”<sup>1114</sup>

In 2014, President Barack Obama continued to encourage effective energy policies and development. In his 2014 State of the Union Address, he highlighted actions to shift towards a more environmentally sustainable future, such as “new standards on the amount of carbon pollution” that power plants are permitted to produce.<sup>1115</sup>

On 3 July 2014, the American Department of Energy made available USD 4 billion in loan guaranties for innovative renewable energy and energy efficiency projects, which avoid or reduce carbon emissions.<sup>1116</sup>

The United States has encouraged effective policies that overcome barriers to energy efficiency, enhanced the efficiency of markets and shifts towards an energy sustainable future.

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<sup>1109</sup> Fact Sheet: 48C Manufacturing Tax Credits, Department of Energy (Washington) 7 February 2013. Date of Access: 28 February 2014. [http://energy.gov/sites/prod/files/2013/04/f0/FACT\\_SHEET -- 48C MANUFACTURING TAX CREDITS.pdf](http://energy.gov/sites/prod/files/2013/04/f0/FACT_SHEET_-_48C_MANUFACTURING_TAX_CREDITS.pdf).

<sup>1110</sup> Energy Department Announces \$150 Million in Tax Credits to Invest in US Clean Energy Manufacturing, Department of Energy (Washington) 12 December 2013. Date of Access: 28 February 2014. <http://www.energy.gov/articles/energy-department-announces-150-million-tax-credits-invest-us-clean-energy-manufacturing>.

<sup>1111</sup> Energy Department Invest Over \$7 Million to Commercialize Cost-Effective Hydrogen and Fuel Cell Technologies, Department of Energy (Washington) 12 December 2013. Date of Access: 28 February 2014. <http://www.energy.gov/articles/energy-department-invests-over-7-million-commercialize-cost-effective-hydrogen-and-fuel>.

<sup>1112</sup> Secretary Moniz Announces Nearly \$50 Million to Advance High-Tech, Fuel Efficient American Autos, Department of Energy (Washington) 22 January 2014. Date of Access: 28 February 2014. <http://www.energy.gov/articles/secretary-moniz-announces-nearly-50-million-advance-high-tech-fuel-efficient-american-autos>.

<sup>1113</sup> Energy Department Invests \$17 Million in Small Businesses to Accelerate Clean Energy Innovation, Department of Energy (Washington) 20 March 2014. Date of Access: 6 October 2014. <http://www.energy.gov/articles/energy-department-invests-17-million-small-businesses-accelerate-clean-energy-innovation>.

<sup>1114</sup> Energy Department Invests \$3.2 Million to Support Clean Energy Small Businesses and Entrepreneurs, Department of Energy (Washington) 20 June 2014. Date of Access: 6 October 2014. <http://www.energy.gov/articles/energy-department-invests-32-million-support-clean-energy-small-businesses-and>.

<sup>1115</sup> President Barack Obama’s State of the Union Address, The White House (Washington) 28 January 2014. Date of Access: 28 February 2014. <http://www.whitehouse.gov/the-press-office/2014/01/28/president-barack-obamas-state-union-address>.

<sup>1116</sup> Energy department makes additional \$4 billion in loan guarantees available for innovative renewable energy and efficient energy projects, Energy Department (Washington DC) 3 July 2014. Access Date: 19 October. <http://energy.gov/articles/energy-department-makes-additional-4-billion-loan-guarantees-available-innovative-renewable>

The United States has received a score of +1 for full compliance.

*Analyst: Anthony Marchese and Mei Leonora Heiberg*

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

The European Union has fully complied with its energy commitment to encourage effective policies that overcome barriers to efficiency, and enhance the efficiency of markets towards an energy sustainable future.

On 4 December 2012, the new Energy Efficiency Directive 2012/27/EU entered into force with its overall goal as establishing a 20 per cent increase in energy efficiency by 2020.<sup>1117</sup> This directive has continued to subsidize expenditures on energy efficient consumer appliances and to stimulate the construction of new energy efficient buildings.<sup>1118</sup>

On 19 June 2014, European Union Energy Commissioner Gunther Oettinger delivered a speech that revealed a wholesale decrease in electricity prices since 2008, but also highlighted that this reduction has not yet been transferred to consumers.<sup>1119</sup> This is largely a result of taxation and levies.

On 23 July 2014, the European Commission announced its new commitment for a 30 per cent energy savings targets by 2030 and aims to tackle the issue of electricity prices.<sup>1120</sup> Oettinger stated the EU's goals "to give the right signal to the market and encourage further investments in energy saving technologies to the benefit of businesses, consumers and the environment." The long term aims of this plan are to "make energy cheaper, ensure security of supply, and improve the lives of Europeans."<sup>1121</sup> However, this statement also indicated a cap of 1.307 billion tonne of oil equivalent energy consumption in the year 2030, which has potentially adverse effects on the market.<sup>1122</sup>

On the same day, an impact assessment report released by the European Commission (SWD(2014) 255 final) identified that price signal initiatives and a comprehensive set of energy efficiency policies allowed for the EU's successful decoupling of economic growth from energy consumption.<sup>1123</sup> The report highlighted that investment in improving the efficiency of buildings is still much needed. The success of the EU energy efficiency policy has been closely tied with the development of its renewable energy policy.

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<sup>1117</sup> Energy Efficiency Directive, European Commission (Brussels). Date of Access: 3 October 2014. [http://ec.europa.eu/energy/efficiency/eed/eed\\_en.htm](http://ec.europa.eu/energy/efficiency/eed/eed_en.htm).

<sup>1118</sup> European Commission Proposes a Higher and Achievable Energy Savings Target for 2030, European Commission (Brussels) 23 July 2014. Date of Access: 3 October 2014. [http://europa.eu/rapid/press-release\\_IP-14-856\\_en.htm](http://europa.eu/rapid/press-release_IP-14-856_en.htm).

<sup>1119</sup> Address by Gunther H. Oettinger at the Erasmus Energy Forum, European Commission (Rotterdam) 19 June 2014. Date of Access: 3 October 2014. [http://europa.eu/rapid/press-release\\_SPEECH-14-478\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-14-478_en.htm).

<sup>1120</sup> EU Sets "Ambitious But Realistic" Energy Savings Target, BBC News Science and Environment (London) 23 July 2014. Date of Access: 3 October 2014. <http://www.bbc.com/news/science-environment-28446509>.

<sup>1121</sup> Energy Efficiency Communication 2014, European Commission (Brussels). Date of Access: 3 October 2014. [http://ec.europa.eu/energy/efficiency/events/2014\\_energy\\_efficiency\\_communication\\_en.htm](http://ec.europa.eu/energy/efficiency/events/2014_energy_efficiency_communication_en.htm).

<sup>1122</sup> EU Regulators Propose 30% Energy-Savings Target for 2030, Bloomberg News (Brussels) 23 July 2014. Date of Access: 3 October 2014. <http://www.bloomberg.com/news/2014-07-23/eu-regulators-propose-30-energy-savings-target-for-2030.html>.

<sup>1123</sup> Impact Assessment Accompanying the Document Communication from the Commission to the European Parliament and the Council Energy Efficiency and its Contribution to Energy Security and the 2030 Framework for Climate and Energy Policy SWD(2014) 255 Final, European Commission (Brussels) 23 July 2014. Date of Access: 3 October 2014. [http://ec.europa.eu/energy/efficiency/events/doc/2014\\_eec\\_ia\\_adopted\\_part1.pdf](http://ec.europa.eu/energy/efficiency/events/doc/2014_eec_ia_adopted_part1.pdf).

On 25 September 2014, Oettinger demonstrated the EU's commitment to carbon reduction when suggested that the EU should go forward with its carbon reduction scheme if the rest of the world were to agree to a climate change deal in October.<sup>1124</sup>

The European Union has outlined policy measures and reaffirmed its commitment to increase the efficiency of the energy market, specifically through its new 30 per cent reduction by 2030 goal.

Thus, the EU has been awarded a score of +1.

*Analyst: Emily Tsui*

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<sup>1124</sup> Europe's Carbon Cuts Should Be Subject to Paris Climate Deal- EU Energy Chief, The Guardian International Edition (London) 25 September 2014. Date of Access: 3 October 2014.  
<http://www.theguardian.com/environment/2014/sep/25/europe-should-only-cut-carbon-if-world-agrees-paris-climate-deal-eu-energy-chief>.