

DESCRIPTIONS OF LEADING --- CLIMATE **CHANGE** **POLICIES** ---



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Climate Scorecard Report #4

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CLIMATESCORECARD.ORG



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Descriptions of Leading Climate Change Policies: Climate Scorecard Country Summary Report #4

INTRODUCTION

Climate Scorecard Country Report #4 describes leading policies that are being used to help reduce emissions in the 25 leading greenhouse gas emitting countries. In many countries these policies have been introduced at the federal level but require state level buy-in and adaptation. In many countries these policies must co-exist and sometimes compete.

Country	Emissions Reduction Policy	Country	Emissions Reduction Policy
Australia	The Emissions Reduction Fund	Russia	Presidential Decree No. 889, Federal Law No. 261-FZ, State Program in Energy Efficiency and Energy Sector Development
Brazil	Action Plan for Prevention and Control of the Legal Amazon Deforestation (PPCDAm)	Saudi Arabia	Fuel Economy Standards for Imported Vehicles; Insulation Standards for New Buildings; and Minimum Energy Standards for Air-Conditioners
Canada	Bill C-30: The Clean Air and Climate Change Act	South Africa	National Climate Change Response Policy White Paper (NCCRP)
China	The 13 th Five Year Plan (2016-2020)	South Korea	Second National Energy Principles and the Renewable Portfolio Standard (RPS) System
France	Climate Plan	Spain	The Spanish Strategy of Climate Change and Clean Energy (EECCEL) and The Sustainable Economy Act
Germany	The Renewable Energy Act (EEG) and The Energiewende	Thailand	The 15 Year Renewable Energy Development Plan and The 20 Year Energy Conservation Plan
India	National Action Plan for Climate Change (NAPCC) and The National Electricity Policy (NEP)	Turkey	National Climate Change Action Plan
Indonesia	National Action Plan for Greenhouse Gas Reduction (RAN-GRK) and The National Action Plan on Climate Change (RAN-API)	Ukraine	The Green Tariff
Italy	The Energy Efficiency Scorecard and the Conto Termico	United Kingdom	The Climate Change Act, The Renewable Obligations Policy
Japan	The Tokyo Cap and Trade System	United States	The Clean Power Plan
Mexico	The General Law on Climate Change		
Nigeria	Climate Change Policy Response Strategy		
Poland	Sustainable Energy Plan for Warsaw in the Perspective of 2020 (SEAP)		

AUSTRALIA

Submitted by Climate Scorecard Country Manager
HANNAH CAMPI



Australia: The Emissions Reduction Fund

There is still debate in Australia over how much the government should be involved in developing environmental policy.

Under PM Julia Gillard, a Carbon Tax was introduced. The Carbon Tax was a mandatory tax applied to facilities that emit more than 25,000 MT CO₂e scope I emissions annually with some industries such as agriculture being exempt. Gillard and her Labor party have argued that the tax was successful in reducing emissions and the Investor Group on Climate Change claims that companies subject to the tax saw a 7% reduction in emissions. However it was repealed by the succeeding PM, Tony Abbot, and replaced with the Emissions Reduction Fund which is currently in place.

"The Australian Government's action to reduce greenhouse gas emissions includes the \$2.55 billion Emissions Reduction Fund (ERF). The ERF provides incentives for businesses, farmers and land owners to reduce emissions through a range of activities covering Australia's economy."

Australian Department of the Environment, Climate Change Division

The Emissions Reduction Fund is a voluntary program in which companies can receive credits from the fund for lowering their emissions. These credits can then be sold back to the government or to other businesses. Companies participate in the program by proposing and implementing carbon reduction measures, which they can then be compensated for through the ERF. Companies can also use carbon credits from the fund's safeguard mechanism to offset emissions below a baseline determined by the Clean Energy Regulator.

"Projects include storing carbon in native vegetation, increasing soil carbon stocks, reducing coal mine waste gas, waste management, and increasing energy efficiency through activities such as public lighting upgrades or building upgrades. The ERF also includes a safeguard mechanism, which came into effect on 1 July 2016 and limits the growth of emissions for Australia's top emitting companies."

Australian Department of the Environment, Climate Change Division

Both the Carbon Tax and Emissions Reduction Fund take a market approach to emission reduction by offering economic incentives-in the form of reward or punishment to lower emissions rather than mandating a set amount of emission reduction.

There have also been supporters of both plans who claim it has had success in reducing Australian GHG emissions, but neither has had a major impact.

While overall emissions and energy demand did show a decrease between 2012 and 2014, it appears to have picked up again, and some estimates project demand to grow by 5% overall by 2018.

Recently, 154 of Australia's top climate scientists wrote an open letter to the sitting PM, Malcolm Turnbull, urging the government to take action on climate change and develop more effective policies.

At the UN General Assembly in New York, current PM Malcolm Turnbull showed an uncharacteristically moderate side when complimenting the UN's work and emphasizing that more needs to be done to address current issues, citing ISIS and tension in the Korean peninsula as some of the most serious concerns. Turnbull said, "We need compassion – to assist those less fortunate than ourselves; and to help rebuild communities that have been devastated by war or natural disasters."

In regards to the Paris Agreement, Turnbull said Australia will make its "best endeavours to ratify" the agreement by the end of 2016, but a specific date for ratification has not been announced.

Longer excerpt from Turnbull's UN speech:

"The Paris Agreement last year was a shining example of global cooperation for the common good. In a historic display of commitment, over 170 nations signed the Paris Agreement in New York in April. Even more have submitted plans for action. And Australia will play its part.

We are committed to ratifying the Paris Agreement, and we are confident that we will meet our ambitious 2030 target which will have the consequences of us cutting our per capita emissions by 52 per cent – just as we will meet and beat our Kyoto II commitments.

Australia has also increased the profile of climate change in our overseas aid program – including through our \$200 million commitment to the Green Climate Fund—because we know climate change amplifies many development challenges.

We also know that our commitment to action creates new opportunities for innovation and growth, which means more jobs.

We are combining reduction in emissions with strong economic growth - running at 3.3 per cent over the last year, up from 2 per cent a year ago.

Our new Cities Policy too is focused on clean development, enhancing amenity, sustainability and liveability.

And, as the land of droughts and flooding rains, we have learned how to make every drop count and share our experience in water management with other nations, including earlier today here at the High Level Panel on Water."

Turnbull UN Speech 22-9-2016

Learn More

Additional info on the Emissions Reduction Fund (ERF)

<http://www.cleanenergyregulator.gov.au/ERF/About-the-Emissions-Reduction-Fund>

A more detailed look at Australian emission trends can be found here: <https://theconversation.com/australias-carbon-emissions-and-electricity-demand-are-growing-heres-why-57649>

Letter from 154 top Australian climate scientists to PM Malcolm Turnbull:

<https://theconversation.com/an-open-letter-to-the-prime-minister-on-the-climate-crisis-from-154-scientists-64357>

BRAZIL

Submitted by Climate Scorecard Country Manager
JULIANA RUSSAR



Brazil: Action Plan for Prevention and Control of the Legal Amazon Deforestation (PPCDAm)

Beginning in 2004, successful public policies at the federal level were aimed at reducing the deforestation of the Brazilian Amazon. This made possible the reduction of greenhouse gas emissions in the country since land use has been responsible for the majority of Brazil's emissions (see Image 1 below). Still in 2014, most of Brazilian GHG emissions were related to deforestation, degradation or conversion of soil between rural activities and burning of forests residues—corresponding to 42% of total gross emissions (SEEG, 2016). Brazil is responsible for 10% of land use global emissions (it ranks in 2nd globally, behind Indonesia).

Given that most deforestation emissions have corresponded to the Brazilian Amazon (59% in 2014 – SEEG, 2016), in 2004 the government started implementing the Action Plan for Prevention and Control of the Legal Amazon Deforestation (PPCDAm). This was a governmental effort that significantly contributed to the decrease of deforestation. Under the umbrella of PPCDAm policies, Brazil has achieved impressive results in reducing emissions from deforestation, mainly by reducing the deforestation rate in the Brazilian Amazon by 82% between 2004 and 2014 (See Image 1 below).

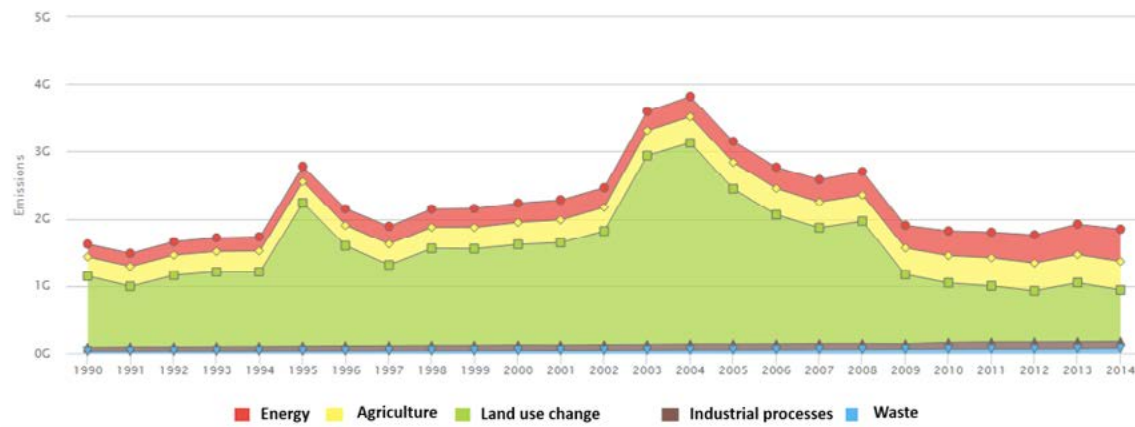


Image 1 Brazil's total emissions: 1990-2014 (SEEG, 2016)

The Action Plan is supported in part by international cooperation agencies from Germany, Norway and Japan. It is implemented with governments from the state and local levels and civil society actors. PPCDam is organized in 3 axes:

- Agrarian and Land Management (e.g.: implementation of frameworks for management of public forests and the creation of conservation areas);
- Monitoring and Environmental Control (e.g.: Real Time System for Detection of Deforestation - DETER, a satellite-based system that enables frequent and quick identification of deforestation hot spots, that enhanced monitoring and targeting capacity, making it easier for law enforcers to act upon areas with illegal deforestation activity);
- Fostering Sustainable Production Activities (e.g.: guidelines for a new model of development).

Brazil's intended Nationally Determined Contribution towards achieving the objective of the United Nations Framework Convention on Climate Change says that related to land use change and forests, the country is committed to:

- strengthening and enforcing the implementation of the Forest Code, at federal, state and municipal levels;
- strengthening policies and measures with a view to achieve, in the Brazilian Amazon, zero illegal deforestation by 2030 and compensating for greenhouse gas emissions from legal suppression of vegetation by 2030;
- restoring and reforesting 12 million hectares of forests by 2030, for multiple purposes;
- enhancing sustainable native forest management systems, through georeferencing and tracking systems applicable to native forest management, with a view to curbing illegal and unsustainable practices.

In 2015, the 3rd phase (2012-2015) of PPCDam was concluded and it is currently under evaluation. The recent political crisis in Brazil may have postponed actions on this area. In addition, in 2015, the Amazon Deforestation Monitoring Program (PRODES), part of PPCDam, showed that there was a deforestation rate of 5.831 km² between August 2014 and July 2015—an increase of 16% in relation to 2014, but a reduction of 79% related to 2004. The next yearly rate will be released soon and it is almost

certain that there is an increasing trend of deforestation rates for the period August 2015 and July 2016. Moreover, country's agriculture and livestock, and energy emissions are increasing as well.

Learn More

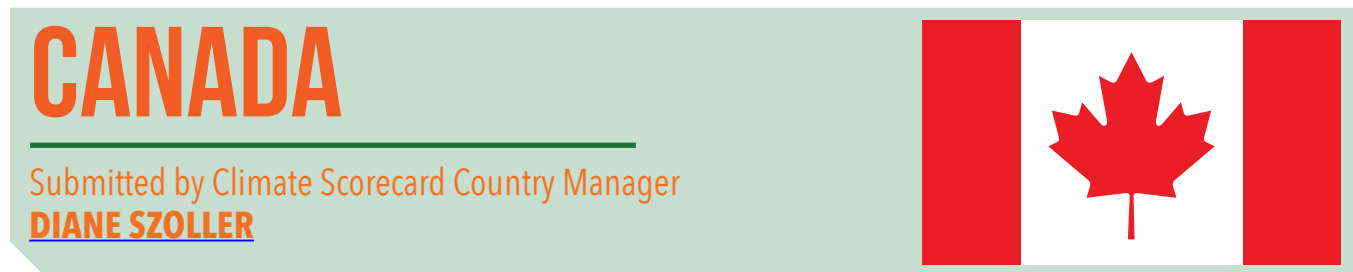
To see Brazilian emissions by sector, including land use: <http://seeg.eco.br/en/setores/>

For more information about PRODES: <http://www.dpi.inpe.br/prodesdigital/prodes.php?LANGUAGE=EN&>

Brazil's iNDC is available at <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Brazil/1/BRAZIL%20iNDC%20english%20FINAL.pdf>

Reuters on successful Brazilian efforts to reduce deforestation: <http://www.reuters.com/article/us-climatechange-forests-environment-idUSKBN0TJ1M620151130>

To know more about the Amazon Fund: <http://www.amazonfund.gov.br/>



Canada: Bill C-30: The Clean Air and Climate Change Act

Canada's Clean Air and Climate Change Act has been used to support initiatives to reduce greenhouse gas emissions (GGEs) and improve air quality; bring innovation to clean energy and transportation (two of Canada's largest emission sources), improve indoor air quality, and build adaptation and international engagement strategies. Research funds for climate change regulatory actions, emissions reporting, policy development, and enforcement come from the Clean Air agenda. In 2012, stringent regulations were published to address coal-fired electricity generation GGE including the phase out of coal use.

The genesis of the Clean Air and Climate Change Act goes back to 2006 when Bill C-30 was brought forward to provide greater coherence in emissions reporting, by the Conservatives in power. Under the first-reading, no mention was made of reporting on the Kyoto Protocol. The Notice of Intent read firm limits would not be set on greenhouse gas emissions (GGE) until 2020 or 2025 and regulations on large final emitters would not take effect until 2010. The bill was rejected by all opposition parties,

thus it was not approved by House of Commons. By agreement, it was then referred to the Legislative Committee before a second-reading stage. This allowed greater latitude in amending the bill than would otherwise been the case. As amended, it was reoriented to emphasize action to fulfill Canada's international obligations to reduce GGEs. Bill C-30 also incorporated 3 earlier federal Acts: Canadian Environmental Protection Act (1999), Energy Efficiency Act, and Motor Vehicle Fuel Consumption Standards Act.

Recent Policy Related Efforts

On October 5, more than 200 federal MPs voted for a Paris Accord ratification motion in the House of Commons, 81, mostly Conservative, opposed it as there was no data" that \$50 a tonne by 2022 will reduce demand for high-emissions products and they say the scheme will stifle economic growth. On October 3, Environment and Climate Change Minister Catherine McKenna announced a national carbon pricing plan starting in 2018 will require provinces and territories to adopt a carbon tax or cap-and-trade system with a minimum price per tonne of \$10, rising to \$50 per tonne by 2022, otherwise the federal government will come up with one for them. The NDP criticized that indigenous plans were not listed and that Liberals were adopting the previous government's targets but they supported the vote. The March Vancouver Declaration, in which Canada's premiers agreed to look at market mechanisms for carbon pricing within their own jurisdictions was acknowledged. Two amendments from opposing parties were defeated as "differences" in how carbon pricing happens, but it is felt the majority agreed carbon pricing needed to happen. This will be the next big target to monitor. Canada's Ecofiscal Commission stated in 2015, most provinces and the country as a whole were not on target yet to achieve the Paris commitment without provincial carbon pricing

Learn More

See Ecofiscal and Pembina reports on policies needed for meaningful reductions through strategies such as carbon pricing, regulated standards, subsidies, infrastructure spending, research and development, and voluntary initiatives,

<https://ecofiscal.ca/reports/wayforward/>

<http://www.pembina.org/reports/pembina-td-final.pdf>

See Canada's commitments to the UN on climate change,

<http://climatechange.gc.ca/default.asp?lang=En&n=3F11F818-1>

For more details on Canada's Clean Air Agenda, and regulatory process,

<http://www.ec.gc.ca/dd-sd/default.asp?lang=En&n=AD1B22FD-1>

<http://www.ec.gc.ca/default.asp?lang=En&n=56D4043B-1&news=295B1964-9737-4F80-B064-B3088D9910BE>

<http://www.tbs-sct.gc.ca/hidb-bdih/initiative-eng.aspx?Hi=12> clean Air act

Canada's original signing of Paris agreement this spring when a plan was yet to be developed to meet Canada's international target of 30% reduction in GGEs by 2030, and what the targets mean, besides a reduction of 208 million tons of GGE

<http://www.cbc.ca/news/politics/paris-agreement-trudeau-sign-1.3547822>

See Canada's Parliamentary Budget Officer's interpretation of carbon tax impacts on the future of Canadian families, 'Canada's Greenhouse Gas Emissions: Developments, Prospects and Reductions',

April 2016

<http://s3.documentcloud.org/documents/2806833/PBO-Climate-Change.pdf>

Visit Canada's September 18 announcement pledging to enact a nationwide carbon price

<https://thinkprogress.org/canada-promises-nationwide-price-on-carbon-5e2ecbe1ae70#.e7szdgvmp>

See The Conference Board's remarks on Canada's impact in reducing emissions since the 1990's

<http://www.conferenceboard.ca/hcp/details/environment/greenhouse-gas-emissions.aspx>

CHINA

Submitted by Climate Scorecard Country Manager
LENA COURCOL



China: The 13th Five Year Plan (2016-2020)

China's climate policies are defined by the central government, the most important of which are set in the Five Year Plans, a national economic statement that outlines the country's growth path through wide-ranging targets. The 13th Five Year Plan (2016 – 2020) presents six targets relevant to emission reduction, including the promotion of clean production through low-carbon industries, as well as investment in a green development fund. More specifically, the targets are to reduce energy intensity by 15 percent and carbon intensity by 18 percent compared to 2015 levels. In addition, energy consumption will be capped at 5 billion tons of coal equivalent, and the share of primary energy consumption from non-renewable sources will increase to 15 percent.

These targets are implemented in a cascading responsibility system; the central government sets the overall targets that are then disaggregated by province, uniquely executed to reflect local resources and conditions. The central government keeps accountability through annual evaluations, rewarding provincial leaders that introduced creative and effective policy mechanisms that perform well in achieving the targets. As a result, China has seen an increasing participation of experts and consultants that help advise provinces in advancing the national goals.

Two of the most effective national policies currently in place include China's economic restructuring as well as their commitment to invest in non-fossil fuel energy. These two policies have been primarily driven by domestic considerations rather than international image and accountability. In particular, China's recent public outcries against air pollution and smog in cities has led to a greater urgency to transition away from high energy and carbon intensive industries, and to continue expanding its service sector and 'clean' energy production.

Although investment in non-fossil fuel energy serves to meet carbon mitigation targets, Chinese policy-

makers have also cited the importance of expanding nuclear and renewables as a tool for developing a greater overall supply of energy. Recognizing that energy is a key input to economic growth, and that energy demand will most likely continue to grow along with the economy, the Chinese government sees any additional source of energy production as attractive. In addition, the concern with future energy security, particularly if imported from foreign countries, has meant that China's energy policy has focused on stimulating investment in renewables. As of now, China is the world's leading producer of renewable energy and also leads the world in clean energy investment with a record of \$89.5 billion dollars invested in 2014.

Nonetheless, China is said to not fully see the extent of the benefits of renewables, as large State Owned Enterprises in coal are criticized for resisting much of the policies that would cut coal completely out of the energy picture, and continue to lengthen the policy implementation process in order to ensure time for businesses to adjust to these new energy sources.

The second national policy, economic restructuring is largely driven by China's ambition to continue economic growth despite international agreements to cap and reduce emissions. Indeed, in the past five years China's leadership has sought to focus on expanding its service sector rather than continuing investments into its manufacturing industries. Thus, the 13th Five Year Plan looks to boost innovation, abandoning old heavy industry and building up bases of modern information-intensive infrastructure. In particular, China continues to force closure or capping production of heavy industries, including cement and steel factories. An example of policy that serves to achieve this goal is China's selection of seven new 'strategic industries', of which the central government has focused on providing financial and resource support to environmental technology, bio technology, next generation IT, etc. Overall, this 'green growth' path is seen as an opportunity for China to gain leadership in the global low carbon market.

Although this national policy for economic restructuring will surely lead China to effective carbon and greenhouse gas mitigation, it also has the potential of causing global transition of manufacturing and energy intensive industries to new 'less economically developed countries' such as Indonesia and Bangladesh. This means that the overall net effect on global greenhouse emissions has the potential of not being as significant.

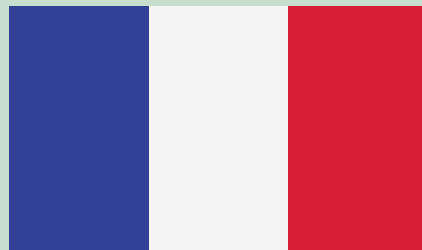
Learn More

http://news.xinhuanet.com/english/photo/2015-11/04/c_134783513.htm

<http://www.renewableenergyworld.com/articles/2016/04/china-s-string-of-new-policies-addressing-renewable-energy-curtailment-an-update.html>

<http://climatenexus.org/learn/international-actions/chinas-climate-and-energy-policy>

<http://www.lowyinstitute.org/publications/chinas-climate-change-policies-actors-and-drivers>



France: Climate Plan

Since 2012, when the first Environmental Conference was held, the French President of the Republic has set a clear course aimed at making France an exemplary nation in terms of environmental protection. The bill on energy transition for green growth was adopted during its first reading at the National Assembly in October 2014, setting ambitious goals and providing operational tools and simple, effective instruments to lower the energy bills of both France and its citizens while combatting climate disruption: by 2030, to reduce greenhouse gas emissions by 40% compared with 1990 levels; to reduce fossil fuel consumption by 30% by 2030 compared with 2012; to increase the share of renewable energies to 32% of final energy consumption and 40% of electricity production by 2030; to reduce final energy consumption by 50% by 2050, with an intermediate 2030 target of 20% compared with 2012.

Since 2004, the climate policy in France is presented in the Climate Plan ("Plan Climat" 2004, 2006, 2009, 2011). According to the article 2 of the Law POPE (Programmation fixant les Orientations de la Politique Énergétique), this Plan is actualized every 2 years.

At the national level, policies and measures in the field of climate change have been adopted in a progressive way and most of the time they have been integrated within other public policies. In 2007, the Grenelle de l'environnement sought to reinforce the climate policy in France, in setting ambitious objectives in every economic sector and notably:

- The stabilization of energy demand in the construction sector through a programme of technological breakthroughs for new constructions and an ambitious energy renovation project for existing constructions. In 2012, low energy consumption buildings were generalized. For existing buildings, the government set the objective of reducing by 38% the consumption by 2020.
- The development of renewable energy in order to reach the objective accepted by France in the framework of the energy-climate package, which means that 23% of the final energy consumption should come from renewable sources by 2020.
- The reduction of wastes with the objectives to reduce not only their production but as well to improve their recovery.
- The accelerated development of non-road and non-air transport methods with the objective to bring back by 2020 the GHG emission of transports to their 1990 level. A series of measures has been put in place to support a shift to more environmental friendly transport methods and to improve the efficiency of existing transport methods.

Examples of France's Commitment to Promote Low-Energy Methods of Transportation

1) National commitment for rail freight: for the transport of goods, the Grenelle Law¹ fixed the objective to increase the modal share of non-road and non-air transport from 15% to 25% by 2022. Launched in September 2009, this national commitment aims at revitalizing the rail freight, through 4 key measures:

- A. The regional core transport infrastructure network for goods will be transformed in order to modernize its exploitation and to switch them toward freight.
- B. A network of efficient rolling motorways will be created;
- C. The high speed rail freight between airport will be developed;
- D. Access to the biggest ports will be improved.

2) High speed railway lines (LGV): for the transport of travelers, 2 000 km of LGV will be built by 2020 with the construction of the line South-Europe-Atlantique, the line Brittany-Pays de Loire, the Mediterranean Arch, service in the East of France. An additional program of 2 500 km will be defined at a later stage. Several constructions took place and other were launched end of 2011. In total, more than 800 km of new lines were opened by end 2013. The development of new high speed rail lines allows the modal shift of passengers from the road and the air to rail, increasing the air quality and reducing the GHG emissions as well as the energy consumption.

3) Public transports on separate lanes (TCsP): 1,500 km of new lines will be built outside Ile de France in 15 years (against 329 existing in 2008). The State has launched 2 tender procedures between 2009 and 2010.

Improving the efficiency of used transport means.

1) Bonus-malus system for cars: Established in 2007 and based on the Co2 emissions per kilometer of new vehicles, it rewards by a bonus payment the purchase of vehicles that are least emitting and penalizes the acquisition of the biggest emitters.

2) L'éco-taxé kilométrique: The article 1 of the Law Grenelle 1 established an eco-tax per kilometer which will be withdrawn on lorries circulating on certain roads. It allows taking into account the cost of road uses and will finance transport infrastructure projects. By 2020, the following gains are expected
GeS : 0.4 MteqCO2 ee : 0.17 Mtep.

3) National plan for the development of electric vehicles and rechargeable hybrids: Launched in October 2009, its objective is to have 2 million vehicles of this type by 2020. This plan will cover the different areas of electric vehicles including battery, infrastructure for recharge, research and industrialization). For example, 13 pilot agglomerations already committed to deploy recharge infrastructures. The State published a Livre Vert in May 2011 and should bring all answers to the questions that such an important deployment on the national territory raises. The expected gain is 2MteqCo2 by 2020.

On the occasion of Transport Action Day on December 3 2015, Ségolène Royal, Minister of Ecology, Sustainable Development and Energy, and Head of the French delegation has launched four initiatives for an acceleration of climate actions in the field of transport:

¹ The declaration sets the objective for at least 20% of all world vehicles (including 2 and 3-wheelers, cars, trucks and buses) to be electric-powered by 2030. For the first time, the world adopts a common vision on the effort required to make electric mobility a key driver in the fight against climate change. The higher volume of orders will help reduce production and marketing prices.

- 1) Launch of a call for the development of an electric car accessible to all for less than 7,000 EUR;
- 2) France's support to the Paris Declaration on Electro-Mobility and Climate change that was presented by the "Zero Emission Vehicles Alliance", and brings together regions and states that commit to electric mobility (20% of electric vehicles by 2030);
- 3) France's support, with 2 million EUR from the French Global Environment Facility, to the initiative MobiliseYourCity that aims at facilitating transport planning projects in 20 cities in developing and emerging countries, with the support of AFD ("French Development Agency"), CEREMA (French "Center for studies and expertise on risk, the environment, mobility and planning"), CODATU (French "Cooperation for Development and Improvement of Urban and Suburban Transport), and the German International Cooperation Organisation (GIZ);
- 4) A national plan for the deployment of positive energy roads that will incorporate photovoltaic cells to generate electricity: 1,000 km within the next 5 years.

Budget Policy That Supports Climate Change Efforts

From a budgetary point of view, all public policies and measures contributing to adaptation and mitigation of climate change are presented in the document for the transversal policy (DPT) "fight against climate change", that the Minister in charge of Environmental, Sustainable Development, transport and accommodation is in charge of presenting to the Parliament every year in annex to the draft finance law. This document includes:

- Presentation of transversal policy, list of programs that contributes to it and presentation on how these programs contributes to this policy.
- Strategic presentation exposing the global strategy to improve the performances of the transversal policy.
- Detailed presentation of the financial effort done by the State to the transversal policy for the coming year, present year, and previous year.

The coordination and animation of the policy to fight against climate change is under the responsibility of the General Directorate for Energy and Climate and international aspects are coordinated by the Directorate for international and European affairs. Furthermore, the National Observatory for the Effects of Climate Warming (ONERC) created in 2001 following the Parliament's initiative has as mission to collect and spread information on warming and extreme weather events. It is under the responsibility of the General Directorate for Energy and Climate.

Learn More

<http://www.developpement-durable.gouv.fr/COP21-FOCUS-DAY-ON-TRANSPORT.html>
<http://www.developpement-durable.gouv.fr/France-climate-policy.html>
<http://www.developpement-durable.gouv.fr/Le-plan-climat-de-la-France-plan-d,14496>
http://www.developpement-durable.gouv.fr/IMG/pdf/Fr_RMS_2013_.pdf
<https://www.cairn.info/revue-politique-europeenne-2011-1-page-155.htm>
<http://www.cop21.gouv.fr/en/learn/cest-quoi-la-cop21/frances-climate-policy/>
http://www.rac-f.org/IMG/pdf/Changement_Climatique_et_Transports.pdf

GERMANY

Submitted by Climate Scorecard Country Manager
ROLAND SELINGER



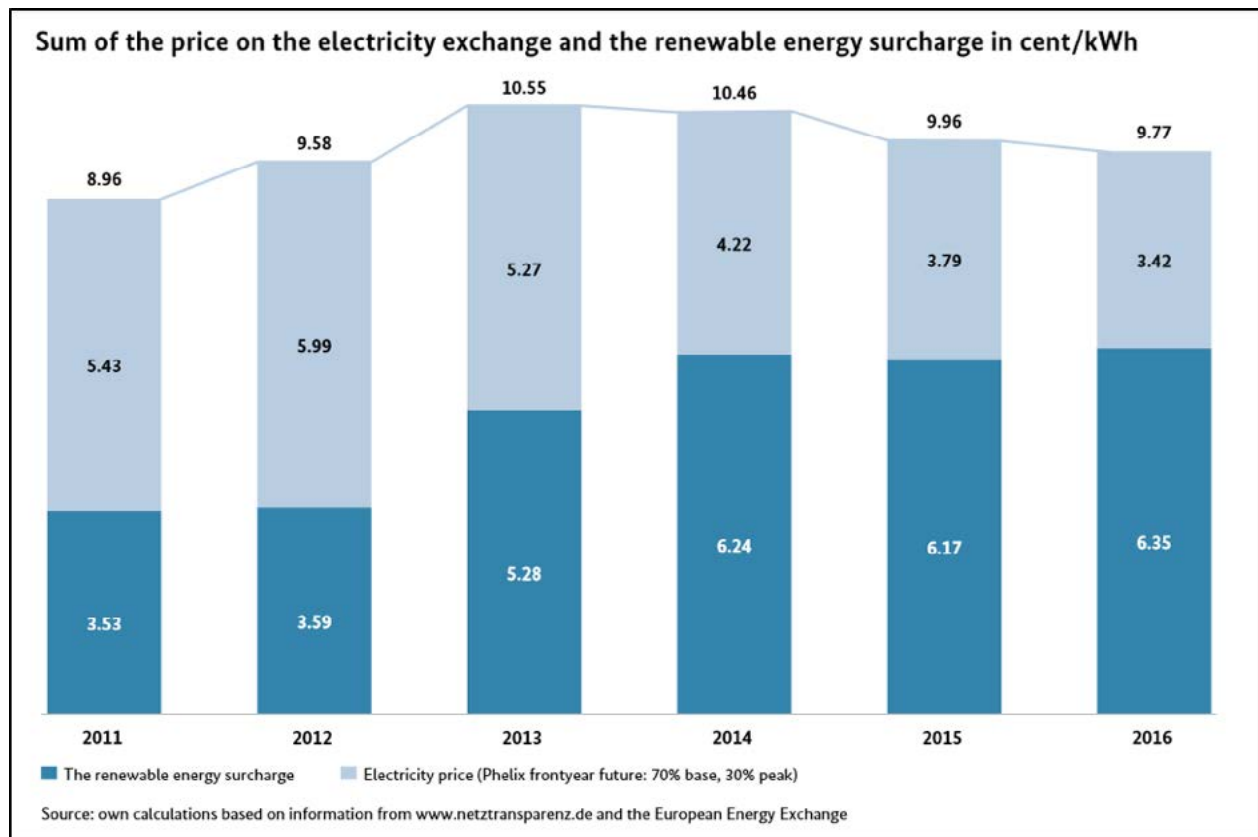
Germany: The Renewable Energy Act (EEG) and The Energiewende

There are two leading policy documents that are shaping Germany's environmental and climate targets.

The first, the Renewable Energy Act (EEG), incorporates a series of laws which regulate the market and development for renewable sources. The EEG was put in practice in April of 2000 and was largely successful due to its "feed-in tariff" mechanism, which provided direct compensation—from the state, using revenues from surcharges borne by end-consumers—to producers of energy per every KWh they generated from renewable sources. This market incentive was founded in Germany's Renewable Electricity Feed-In Act (1991) and created global influence for environmental laws. Feed-in-Tariff policies were earlier introduced in Portugal and Denmark in 1993.

The EEG was developed by a social democrat and a green, both of whom were spokespeople for their respective parties in the Bundestag. It has since been modified several times, but recent reforms—with the Paris Agreement on Germany's agenda—have been quite contentious with the public. Most debated was the decision to change the renewable energy market mechanism from feed-ins to auctions, which will be conducted by Germany's Federal Network Agency. Feed-in tariffs (the money paid to producers of renewable energy) were originally quite high because the government wanted to create incentives for investing in renewable sources, attracting both large and small players (see figure next page). [Polls suggest](#) that end-consumers, by majority, were ready to continue paying higher electricity prices for the sake of the shift. According to Sigmar Gabriel, Germany's Energy and Economic Minister, the switch to auctions is critical for Germany to be able to stabilize the price of renewables and manage grid expansion at a reasonable rate, as limits would be set on the expansion of renewables, like windfarms in northern Germany. The reforms also come as a way of aligning German and EU frameworks, as the EU Commission is looking for free-market solutions, accomplished with suppliers now having to sell their renewable capacity either by themselves or through third parties. However, critics have opposed this decision because (a) it will slow renewable production, which is currently at half of its intended rate; and (b) it will allow wealthy players to out-bid SMEs or citizen-owned projects. The first round of auctions, for which only on/off shore wind and PV solar will be included, are expected to begin January 2017.

Any out-bidding of citizen-owned projects will, in a broad sense, conflict Germany's Energiewende—another crucial climate action plan—which seeks to democratize the country's energy system. More specifically, it includes a series of targets that are designed to transition Germany's energy supply into low-carbon and low-cost alternatives. At the forefront of this plan has been the phasing-out of nuclear energy, although skeptics have pressed the issue of decarbonization as well.



The introduction of this revised plan in 2010 arose largely from the findings of Gregor Czisch, a German physicist who pioneered in regenerative power systems, and Henrick Lund, a Danish energy systems expert. On the political level, a coalition of the Green Party, Social Democratic Party, and the Christian Democratic Party were responsible for pushing laws that formed its early phases during the 1990s. Specific goals for the Energiewende can be seen below:

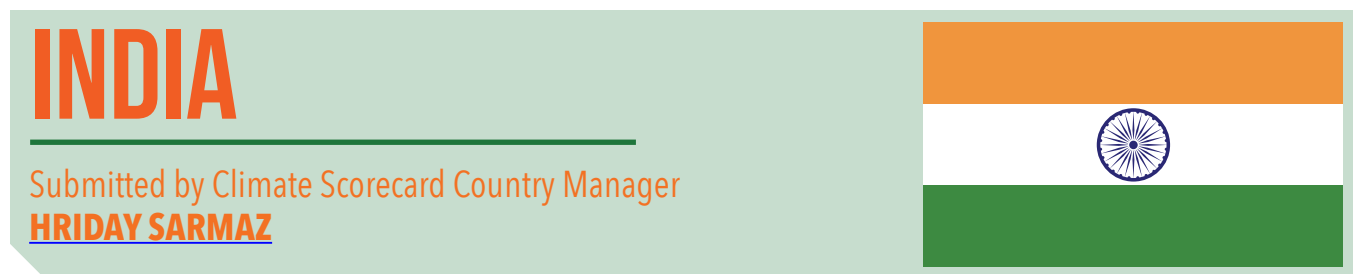
	2020	2025	2030	2035	2040	2050
Reduction in GHG emissions (compared with 1990)	40%		55%		70%	80-95%
Increase in share of RES in gross electricity consumption		40-45%		55-60%		At least 80%
Reduction of primary energy consumption (compared to 2008)	20%					50%
Reduction in gross electricity consumption	10%					25%
Share of electricity generation from CHP plants	25%					
Reduction of energy use in transport sector (against 2005)	10%					40%

BMW, 2014a, p. 4.

Other countries have similarly adopted Energy Transition policies include Austria, France, Japan, and the UK. The decarbonization of Germany's energy system is an element of upmost importance in the Energiewende, as the presence of coal power, according to a Green Party energy expert, will likely undercut attraction towards renewables. Additionally, the Energiewende is criticized to be too climate-centric and not enough involved in environmental issues, such as deforestation, which is a growing concern for the development of biomass and renewable farms. German policy measures, it would appear, could be improved if a common ground between marketable renewable expansion and empowerment of small-scale projects is found.

Learn More

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India: National Action Plan for Climate Change (NAPCC) and The National Electricity Policy (NEP)

The central government in India predominantly holds legal authority to develop and implement national GHG mitigation policies and programs, but states also play a significant role.

One of the key regulations with implications for GHG mitigation is the National Action Plan on Climate Change (NAPCC) released on 30th June 2008. The NAPCC attempts to build a single framework for the policies and programs, which existed when it came into force as well as future ones, which are directed at climate change mitigation, adaptation and knowledge management. The plan identifies 8 "national missions" that forms its core.

These are:

- a) National Solar Mission
- b) National Mission for Enhanced Energy Efficiency

- c) National Mission on Sustainable Habitat
- d) National Water Mission, National Mission for Sustaining the Himalayan Ecosystem
- e) National Mission for a "Green India"
- f) National Mission for Sustainable Agriculture and
- g) National Mission on Strategic Knowledge for Climate Change.

As for NAPCC's practical execution, in 2009 the Prime Minister's Council on Climate Change called upon all the states in the country to prepare State Action Plans on Climate Change (SAPCCs) consistent with the strategy outlined in NPACC. The Ministry of Environment, Forests & Climate Change, (MoEF&CC) was assigned as the Nodal Ministry for Climate Change in India and undertook the assignment of providing guidance and technical assistance to the state governments in this endeavour.

The NAPCC's seven missions have achieved significant results in their respective domains, which in-turn has lead to positive contributions being made towards GHG mitigation. For example: the Jawaharlal Nehru National Solar Mission (JNNSM), which was launched under the NAPCC in 2010 with the objective of achieving grid parity by the year 2022, produced 2,970 MW of grid-connected solar generation capacity, 364 MW of off-grid solar generation capacity, and 8.42 million sq. meters of solar thermal collectors has been installed till date. The National Mission for Sustainable Agriculture has brought about the development of 11,000 hectares of degraded land. One million hectares have been brought under micro-irrigation to promote water efficiency.

Apart from the NAPCC there is in place the National Electricity Policy (NEP) that the Government of India put out in 2005. It has also achieved considerable impact on reducing GHG in the country. The policy came about as a result of the Electricity Act of 2003, which requires state electricity boards to facilitate the supply and distribution of renewable energy, along with traditional electricity. The policy is administered by the Ministry of Power (MoP) and envisions a progressive increase in the share of electricity from nonconventional sources.

The NEP outlines a plan for rural electrification with increased generation capacity. It states "maximum emphasis" for the development of hydro power, stipulates for clean use of thermal power by using low-ash coal, improving lignite mining, and increased use of natural gas and nuclear power. It lays out recommendations for improving efficiency of the power grid in the country with better transmission and distribution of power. It also calls for the use of the most efficient technologies and more funding for R&D.

As a result, the long-term decline in the ratio of CO₂ to GDP appears to have slowed or halted recently. This is important because India's voluntary international commitments for emissions are couched in terms of a long-term decline in the ratio of emissions to GDP.

The aforesaid policies that India has implemented, although relatively successful, however have not tuned out as silver bullets for reigning over the problem of increasing GHG emissions in the country. These policies basically have been experiments on the part of the India's central government authorities to continue with the economic development of the country while simultaneously treading on the path of climate change mitigation in the future. Change needs to be divested among all stake-holding actors in the country.

Learn More

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INDONESIA

Submitted by Climate Scorecard Country Manager
TRISTAN GRUPP



Indonesia: National Action Plan for Greenhouse Gas Reduction (RAN-GRK) and The National Action Plan on Climate Change (RAN-API)

Background on Indonesia's National Climate Change Policy

In 2009 at the G20 summit, Susilo Bambang Yudhoyono, the previous president, called for the emissions target that become the basis for Indonesia's INDC in 2015; a 26% reduction in greenhouse gas (GHG) emissions below business-as-usual by 2020 and up to 41% reduction by 2020 with international assistance. The current INDC stands at 29% reduction by 2030 and the same 41% conditional target. In 2011, Yudhoyono declared Presidential Regulation no. 61 which included the National Action Plan for Greenhouse Gas Reduction (Rencana Nasional Penurunan Emisi Gas Rumah Kaca, RAN-GRK). Presidential Regulation No. 61 was the outcome of the G20 summit and the COP meetings in Cancun and Copenhagen. The decree intended to use RAN-GRK as a reference document for GHG emissions in any government development planning. RAN-GRK has been expanded since the decree. It identifies the actions that Indonesia will take to reduce its GHG emissions. In 2012, Bappenas (National Development Planning Agency) established a secretariat for RAN-GRK. The executive branch has largely developed and implemented RAN-GRK.

RAN-GRK's Reach

RAN-GRK is the "plan of action" for Indonesia's emissions reductions targets. RAN-GRK requires the participation of government ministries and institutions to reduce GHG emissions. RAN-GRK identifies

five major sectors that will be essential to achieve RAD-GRK's emission reduction target. These are: forestry and peatlands, agriculture, energy, industry, transportation, and waste. The responsible government ministries are BAPPENAS, the ministries of environment, forestry, agriculture, public works, industry, transportation, energy and finance. Although RAN-GRK is a national action plan, it also lays the foundation for the actions of provinces, localities, and private enterprises to implement GHG reductions. RAN-GRK mandates that Indonesia's provinces develop and submit a Local Action Plan (RAD-GRK). RAN-GRK provides capacity building, budgets and potential participation in domestic and international markets to local governments to incentivize them to contribute to RAN-GRK's goals. RAD-GRKs are tailored to the development plans of each of the provinces. The Ministry of Home Affairs with the support of Bappenas and the Ministry of the Environment oversees and coordinates the preparation of RAD-GRKs. Bappenas creates the guidelines for each of the local action plans. Local Actions Plans are planned with these expectations:

- Calculation of GHG inventory and of a provincial multi-sectoral BAU baseline.
- Identification and selection of mitigation actions.
- Development of mitigation scenarios according to selected and prioritized GHG mitigation actions in line with their local development priorities and plans.
- Identification the key stakeholders/institutions and financial resources.
- Local governments also can encourage the involvement of public and private companies by raising awareness of the climate change impacts and facilitating public private partnerships (among other options).

Taken from the RAN-GRK secretariat webpage. See "Learn More" below under RAN-GRK and RAD-GRK.

How RAN-GRK Functions, RAN-API

Indonesia's unifying national policy framework is the National Action Plan on Climate Change (RAN-API). Established in 2007 by the Environment Ministry, RAN-API is coordinated by the National Council on Climate Change which is composed of 17 ministers and is chaired by the president. RAN-API brings together many different mitigation strategies. These include Indonesian Adaptation Strategy (Bappenas 2011), National Action Plan for Adaptation to Climate Change For Indonesia (DNPI, 2011), Indonesia Climate Change Sectoral Roadmap (Bappenas 2010), the National Action Plan for Climate Change Mitigation and Adaptation (Ministry of the Environment, 2007), and the sectoral adaptation plans by line ministries/government agencies. RAN-API strengthens RAN-GRK's seven mitigation actions through these ways and helps achieve the 2019 target of 26% GHG emissions reductions. These mitigation actions are:

1. Sustainable peatland management
2. Reduction in rate of deforestation and land degradation
3. Development of carbon sequestration projects in forestry and agriculture
4. Promotion of energy efficiency
5. Development of alternative and renewable energy sources
6. Reduction in solid and liquid waste
7. Shifting to low-emission transportation modes

Learn More

Presidential Regulation no. 61/2011: <http://theredddesk.org/countries/laws/presidential-regulation-no-612011-regarding-national-action-plan-ghg-emission>

Summary of RAN-GRK: <https://hub.globalccsinstitute.com/publications/development-indonesian-namas-framework/i4-ran-grk-national-action-plan> the rest of the report, which includes this section on RAN-GRK, also discusses Indonesia's NAMA and gives assessments of the different sectors that the NAMAs seek to influence.

RAN-GRK and RAD-GRK: <http://www.sekretariat-rangrk.org/english/about/about-rangrk/relation-of-ran-and-rad-grk>

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RAN-GRK summary and comparison with other countries' NAMAs: https://mitigationpartnership.net/sites/default/files/2011_wi_wanghelmreich_current_developments_in_pilot_namas_of_developing_countries.pdf

CAIT from WRI tracks and reports on each province's adaptation plan in a very accessible way: <http://cait.wri.org/indonesia>

For more information about Bappenas's MER system: Climate Change Policy in Indonesia edited by Shinji Kaneko and Masato Kawanishi, section 2.3.2

INCAS's land use MRV across Indonesia, data from INCAS and the reported measurements: <http://www.incas-indonesia.org/data/national-data/>

Background on MRV and INCAS: <http://www.thejakartapost.com/news/2015/10/07/indonesia-aims-unified-reliable-greenhouse-gas-data.html>

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Italy: The Energy Efficiency Scorecard and the Conto Termico

According to the International Energy Efficiency Scorecard (IEES) Italy ranked second for its energy efficiency policies and programs in both 2014 and 2016. Two key policies put in place by the Italian government are the energy efficiency certificate (EEC) trading scheme that targets energy service companies (ESCO) entities and the *Conto Termico*, that targets the building sector. For the purpose of this report the EEC trading scheme will be analyzed.

Energy efficiency certificates, also known as white certificates, impose energy saving targets on energy companies and allow the trade of energy savings certificates between high and low performers. In other words, it gives incentives to energy companies to identify and address some of the market failures that occur in the markets for energy-efficiency.

From 2006 to the end of 2013 the program released 23,479,144 EEC saving a total of 17,646,778 million tons of oil equivalent in primary energy. Until 2012, most of the savings occurred within the residential and commercial sectors. However, starting in 2012 the industrial sector is the one providing the most savings, accounting for 62% of total savings in 2015.

The EEC mechanism is the key policy tool to reach the 20% reduction in energy use by 2020 as mandated by the European Union (EU): the EEC will account for about 60% of the required savings. The EEC policy was first implemented in the UK in 2002 and then other countries such as Italy and France adopted similar schemes in 2005 and 2006 respectively. These are national policies that vary across countries in terms of target, eligible projects, enforcement mechanism and overall governance. Thus, the high degree of flexibility in terms of target and governance allows any country to set up similar schemes to achieve national energy efficiency goals.

In Italy, the energy efficiency certificate scheme was put in place in 2004 by the Italian government through a Ministerial Decree. Subsequent amendments followed in 2009 and 2012 to increase the energy savings goal, update technical regulations, and expand the coverage to include large projects. Over time the government revised the target for the EEC system to mandate more stringent goals and raise the bar for energy efficiency savings even higher. For example, if in 2013 total energy savings goal is 5.51 million total, for 2016 the figure is 9.61, over a 40% increase.

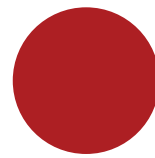
Learn More

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JAPAN

Submitted by Climate Scorecard Country Manager
KENTA MATSUMOTO



Japan: The Tokyo Cap and Trade System

Tokyo, the capital of Japan and one of the world's largest cities, emits a total 59.6 million tons of greenhouse gas per year. Tokyo's Cap-and-Trade has been implemented since April in 2010 as Japan's first cap-and-trade emissions trading program. The Tokyo Metropolitan Assembly approved the bill that introduced mandatory targets for greenhouse gas emission reduction based on Tokyo Climate Change Strategy in June 2007. The program was modeled after the Emission Trading System (ETS) of the European Union (EU) and was put in place in April 2010. What should be noted is that Tokyo Cap-and-Trade was the first cap-and-trade program to be implemented not only for Japan but also for Asia as a whole. According to a flash report published by the Tokyo Metropolitan Government in 2015, Tokyo Cap-and-Trade has achieved a 25% reduction in greenhouse gas emissions compared to base-year emissions, which is the largest reduction rate in the past 5 years. Tokyo Cap-and-Trade requires 8% greenhouse gas emission reductions in business facilities such as office buildings, and 6% emission reductions in industrial facilities such as factories during a five-year compliance period (2010-2014). Also, it requires owners of these facilities to submit a report of the previous year's emission. The best news is that over 90% of targeted facilities have achieved their reduction targets. Tokyo Cap-and-Trade was highlighted as an exemplary program by UNFCCC in 2014, which indicates that the program is receiving attention all around the world. Tokyo Metropolitan Assembly recently set a new reduction target (cap), "30% reduction from the 2000 level by 2030".

Learn More

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[TMG.pdf](#)

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MEXICO

Submitted by Climate Scorecard Country Manager
[RAIZA PILATOWSKY](#)



Mexico: The General Law on Climate Change

The General Law on Climate Change (GLCC) is Mexico's main legal instrument for climate change mitigation and adaptation. At the time of its endorsement in 2012 it represented a milestone in legal and regulatory development for the country, since it incorporated the institutionalization of former policies that the government had developed about climate change.

Mexico's major policies on climate change and GHG emission reduction stem from its adherence to international conventions and protocols. Following Mexico's role as host for the COP16 in 2010, and inspired by the UK's Climate Change Act of 2008, former Minister of Environment and Natural Resources, Senator Alberto Cárdenas, proposed a bill to establish GLCC with the support of 28 fellow senators. After negotiating with parties of the opposition and private stakeholders, and integrating seven different proposals, the bill was approved by the Senate in 2011 and sent to the Chamber of Deputies for its revision. Finally, it was signed in June of 2012 by then President Felipe Calderón, and Mexico became the second developing country with a law of this sort after South Korea.

Since its publication, the GLCC brought some positive results on the short term. Some examples are: the transformation of the National Institute of Ecology into a decentralized Institute of Ecology and Climate Change; the creation of different mechanisms for evaluation, participation and surveillance; the introduction of a National Fund for Climate Change; and the development of long and short term planning instruments like the National Strategy and Special Program on Climate Change. The Law has also been praised for its inclusion of different sectors and levels of the government, for updating national inventories on gas emissions, and for establishing an article that prevents the lessening of previously settled goals in new revisions or proposals by the country on GHG emission.

Since 2015, an official committee has been evaluating the performance of national policies on climate change and once they're finished, they aim to issue recommendations to the Federal Government. So

far, some of the criticisms of the Law are that it hasn't succeeded on a state level, resulting in a lack of state planning on climate change, and its top-bottom approach that fails to include local groups and social participation.

Although almost all the Latin American countries have their own policies and institutions regarding climate change, Mexico's GLCC could set an example for those that still lack their own framework laws, like Argentina, Chile or Uruguay.

Learn More

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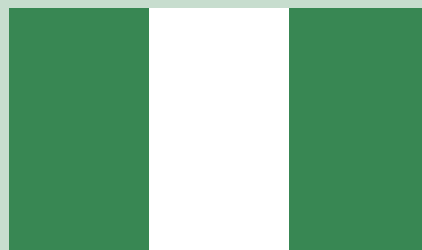
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NIGERIA

Submitted by Climate Scorecard Country Manager

CHIUDO EHRIM



Nigeria: Nigeria Climate Change Policy Response Strategy

Nigeria is yet to have any climate change specific law enacted by the National Assembly (the legislative arm of government) and assented to by the President (London School of Economics and Political Science, 2013). The country has however adopted several environmental and sectoral policies, strategies, and plans where climate change adaptation could apply; though at present their use in enabling and supporting climate change adaptation is limited (BNRCC, 2011). In 2012, the Federal Executive Council adopted a comprehensive strategy policy on climate change: the Nigeria Climate Change Policy Response and Strategy (New Climate Institute, 2015). The overarching objective of the policy is to promote low-carbon, high-growth economic development and build a climate-resilient society through the achievement of the following targets (London School of Economics and Political Science, 2013; UNFCCC, 2015):

- Implement mitigation measures that will promote low carbon as well as sustainable and high economic growth;
- Enhance national capacity to adapt to climate change;
- Raise climate change related science, technology and R&D to a new level that will enable the country to better participate in international scientific and technological cooperation on climate change;
- Significantly increase public awareness and involve private sector participation in addressing the challenges of climate change; and
- Strengthen national institutions and mechanisms (policy, legislative and economic) to establish a suitable and functional framework for climate change governance.

Success of the Policy

Through the policy, Nigeria intends to foster sustainable development by means of national initiatives that strengthen the country's strategies on climate change preparedness, adaptation and mitigation across all sectors of society including vulnerable groups (London School of Economics and Political Science, 2013). The success or failure of the policy is still too early to determine given that it has only been recently adopted.

Advocates and Supporters for the Policy

A number of studies on climate change vulnerabilities and adaptation strategies have been conducted by civil society groups, academia, faith-based organizations, the private sector, government agencies and international donor organizations. These efforts led to the publication of the National Adaptation Strategy and Plan of Action for Climate Change Nigeria in 2011; the document describes strategies, programs and measures for 13 important economic and social sectors (UNFCCC, 2015; AAP Nigeria, 2016). Though this policy document did not find official support (London School of Economics and Political Science, 2013), the efforts of the aforementioned groups contributed to the adoption of a National Climate Change Policy and Response Strategy by the Federal Executive Council.

Increasing Policy Capacity

There have been calls to establish a national climate change commission that would coordinate climate issues nationwide (Ekpoh, 2014). A bill on setting up the commission however is yet to be approved. In the meantime, there is the Department of Climate Change, within the Federal Ministry of Environment, that is responsible for the handling of climate change issues. The Federal Government of Nigeria has also established the National Climate Change Trust Fund and the Environmental Sustainability Group to design and attract financing mechanisms for adaptation initiatives (AAP Nigeria, 2016).

Given its recent adoption, it is yet to be seen if there is need to increase the capacity of the policy to improve reduction of greenhouse gases and what lessons, if any, there are for possible adoption/ adaptation by other countries.

Learn More

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POLAND

Submitted by Climate Scorecard Country Manager
KATHLEEN GORMAN



Poland: Sustainable Energy Plan for Warsaw in the Perspective of 2020 (SEAP)

"There are no effective national policies" currently in place that have any ability to reduce Poland's greenhouse gas emissions, says Kuba Gogolewski of Development YES–Open Pit Mines–NO (DY–OPMN), an NGO that is looking to stop the country's continual investment in coal mining and transition Poland to an economy based in renewable energies. "The policies that are most efficient are the regional policies for the development of low emissions strategies and renewables energies, rather than central strategies," he goes on to say.

The most prime example of this is the country's capital. With a population of 1.7 million, Warsaw is going down a much cleaner path than the rest of the country. The current ruling conservative right-wing Law and Justice Party (PiS) has committed the national government to coal for Poland's energy future. Conversely, Warsaw's Mayor Hanna Gronkiewicz-Waltz, a member of the more centrist Civic Platform Party, is an advocate of both sustainable development and climate action. She has also been repeatedly outspoken about Poland's pro-coal status, and has criticized the "undemocratically" and "unambitious" decisions made by the Polish government concerning decarbonization efforts and clean energy targets.

Since she was first elected into office in 2006, Gronkiewicz-Waltz has made sure her city reflects her beliefs. In 2009, the city became a member of the Covenant of Mayors for Climate and Energy, a coalition of regional and local European leaders committed to implementing EU standards for climate protection and energy efficiency. Gronkiewicz-Waltz managed to make Warsaw a leader in local renewable energy use through efforts set forth in the Sustainable Energy Action Plan for Warsaw in the Perspective of 2020 (SEAP) (2011).

Though SEAP had the political powerhouse Gronkiewicz-Waltz behind them, it was ultimately the residents of Warsaw that decided to go down this clean path. Much of the EU's most polluted air is found in Polish cities, turning it into a national health issue. The plan addresses the concerns of residents and provides an outline for air quality improvements.

SEAP is a unique plan that directly lays out what the local government needs and doesn't need to do, not just make nebulous suggestions like many national policies before it. Based on EU standards, SEAP's goals aim for Warsaw to cut its dioxide emissions by 20%, reduce energy consumption by 20%, and increase the use of energy from renewable sources by 20%, all by 2020 (compared to the base year of 2007).

With €2 billion of investments, in 2014, Warsaw made its way to the halfway mark of achieving these goals. Transportation, which is responsible for 15% of Warsaw's total greenhouse gas emissions, has been modernized to not only make it more appealing over private transportation, but to include energy-efficient trains, and electric buses and trams when possible. Public bike stands have been set up to reduce private transport. Hybrid vehicles have replaced usual city vehicles (such as garbage trucks). The housing sector was also made more energy efficient through lighting upgrades, energy efficient appliances, and thermal retrofit (insulation to save on heating). Together this is meant to cut back on heat and electricity which make up 78% of Warsaw's greenhouse gas emissions.

Lastly, the most important part of these plans is the cultural change Warsaw is promoting. Through education and public awareness (such as educating students on energy issues in the classroom and Warsaw Energy Day), the city is shifting the view citizens have on clean energy and climate change.

Despite Warsaw's shining example, and similar policies that already exist in Germany and other Nordic countries which could easily apply to Poland's similar climate (particularly when it comes to their wind energy potential), other regions in Poland haven't gotten the message. In theory, these policies could be extended to the national level.

However, “there just isn’t the political dynamic for change,” as Kuba Gogolewski puts it. “I don’t think either this election or any election will bring any changes on the central government.” He goes on to describe how there will only be a real change brought about by economic incentive. This could happen in two ways, either clean energy will flood the market with cheap energy, and drive more expensive coal out. Another way could be what is also happening in Warsaw right now, where policies that promote energy efficiency lead to economic outcomes that residents approve of such as a cheaper electric or heating bills.

Because of this and Poland’s status as a post-communist society, measures that would involve every citizen aren’t always warmly welcomed. While Poland’s policies might try to softly incentivize people to participate and attract support through economic breaks, countries without a similar past could probably be more direct when it comes to changes in citizen’s lives that would benefit the clean energy and climate protection sectors.

Lastly, one unique aspect of Poland that might affect how this policy could be adopted in other countries is state-ownership. Public transportation, power plants, even some housing are all state-owned, which can have its benefits and pitfalls. In Warsaw, it allowed for easy transition to make homes more energy efficient, because government officials didn’t have to negotiate with private owners. However, outside of Warsaw, state-owned coal power plants are protected, leading to no true effective national policy to reduce greenhouse gas emissions in Poland.

Learn More

Read more about SEAP at: http://mycovenant.eumayors.eu/docs/seap/19658_1432717790.pdf

Read more about what the Mayor of Warsaw has to say about “Financing Sustainable Global Cities of the Future” <http://voices.nationalgeographic.com/2016/06/03/financing-sustainable-global-cities-of-the-future/>

Read more about Warsaw’s leading sustainable energy policies are an inspiration for LED http://urbanleds.iclei.org/index.php?id=127&tx_ttnews%5Bttnews%5D=209&cHash=fa8e8f52f8120edbe52ceae0d73ad0f4

RUSSIA

Submitted by Climate Scorecard Country Manager
DR. ELENA ZAIKA



Russia: Presidential Decree No. 889, Federal Law No. 261-FZ, State Program in Energy Efficiency and Energy Sector Development

The carbon footprint of Russia is influenced by the following characteristics:

- Russia is one of the worldwide leaders in oil and gas production;
- The country economy is based on energy-consuming industry with heavy and partially old technologies;
- Fossil fuels are accessible and not expensive, and 68.1% of power is generated by combustion of fossil fuels

The overall level of energy consumption in Russia is relatively high due to the cold climate and lack of natural limitations. Fossil fuels prices are affordable for the population and industries. Most of the heat and electricity is supplied to the customers from the united grids and centralized heat distribution systems considered as being more practicable and reliable for the Russian conditions.

The national strategy in respect to the reduction of greenhouse gas emissions is yet to be developed. So far, there has been no structured policy on the GHG emissions reduction. The carbon trade instruments under the Kyoto protocol were implemented in part and did not have any significant outcome.

However, a nation-wide initiative for energy efficiency improvement which started almost 8 years ago has had meaningful positive impact on the GHG emissions issue. In 2008, the President's Decree no.889, "On certain measures for increase of energy and environmental efficiency in the Russian economy," established the goal to reduce the Russian GDP energy intensity by 40% of the value of 2007 by 2020 and prescribed the development of technical regulation tools, relevant legislation and appropriate budgeting.

In 2009, Federal Law no. 261-FZ, "On Energy Savings and Increase of Energy Efficiency," was adopted. This Law established the legal, economic and administrative framework for promotion of energy savings and efficiency improvements. It also determined the deadlines for mandatory installation of measuring devices in order to control actual energy consumption and payments.

On December 27, 2010, the State Program, "Energy Savings and Increase of Energy Efficiency for The Period by 2020," was approved by the Government of the Russian Federation. In 2014, this program became an essential part of a larger State Program, "Energy Efficiency and Energy Sector Development", also adopted by the RF Government. The key goal of the programs by 2020 is the reduction of the Russian GDP energy intensity by 13.5% over the base rate in 2007. The implementation of the Program's actions, together with the economy restructuring measures, seeks to provide an overall 40%

reduction.

The program provides organizational guidelines for management system improvement, development of technical regulations, awareness raising, informational support, etc. The program has also established goals for energy use in different sectors including an oil refining efficiency rate, limits for electricity losses in grids and rated energy and fuel consumption for oil, gas and coal production.

Since the end of 2014, Ministry of Energy of the RF has prepared an annual report on energy efficiency in order to monitor the results and performance of the State Programs implementation. The first report was prepared in 2015 for the year of 2014, the next report of the year of 2015 is ready in Final Draft status.

In 2008, the goal of a 40% reduction in energy usage was based on the forecast that the national GDP will increase 2.3 times by 2020 (1.7 times by 2015) and investments will increase by 11% annually. It also was anticipated that there would be increases in the input of immovable property, communications, engineering, infrastructure and social sectors and that energy use in the transport, power and mining sectors will decrease over time.

Despite the lesser level of performance improvement in energy efficiency than planned, the Program has had a very positive impact in Russia in general, creating an all-Russian trend of energy efficiency oriented development. Each new development or reconstruction project includes the mandatory energy efficiency practices applicable for the wide range of the project issues from management to equipment selection. A special national BAT Reference Document on energy efficiency was developed and is followed by the companies in their practice. Large companies, based on their energy consumption level and energy efficiency performance, develop and implement programs. In their annual public reports and state statistical reports, they report on their improvement and include relevant information of their energy efficiency.

Though improvement in energy efficiency does not equate directly with the progress in reduction of GHG emissions, it has an overall positive impact on reduction of power demand in the country and therefore contributes to a decrease in power generation.

The RF energy policy and programs have the potential to improve energy efficiency throughout Russia. The existing programs need to be revised and soon will be updated to reflect the current economic situation.

Learn More

Publications on energy efficiency in Russia: http://www.cenef.ru/art_11212_119_node2.html

State reports on energy efficiency: <http://minenergo.gov.ru/node/5197>



Saudi Arabia: Fuel Economy Standards for Imported Vehicles; Insulation Standards for New Buildings; and Minimum Energy Standards for Air-Conditioners

The current Saudi Arabia national policy is focused on energy efficiency and a reduction in domestic oil consumption. The three pillars of the energy efficiency policy are fuel economy standards for imported vehicles by 2020, insulation standards for new buildings, and tightened minimum energy performance standards for air conditioners (IEA, 2014)

Fuel Economy Standards for Imported Vehicles

The beginning phase of introducing the fuel efficiency standards for new and used LDV gradually took effect in January 2016 and will be fully in effect on December 31, 2020. Overall, it is too early to evaluate its success. Tentatively, the plan and its targets will be reviewed by December 2018.

The Saudi Energy Efficiency Center (SEEC) has advocated for applying this policy and got the approval and commitment of more than 80 companies that represent 99% of vehicle sales in the Kingdom to implement Saudi fuel economy standards for LDV. Currently, this policy is being applied only to a used vehicle. It could be increased in capacity in the future to expand its scope of enforcement to apply to new cars.

Insulation standards for new buildings

The Kingdom has introduced industrial standards for buildings to be implemented voluntarily by stores and commercial buildings.

The insulation standards face some obstacles because the Saudi Building Code of 2007 is quite complicated, long and outdated. Currently, the Saudi Code is written in accordance with international standards on insulation of walls, roofs and floors that mostly suit EU and US weather conditions. The Saudi Code needs to be amended to accommodate the high heat index in the Kingdom.

The Insulation standards for new buildings policy was established by the Saudi Energy Efficiency Centre (SEEC) at the King Abdulaziz City for Science and Technology (KACST), which is part of the Riyadh government's efforts to work on demand-side energy efficiency programs.

Tightened minimum energy performance standards for air conditioners (IEA, 2014)

In September 2013 the Saudi government began to implement new appliance standards for air-conditioning units, both imported and locally produced. At the beginning of January 2014 these standards began to be implemented on appliance showrooms.

The new appliance standards for air-conditioning units, both imported and locally produced have been successful. As of 2014, 50,000 air conditioners that did not meet the country's energy saving requirements had been removed by the Ministry of Commerce and Industry.

The tightened minimum energy performance standards for air conditioners are based on International Energy Agency policy that emphasizes sustainable energy practices to limit the energy consumption by introducing new technologies in ventilation and HVAC units.

Learn More

<http://climateactiontracker.org/countries/saudi-arabia.html>

<http://www.theicct.org/proposed-saudi-arabia-cafe-standard-new-ldvs-2016-2020>

http://www.theicct.org/sites/default/files/publications/ICCTupdate_KSA-CAFE-proposal_20141218.pdf

http://www.saso.gov.sa/ar/mediacenter/Used_Car_Campaign/Pages/default.aspx

https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/120831_Akhonbay_SaudiArabiaEnergy_Web.pdf

<http://www.arabnews.com/news/545031>

<http://www.greenprophet.com/2014/10/saudi-arabia-to-become-more-insulated-than-ever/>

https://www.researchgate.net/publication/272114897_Design_Guidelines_for_Buildings_in_Saudi_Arabia_Considering_Energy_Conservation_Requirements

<http://www.globalinsulation.com/news/itemlist/tag/Saudi%20Arabia>

<http://www.iea.org/ieaenergy/issue7/saudi-energy-mix-renewables-augment-gas.html>

http://www.sa.undp.org/content/saudi_arabia/en/home/ourwork/environmentandenergy/successstories/ee_implementation.html

SOUTH AFRICA

Submitted by Climate Scorecard Country Manager
LEE-ANN STEENKAMP



South Africa: National Climate Change Response Policy White Paper (NCCRP)

South Africa launched its National Climate Change Response Policy White Paper (NCCRP) in 2011, prior to hosting the 17th session of the Conference of the Parties (COP 17) to the United Nations Framework Convention on Climate Change (UNFCCC) in Durban.

The NCCRP was approved by its Cabinet in October 2011 (Gazette No. 34695, Notice No. 757, 19 October 2011). This White Paper is South Africa's first policy focusing specifically on climate change

The White Paper represents the culmination of an iterative and participatory policy development process that was started in October 2005. The White Paper is founded on section 24 of the Constitution protecting the right to a healthy environment, and supporting the objectives of the National Environmental Management Plan (NEMA), the National Development Plan and international instruments to which South Africa has agreed, such as the Millennium Declaration and the UNFCCC.

The Department of Environmental Affairs delivered presentations on the developments that lead toward the NCCRP and on the strategies outlined in the policy. South Africa had signed the Kyoto Protocol in 2002. Subsequently, in 2005, a ground-breaking climate change conference was held which yielded a Long-Term Mitigation Scenarios process. This process outlined two major scenarios: *growth without constraints* and *required by science* and then modeled the results of different strategies to close the gap between the two scenarios. Carbon pricing was found to be the most effective strategy overall. A draft Green Paper was published in November 2010 and went through a wide consultative process with stakeholder participation and review which saw 4,000 issues raised. The White Paper was published on 19 October 2011.

The NCCRP provides an overarching policy framework for facilitating a just transition to a low carbon, climate resilient economy. It presents the South African government's vision for an effective climate change response and has two objectives:

- Effectively manage climate change impacts through interventions that build and sustain South Africa's social, economic and environmental resilience and emergency response capacity; and
- Contribute fairly to the global effort of stabilizing GHG concentrations.

The policy provides for the use of incentives and disincentives (or penalties), including regulatory, economic and fiscal measures.

To monitor the success of responses to climate change and to replicate those that will be proven to work well, Environmental Minister Edna Molewa said there was the need to measure the cost, outcome and impact of such responses. To that end, a Climate Change Response Measurement and Evaluation System (MRV) was formulated. The NCCRP frames MRV in terms of 'Monitoring and Evaluation', which is a function established in the Presidency, headed by a Minister in the highest political office.

The Department of Environmental Affairs (DEA) was the main architect of this policy framework, with support from various industries and stakeholders.

It could be argued that the driving force pushing South Africa into renewable energy policies was not a result of a major commitment to addressing the issues of climate change. Rather, the change in the renewable energy policy debate was triggered by a crisis in the supply of electricity. This was a result of the load shedding (or rolling blackouts) initiated by the power utility, Eskom, in 2008 and again in 2014.

Notwithstanding that production costs of non-renewable energy fall each year, renewable energy in South Africa still requires an enabling environment to become even more competitive relative to traditional energy sources. In its *White Paper on the Renewable Energy Policy*, the South African government recognizes that the development of fiscal, financial, and legislative instruments will be required to stimulate the increased use of renewable energy technologies. One such fiscal instrument is South Africa's proposed carbon tax, which is likely to come into effect during 2017 (although further delays could ensue).

Learn More

The NCCRP is available at: https://www.environment.gov.za/sites/default/files/legislations/national_climatechange_response_whitepaper.pdf

For more background on climate change in South Africa and some measures to promote environmental sustainability, see <https://www.wits.ac.za/media/wits-university/faculties-and-schools/commerce-law-and-management/research-entities/mandela-institute/documents/research-publications/Background%20paper%20for%20the%20climate%20change,%20energy%20and%20the%20environment%20workshop.pdf>.

For a discussion of the political economy of renewable energy in South Africa, read

http://www.prism.uct.ac.za/Papers/ER128_PoliticalEconomyofClimaterelevantChangePoliciesandtheCaseofRenewableEnergyinSouthAfrica.pdf

To learn more about South Africa's approaches to measuring, reporting and verifying, see http://www.erc.uct.ac.za/sites/default/files/image_tool/images/119/Papers-2012/12-Boyd-et-al_Approches_to_MRV.pdf.

The *White Paper on the Renewable Energy Policy of the Republic of South Africa* is available at: http://www.gov.za/sites/www.gov.za/files/26169_1.pdf

For a brief account of the launch of the NCCRP, see <http://www.southafrica.info/about/sustainable/climate-191011.htm#V-7rMIh97cs>

SOUTH KOREA

Submitted by Climate Scorecard Country Manager
EUNJUNG LIM



South Korea: Second National Energy Principles and the Renewable Portfolio Standard (RPS) System

South Korea's pledge at COP21 in Paris is to reduce 37% of its GHG emissions from the business-as-usual (BAU, 850.6 MtCO₂e) levels by 2030 in all economic sectors. Out of 37%, 25.7% is supposed to be reduced domestically, and 11.3% is to be through International Market Mechanism (IMM). According to the US Energy Information Administration (EIA), the industrial sector continues to account for the largest share of global energy consumption, and is expected to consume over half of global delivered energy in 2040.¹ In South Korea, on the other hand, the energy sector accounts for 87.7% of carbon generation due to a relatively high efficiency in the manufacturing industry. Thus, reducing carbon emission in the energy sector is regarded as crucial, and electricity generation is evaluated as the main culprit of GHG emissions: 45% of the energy sector's GHG emissions in 2013 was from electricity generation; 30% was from the energy industry; 15% was from transportation; and 9% was from the commercial sector.²

Electricity generated in South Korea was approximately 522 terawatt hours (TWh) in 2015, and the composition of electricity generation by source was as follows: 206 TWh from coal, 164 TWh from nuclear, 104 TWh from gas, 24 TWh from oil, and 23 TWh from renewable sources (including hydroelectricity).³ In terms of facility capacity, the nuclear capacity of 24 reactors occupied approximately 22% of the total capacity in 2014.⁴ According to the Second National Energy Principles released by the South Korean government in 2014, South Korea aims to increase the portion of nuclear facility capacity from the current level of 22% to 29% by 2035. Furthermore, South Korea aims to increase the portion of electricity generation by nuclear power from 34.9% (as of 2007) to 41.3% (as of 2020) and the portion of renewable sources from 1.0% (2007) to 4.8% (2020).⁵ Besides the government, South Korean power and utility companies including the Korea Electric Power Corporation (KEPCO) and Korea Hydro & Nuclear Power (KHNP) justify the increase in nuclear power use with the South Korea's pledge at COP21 in Paris.

In order to increase nuclear power capacity, four reactors are currently under construction or in preparation for construction on two sites, Uljin County and Ulsan City, but these are not enough to accomplish the nuclear energy objective. In December 2011, Samcheok City and Youngdeok County were selected as the candidate sites for new nuclear power plants, and then-Ministry of Knowledge Economy (now known as Ministry of Trade, Industry and Energy) selected these two as the candidate sites after environmental investigation and deliberation with the relevant authorities.

However, implementing this plan faces a multitude of challenges. Both towns above vetoed the government's decision through local referendums: Samcheok people held their voluntary referendum on October 8, 2014, with 84.97% opposing the government's decision (67.94% turnout); Youngdeok held a referendum on November 12, 2015 with a voter turnout of 32.53%, in which 91.7% voted in opposition to the nuclear plan. The South Korean government's stance is that these referendums are legally ineffective but local opposition is very strong. No further progress has been made to decide on new candidate sites as of September 2016.

Furthermore, after the largest-recorded earthquake (5.8-magnitude by Richter scale) that occurred in Gyeongju City (close to existing nuclear power plants and the site of low and intermediate radioactive waste disposal facility) on September 12, 2016, the South Korean public is becoming increasingly concerned about nuclear safety issues. In the political realm, there are more opposition voices at the National Assembly (the legislative body) after progressive parties won majority seats after the general election held on April 13, 2016. If the existing plan of increasing nuclear power capacity does not go well because of this sociopolitical opposition, South Korea's policies to accomplish the target pledged in Paris may need revision.

Meanwhile, South Korea changed its renewable energy policy from Feed-in Tariff (FIT) to Renewable Portfolio Standard (RPS) Systems on January 1, 2012, which mandates that power producers which have power generating facilities with installed capacity over 500MW produce a minimum proportion of their power using new and renewable energy sources. This policy change was essential to lowering the government's energy-related financial burden and expanding the supply of renewable energy; according to South Korea's aims, renewable energy would account for more than 10% of electricity generation after 2022. Some significant changes have been made since South Korea adopted RPS. Between 2001 and 2011 when FIT was implemented, the newly built renewable power plants capacity was only 0.9GW, but for the first 30 months since RPS was implemented, the newly built renewable power plants capacity reached 3.2GW.⁶ However, problems still remain; renewable energy production after RPS was adopted is mostly dependent on low-cost renewable energy, and it is too demanding for medium and small firms to participate in. As a result, the percentage of solar power that is relatively more accessible for smaller firms dropped from 50.7% (between 2001 and 2011 while FIT implemented) to 29.3% (between 2012 and 2014 Q2). Meanwhile, the percentage of bio energy increased sharply from 7.6% to 31.6%.

Endnotes

1 U.S. Energy Information Administration, Chapter 7. "Industrial sector energy consumption" <<https://www.eia.gov/forecasts/ieo/industrial.cfm>>

2 Ryu, Jae-hyun and Choong-hyun Kim, "The Era of Energy 2°C is coming." Mirae Asset Daewoo Research (May 2016). pp.3-9.

3 Korea Atomic Industrial Forum, <<http://www.kaif.or.kr/?c=dat&s=6>>

4 Korea Energy Economics Institute, *Monthly Energy Statistics*, September 2016, pp.68-69.

5 Yang, Maeng-ho, Jonghee Lee, and Su-eun Kim, "New (Post-2020) System for Climate Change and Nuclear." Nuclear Policy Brief Report (Korea Atomic Energy Research Institute, January 2016). pp.11-12.

6 Lee, Yong-beom, "Adopting RPS and Changes in Business Environment." Korea Investors Service PF Research (October 2014). pp.2-3.

SPAIN

Submitted by Climate Scorecard Country Manager
ANDREA DELMAR SENTIES



Spain: The Spanish Strategy of Climate Change and Clean Energy (EECCEL) and The Sustainable Economy Act

In Spain, two of the most well known national policies affecting greenhouse gas emissions are the Spanish Strategy of Climate Change and Clean Energy (EECCEL) and the Sustainable Economy Act. While Spain has had many challenges in reducing its carbon emissions and sustaining growth in the renewable energy sector due to its recent economic crisis, these two policies show promise that Spain is still dedicated to a future with cleaner energies.

The Spanish Strategy of Climate Change and Clean Energy was put into place in 2007 and is expected to run until 2020. Its policies, which were formally implemented in 2008, aim to reduce greenhouse gases, promote research, educate the Spanish population, reduce energy consumption, and encourage the development of clean energies. Additionally, the EECCEL has a section entirely dedicated to the challenges of reducing emissions in the transportation sector. The success of the EECCEL is difficult to pinpoint since some of its policies were unfortunately taken out of effect in 2012 due to the country's economic issues, such as the Feed-in Tariff scheme. However, the Strategy as a whole remains in place and its success is currently being monitored using such indicators as greenhouse gas emissions at regional and national levels, energy consumption in public administration buildings, the number of municipalities with their own climate change strategies, and more. Although Spain's greenhouse gas emissions continue to rise and the statistics alone reflect a bleak situation, it is important to remember that the Central Government of Spain was needed in order to pass the EECCEL and therefore, the urgency of implementing effective environmental policies is very much a priority for the government.

The concept of the Spanish Strategy of Climate Change and Clean Energy came out of the need to provide a type of environmental common ground among the national government, autonomous communities, provinces, and municipal levels of government. The political atmosphere in Spain is often tense because of some regions' long history of fighting for autonomy. As a result, the different regions of Spain have quite a bit of independence in choosing which policies will be enacted in their own governments. The EECCEL is in part meant to provide a reference for the standard of environmental politics in Spain and, as a whole, the autonomous communities have done an excellent job of enacting their own policies that adhere to the standard. Clearly, the EECCEL is unique to Spain, and if another country wanted to adopt it, that country would need to take into account its own political atmosphere in order to retain its effectiveness.

The Sustainable Economy Act was approved by Parliament in 2011 and is expected to run until 2020. The purpose of the Act is to boost Spain's economy and to prevent another economic crisis. Specifically, it will encourage innovation and efficiency in the renewable energies industry, support research efforts,

minimize energy dependency, facilitate the creation of companies, foster growth, and enable Spain to compete in the international market.

The success of the Sustainable Economy Act is being measured using the goals depicted in the image below.

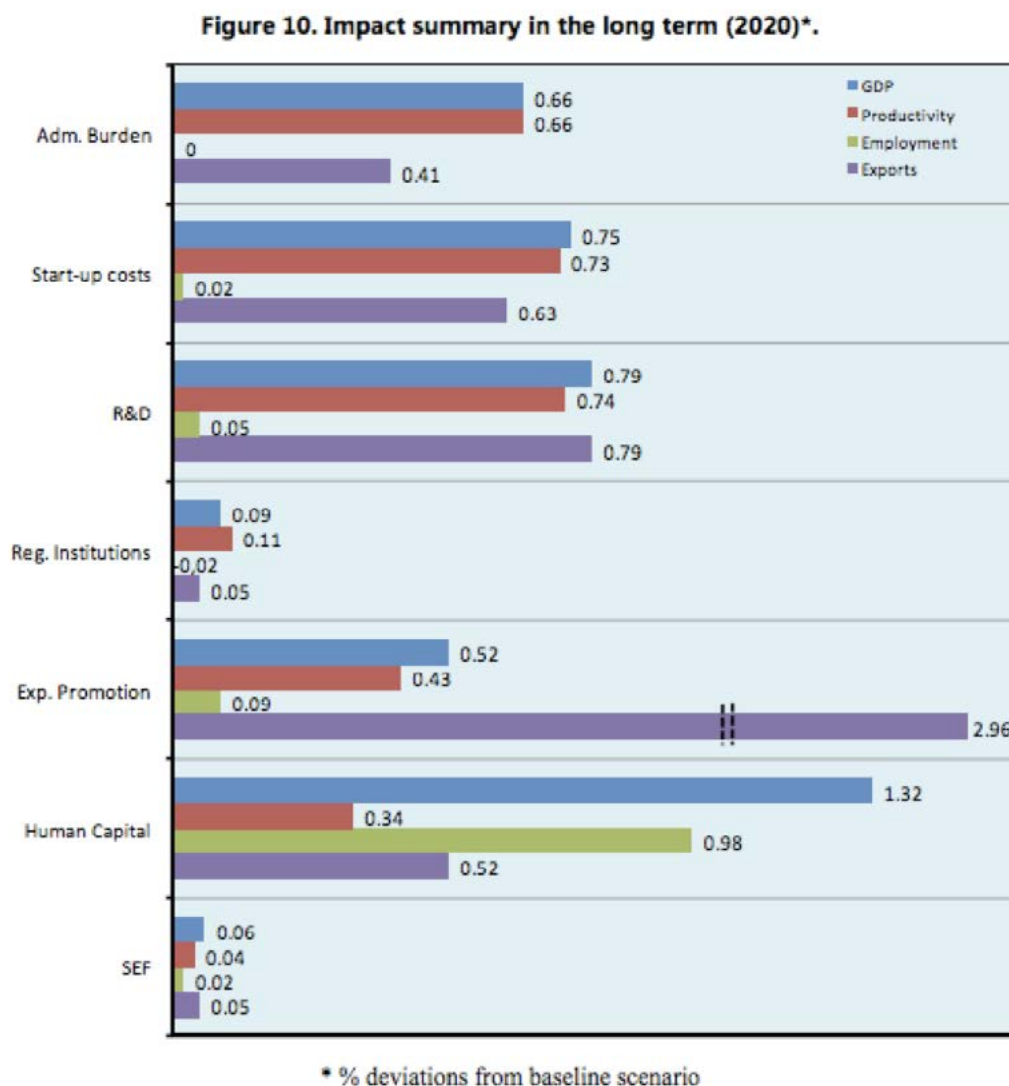
MEASURES	GOALS FOR 2020
Measures included in the SEL	
I. TFP growth	
A. Administrative burdens	50% reduction based on the current level
B. Cutback of administrative procedures to opening a business	i) social capital ranging from 3,000€ to 3,100€: within 1 day and less than 100€
	ii) social capital ranging from 3,100€ to 30,000€: within 5 days and less than 250€
C. R&D&Innovation Investment	Reach a 3% of GDP level in R&D&i expenditure
D. Regulatory Institutions reform	More effective monitoring and supervision
E. Increased support to exporting firms	Increase the number of exporting firms in 15,000
II. Human Capital	
A. Early school dropouts	Reducing the rate of early school leavers from the current 32% to 10%
Complementary instruments included in the Strategy for a Sustainable Economy	
III. Physical Capital	
A. Sustainable Economy Fund	Financing of private projects on priority activities for sustainability purposes

Source: http://ec.europa.eu/europe2020/pdf/nrp/nrp_spain_annex3_en.pdf

The policy came out of efforts to prevent another economic fallout and to help Spain recover from its current situation. The Sustainable Economy Act could likely be adopted by another country facing similar circumstances. The way in which any other country would adopt it would depend on which topics need attention. In Spain, the major issues affecting the economy are the unemployment rate and energy dependency. Another country wanting to adopt similar legislation would need to identify its areas of focus.

The Sustainable Economy Act and the Spanish Strategy of Climate Change and Clean Energy prove that the Spanish government is dedicated to reducing its greenhouse gas emissions, and finding ways to improve their economy and international standing in the process.

The anticipated effect of the Act has been calculated and is summarized in the image below.



Source: http://ec.europa.eu/europe2020/pdf/nrp/nrp_spain_annex3_en.pdf

Learn More

http://ec.europa.eu/clima/policies/strategies/progress/reporting/docs/es_2013_en.pdf

http://www.magrama.gob.es/es/cambio-climatico/publicaciones/documentacion/cle_ene_pla_urg_mea_tcm7-12478.pdf

<http://www.iea.org/policiesandmeasures/pams/spain/name-24697-en.php>

http://www.measures-odyssee-mure.eu/public/mure_pdf/general/SPA14.PDF

THAILAND

Submitted by Climate Scorecard Country Manager
NEEBIR BANERJEE



Thailand: The 15 Year Renewable Energy Development Plan and The 20 Year Energy Conservation Plan

Renewable energy and energy efficiency are the primary goals of climate change policy in Thailand. Development of renewable energy and energy efficiency is enhanced by national level policies. These include the 15-Year Renewable Energy Development Plan (REDP) and the 20-Year Energy Conservation Plan.

Based on domestic resources, the Government of Thailand developed a national level policy called the 15-Year Renewable Energy Development Plan (REDP) in order to strengthen the security of energy provision; promote the use of energy for an integrated green community; support the alternative energy technology industry; and research, develop, and promote high-efficiency alternative energy technologies (Ministry of Energy 2009). Renewable energy sources, which are developed under the REDP, are solar, wind, hydropower, biomass, biogas, municipal waste, ethanol, biodiesel and hydrogen. After the successful implementation of REDP, there will be greenhouse gas reductions of around 42MtCO₂ eq in 2022 (Ministry of Energy 2009). There are three major strategies, which are required for implementation of the plan:

- Supporting the production and utilization of renewable energy
- Supporting research and development into renewable energy
- Raising awareness and knowledge dissemination

In 2011, the Government of Thailand created a comprehensive national policy plan called the 20-Year Energy Conservation Plan to promote energy efficiency associated with transport, industry, commercial, and residential sectors (Ministry of Energy 2009). This plan is intended to be a long-term plan for energy conservation and energy efficiency. Under the plan, it is expected that greenhouse gas emissions will be significantly reduced by about 49MtCO₂ eq by 2030 (Ministry of Energy 2009). To achieve this objective, the plan includes different policy measures for enhancing energy efficiency, which are:

- Energy standards and regulations
- Capacity building
- Energy efficiency networking
- Awareness raising
- Financial incentives

The creation of a national policy such as the renewable energy promotion policy and its associated measures has had major implications for the power and fuel production industry. One such implication is associated with the substantial growth of the small and very small power producers. Such policy measures allowed small producers to join the energy production sector (financially) and attracted large number of investors (both nationally and internationally) to renewable energy projects. These policies and measures have increased the energy security of Thailand. Developing and utilizing renewable energy leads to reducing the dependency on imported energy from other countries. However, some argue that current policy incentives may not be enough to attract investments (both nationally and internationally) in some renewable energy sources like wind power.

Learn More

<https://www.adb.org/sites/default/files/publication/156207/adbi-wp352.pdf>

TURKEY

Submitted by Climate Scorecard Country Manager
OZLEM DUHAN



Turkey: National Climate Change Action Plan

The Ministry of Environment and Urbanization produced Turkey's National Climate Change Action Plan in 2011. The vision of the plan is "to become a country fully integrating climate change-related objectives into development policies." The plan emphasizes "disseminating energy efficiency, increasing the use of clean and renewable energy resources, actively participating in the efforts for tackling climate change within its special circumstances and providing its citizens with a high quality of life and welfare with low-carbon intensity."

The plan identifies short, medium and long-term goals under eight topics (energy, industry, forestry, agriculture, buildings, transport, waste and climate change adaptation) are established in detail within the framework.

One of the very first actions under the plan has been the Regulation on Greenhouse Gas Emissions Monitoring (Monitoring, Verification and Reporting) which was published in 2012.

This regulation is an important move to fight against climate change. It provides for the monitoring of GHG emissions in electricity and steam production, petroleum refining, and petrochemical, cement, iron and steel, aluminum, brick, tile, lime, paper and glass facilities. By monitoring these emissions very precisely, there will be information and data to create climate change and environmental policy. The very first data has been gathered in 2016. It shows the monitoring results of 2015.

Learn More

Ministry of Environment and Urbanization, National Climate Change Action Plan, 2011
Tüvikder, İklim Değişikliği Eylem Planı Değerlendirme Raporu, 2013
<http://turkishcarbonmarket.com>

UKRAINE

Submitted by Climate Scorecard Country Manager
ANDRII KLYMCHUK



Ukraine: The Green Tariff

One of the most effective national policies that is having the greatest impact on reducing Ukraine greenhouse gas emissions is the feed-in tariff also known as "The Green Tariff".

"The Green Tariff" policy, a feed-in tariff (FIT) scheme for electricity generated from renewable energy sources, was introduced in Ukraine in 2009. The law guaranteed grid access for renewable energy producers (small hydro up to 10 MW, wind, biomass, photovoltaic and geothermal). The rate of the "green" tariff for each electricity-generating company depends on the kind of sources of energy it uses. This rate is higher than the rate applicable to energy producers based on traditional energy sources. The scheme will be open until 1st of January 2030.

In 2015, Power plants using renewable energy sources generated 1.75 billion kilowatt-hours of electricity, or 1% of total electricity production in the Ukraine. For comparison, in 2011 the amount was only 0.17%. Such positive statistics is a result of an effective Law.

A second amendment of the Green Tariff System was introduced on the 4th of June 2015. This amendment introduced the "green" tariff for purchase of electricity produced by solar and wind power plants with a capacity of up to 30 kW. The green tariff rate is fixed to the euro, which neutralizes the inflation risks. Today 430 private households have already installed solar panels with total installed capacity of 5.06 MW. For comparison, in 2015 there were 244 such homeowners and in 2014 only 21.

Learn More

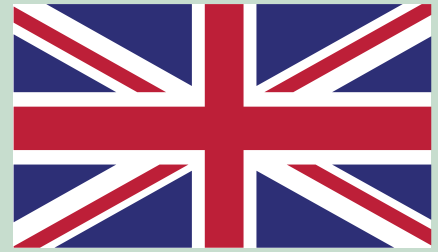
Energy Efficiency: Implementation of EU Standards in Ukraine <http://ukrainianlawfirms.com/practice/151>

YouTube link: <https://www.youtube.com/watch?v=TAWJ5XSd7Tw>, RE:FORMA: HOW TO PROFIT OFF THE "GREEN TARIFF"

Feed-in Tariff in Ukraine <http://www.iea.org/policiesandmeasures/pams/ukraine/name-38470-en.php>

UNITED KINGDOM

Submitted by Climate Scorecard Country Manager
FRIDAH SIYANGA-TEMBO



United Kingdom: The Climate Change Act, The Renewable Obligations Policy

The UK has a very strong stand against climate change and towards reducing greenhouse gas emissions. This was demonstrated by developing and adopting the Climate Change Act in 2008. The Act is the world's first legally binding commitment to cutting national greenhouse gas emissions. It was passed with an overwhelming cross-party majority of 463 to 3. Under this Act, the UK aims to reduce emissions by a minimum of 80% by 2050 (from 1990 levels). It does so through carbon budgets that it is bound to review every five years in order to establish its progress towards meeting the 80% reduction. [1] The UK also took strong leadership and played a role in drafting the ambitious Paris Agreement which follows the UK's own Climate Change Act.

The UK, since coming up with the Climate Change Act, has come up with Carbon Budgets which are reviewed every five years. The budgets place caps on the amount of carbon emissions the country can produce within each five-year period and this helps it towards achieving its emissions targets. The carbon budgets and their target emissions are proposed by the Committee on Climate Change (CCC) that is an independent statutory body. The governments of the devolved administrations in turn draw associated policies to cut down emissions in various sectors that would help meet the reductions target [8]. For instance, the targets for the first (which run from 2008-2012) and second carbon budgets (which runs from 2013-2017) were to reduce emissions by 3,018 MtCO₂e (23%) and 2,782 MtCO₂e (29%) respectively [8].

Policy measures in the UK largely focus on the energy sector and in particular, electricity. [1] This is because the energy sector is the largest source of emissions. [3] However, according to the CCC progress report, there is need for reduction in emissions in other sectors as well. A review of the UK's progress for 2015 towards reducing greenhouse gas emissions found that it has made progress in reducing its emissions and that this has largely been in the energy sector, which had previously been a large contributor of carbon emissions since the carbon budgets were put in place. In 2015, the emissions had fallen by 3% compared to 2014 and to below 38% of the 1990 levels. This reduction has been attributed to increase in low-carbon electricity generation that displaced fossil fuels (largely coal). [2]

Policies towards reducing greenhouse gas emissions have largely been influenced by the EU agreements. For instance, the UK's aim to generate 30% of its electricity from renewable energy has been influenced by its need to meet its EU target of 15 % by 2020 in accordance with the 2009 EU Renewable Energy Directive (RED). [3] [4] This has seen a number of subsidies to encourage renewable energy generation.

The UK has several policies that work towards the reduction of greenhouse gases, among them, the Renewable Obligations (RO) is a "support scheme" for renewable energy projects (electricity). The policy was introduced in 2002 in England, Wales and Scotland and in 2005 in Northern Ireland. [7] [10] It was enacted into the national legislature after it was passed by parliament. [6] RO puts an obligation on UK energy (electricity) suppliers to obtain a growing proportion of their electricity from renewable energy sources. [5] They do this by buying Renewable Obligation Certificates (ROC) from electricity generators (one ROC issued for each MWh) along with the electricity. The ROC serves as proof of compliance where the lack of compliance leads to fines. The value of the certificates has been fluctuating with electricity generators tending to be paid a premium of up to 50% higher than the wholesale price. Electricity suppliers make up for the difference by passing down this cost to their consumers. [11]

Tracking the UK's progress towards reducing greenhouse gas emissions is done by the CCC which produces annual reports. The committee uses indicators to determine this progress. For the power sector above, "indicators cover the overall policy framework, deployment of low-carbon capacity (renewables, nuclear and carbon capture and storage) and the infrastructure required to support a low-carbon power sector (e.g. interconnection)". [1]

The RO will be replaced by another policy, the Contract for Difference (CfD) which will, unlike the RO, include nuclear energy as well, and have a lower cost on the consumer. It will do so by placing a cap or limit on the amount of money that consumers pay for low carbon energy. It requires that electricity generators pay money back to the consumers when electricity prices are high. [9] Countries with similar policy mechanisms include the US, China, Italy and Sweden.

Learn More

[1] <http://eciu.net/briefings/uk-energy-policies-and-prices/how-is-the-uk-tackling-climate-change>

[2] <https://documents.theccc.org.uk/wp-content/uploads/2016/06/2016-CCC-Progress-Report.pdf>

[3] <http://www.energy-uk.org.uk/energy-industry/electricity-generation.html>

[4] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/547977/Chapter_6_web.pdf

[5] www.parliament.uk/briefing-papers/sn05870.pdf

[6] <https://books.google.co.uk/books?isbn=1136558608>

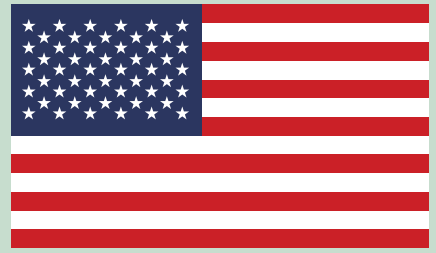
[7] <https://books.google.co.uk/books?isbn=0215545362>

[8] <https://www.theccc.org.uk/tackling-climate-change/reducing-carbon-emissions/carbon-budgets-and-targets/>

[9] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/233004/EMR_Contract_for_Difference_Contract_and_Allocation_Overview_Final_28_August.pdf

UNITED STATES

Submitted by Climate Scorecard Staff



United States: The Clean Power Plan

In the United States, Obama's Clean Power Plan has taken shape as potentially one of the most effective US policies in reducing greenhouse gas emissions, specifically carbon dioxide emissions. The Clean Power Plan was put in place on August 3rd, 2015. It outlines a target for reducing carbon pollution from power generation "while maintaining energy reliability and affordability," with the goal of reducing carbon dioxide emissions in the USA by 32% of 2005 levels.

Under this plan, the federal government and the Environmental Protection Agency have set the targets and will offer assistance to the states in their implementation of it; the states will, however, be free to choose how they will reach the goal of reducing carbon emissions. The plan takes a two-part strategy, focusing first on a reduction in carbon emissions from fossil fuels in power generation, and second on growth in the clean energy sector. The plan also includes provisions to prevent the switch from fossil fuel-generated electricity to natural gas-generated electricity, which would perpetuate the emission of carbon into the atmosphere. The focus is specifically on power generation because this sector produces the largest percentage of the nation's carbon emissions.

The plan draws its inspiration from the Clean Air Act, originally passed in 1970 and most recently amended in 1990, which gave the EPA most of its regulatory power in terms of enforcing air quality standards. In October 2016, the Clean Power Plan was challenged in court as states try to fight it. This challenge is based largely on a provision of the Clean Air Act that prohibits "double regulation" by the EPA. Essentially, the EPA cannot regulate an industry based on one set of standards if it is already regulating it based on another. This would prevent the Clean Power Plan from regulating carbon emissions from power plants that are already regulated for air pollution under the Clean Air Act. Despite many states' efforts to fight it, the Clean Power Plan is largely expected to be upheld in court.

In the year since the introduction of the Clean Power Plan, it has already shown success in several areas. First, and perhaps most significantly, the plan gave President Obama the legal leverage to be involved in the negotiations leading to the Paris Agreement and further legitimized US commitments to global emissions reduction standards. With the legal backing of the Clean Power Plan, President Obama was able to bring the US to the climate change talks and emphasize the importance of reducing greenhouse gas emissions.

The Clean Power Plan has been most successful domestically in encouraging states to create their own carbon emission reduction targets and plans in order to be in compliance with the national targets. According to the Union of Concerned Scientists, 31 states are already projected to be more than halfway to meeting their 2022 benchmarks. Many companies in the private sector are dramatically increasing

their investments in clean and renewable energy.

Finally, and perhaps the most significant evidence for the success of the Clean Power Plan, carbon dioxide emissions from the power sector have reached their lowest levels since 1993, following a significant decrease in 2015.

If the targets are successfully reached by 2030, there is potential for a new emissions reduction target to be set with much higher percentages of reduction. It remains to be seen whether states will fully comply with the current targets. The 2030 plan could be expanded to include more than simply carbon emissions, with an added focus on methane, ozone, or other greenhouse gases that are being produced in sectors besides the power generation sector. The most crucial element in the increase in emissions reduction will be the compliance and cooperation of the private sector, specifically those companies that use oil and natural gas.

There is also potential for the Clean Power Plan to influence other countries if adopted by their federal governments. As the US is a major "role model" in the world which many developing countries use as a basis for their own emissions standards, there is potential for this policy—if successful—to be adopted by them. Many developed countries have much more aggressive emissions reduction targets than those of the US, so a policy like this one might need to be more stringent.

In order to be successful in the US, the plan relies heavily on the individual efforts of the states, rather than a concerted top-down effort by the federal government. In other nations with a stronger federal government and weaker state governments, it may not be possible to rely on state compliance to enforce such a policy, but would instead be based on the standards set by the federal government.

The Clean Power Plan remains one of the most effective current US environmental policies with the most significant impact on reducing American greenhouse gas emissions. The current court case will significantly determine whether or not the Clean Power Plan will be upheld and continue to encourage reduction of carbon emissions from the power sector.

Learn More

<https://www.epa.gov/cleanpowerplan/fact-sheet-overview-clean-power-plan>

<https://www.whitehouse.gov/president-obama-climate-action-plan>

http://www.nytimes.com/2016/09/26/us/politics/obama-court-clean-power-plan.html?_r=0

<http://www.ucsusa.org/global-warming/reduce-emissions/clean-power-plan-states-of-progress#.V-qF4GXL2AY>

<https://www.nrdc.org/experts/kevin-steinberger/recent-progress-further-strengthens-clean-power-plan-outlook>

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ABOUT

Climate Scorecard is a participatory, transparent, and open data effort to engage all concerned citizens in supporting the implementation of the new 2015 Global Climate Agreement.

Background

Over 190 countries endorsed a new global climate agreement in December 2015 at a United Nations meeting in Paris (known as COP21). The Paris Agreement is designed to stabilize the earth's climate and prevent our atmosphere from heating-up above a global warming tipping point of 2 degrees Celsius, beyond which scientists warn extreme ecological disasters will occur. The success of the new agreement is contingent on the efforts all countries, as well as non-state actors, must make to increase and honor their commitments to reduce greenhouse gas emissions.

In 2015, in preparation for COP 21, most countries submitted pledges, also known as Intended Nationally Determined Contributions (INDCs), to reduce their greenhouse gas emissions by 2030 or earlier. The Paris Agreement recognizes that these pledges, while good starting points, are insufficient to avoid having the planet warm beyond 2 degrees Celsius. Therefore, all countries are encouraged to revisit and strengthen their pledges before the agreement goes into effect in 2020.

Climate Scorecard is a mechanism for supporting efforts needed to implement the new Paris Agreement. Such efforts include encouraging countries to increase their emission reduction pledges, tracking efforts to strengthen pre-Paris INDCs, making sure that countries put in place policies and programs to achieve their reduction targets, and holding nation-states accountable for fulfilling the promise of the Paris Agreement.

HOW IT WORKS

The Climate Scorecard team has established a website - www.climatescorecard.org - where everyone – citizens, organizations, businesses, researchers, members of governments, journalists – can share information related to emission reduction efforts in the top 25 greenhouse gas-emitting countries. Each of the 25 top greenhouse gas emitting countries has a page on our website where concerned stakeholders can post information related to the status of their country's pledge. Climate Scorecard's website also provides a set of 6 targeted results (see below) that we believe each country needs to achieve by 2020 in order to successfully implement the new Paris Agreement. These results are based on recommendations from the agreement itself, benchmark country emission reduction pledges, and our own research that has identified goals that all countries need to reach. Our targeted results provide a framework for tracking progress made by the top 25 greenhouse gas-emitting countries.

Results for the Top 25 Greenhouse Gas-Emitting Countries to Achieve by 2020

- Strengthens its 2015 agreement pledge, or adheres to a pledge that meets Result 3 in the Framework
- Agrees and implements measures to reach the target of 20% unconditional emission reduction by 2020
- Agrees and implements measures to reach the target of 30% unconditional emission reduction by 2025
- Adopts the UN suggested baseline year of 2010 from which to calculate future reductions
- Agrees to and implements policies that achieve 100% renewable energy by 2050
- Make all aspects of its emission reduction process, including policy development and implementation, transparent and inclusive

WHO WE ARE

An outstanding team of organizations and individuals is implementing Climate Scorecard. Coordination of our effort is through a partnership between The Global Citizens' Initiative (TGCI) and EarthAction- non-profit organizations with missions focused on environmental protection and citizen engagement. TGCI and EarthAction worked together to successfully implement last year's Citizens' Campaign for a 2015 Global Climate Agreement (www.climateagreementcampaign.org).

TGCI and Earth Action have recruited a team of 25 environmental graduate students and young professionals who serve as Country Managers, building and supporting networks of organizations and people to contribute and share information related to the post-Paris progress of each of the top 25 greenhouse gas-emitting countries.

In addition, university-based experts provide quality control and address technical questions related to documents that are proposed for posting on the Climate Scorecard website.

For further information about Climate Scorecard please contact Ron Israel, Executive Director, The Global Citizens' Initiative (roncisa@gmail.com) or Lois Barber, Executive Director, EarthAction (lois@earthaction.org).