Global Spotlight Report #19

Theme: Renewable Energy Use in Leading Greenhouse Gas Emitting Countries

Introduction

Climate Scorecard’s Global Spotlight Report #19 focuses on renewable energy use in leading greenhouse gas emitting countries. As one might suspect, every country has the ability to reach 100% renewable energy use by mid-century if not much sooner. However, the main barrier to reaching this goal is in the lack of political and government support. The table below highlights each country’s renewable energy focus and the position of its government towards renewable energy use. A fuller description of the status of each country’s use of renewable energy resources is provided in our Country Spotlight Reports that follow.
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Australia


Currently, renewable energy makes up about 23% of Australia’s electricity generation. This is ahead of schedule: the Renewable Energy Target (RET) legislated back in 2001 mandates that 20% of Australia’s electricity needs to come from renewable sources by 2020. There is also a wealth of renewable energy generation in the project pipeline: academics and industry insiders seem to be in general consensus that Australia has more than enough renewable energy planned to reach 50% capacity in the mid 2020’s, pushing up towards 100% sometime after 2030. There are even mega-renewable projects planned in the country’s north that could see Australia become a renewable energy exporter to South East Asia. And Australia’s green hydrogen industry is in its fledgling stages, with massive export possibilities. Australia also has some of the highest potential solar & pumped hydro resources in the world, which have barely been tapped.

Activity Rating: * Falling behind

So what’s the problem? With a decade of governance by the conservative Liberal/National coalition has come a systematic undermining of the renewables industry in Australia. The RET will not be renewed (leaving Australia with zero renewable energy policy from 2021), successive Coalition energy ministers have worked to support the coal industry at the expense of renewables, state government efforts to set ambitious renewable targets have been undermined at a federal level, and Coalition MPs have by-and-large been vocal critics of renewable energy, with national media outlets uncritically carrying anti-renewable stories.

Renewable energy is widely supported by the Australian public. Exciting developments in renewable technologies, the amazing reliability and capacity upgrades wind and solar power are experiencing, the possibility of Australia becoming a >100% renewables country & the extremely poor performance of Australia’s fossil fuel power generators rarely come up in public discourse. All these factors add up to an environment where investment in renewable energy is significant but uncoordinated. In the absence of any national roadmap or government signals that an energy transition will be supported, companies are left to go their own way. As Australia’s ageing coal power fleet nears the end of its lifespan there is no concrete plan for what will replace the retiring stations: renewable energy is ready and waiting, but will not replace coal without government support.

Action Alert Message

Dear Mr Taylor,
As Minister for Energy and Emissions Reductions, it is incumbent on you to face up to the realities of electricity generation in Australia and look to plot a way forward. Your new role as Emission Reductions head also calls for you to help decarbonise - or at least reduce the carbon intensity of - the power sector. Given these ministerial responsibilities and the amazing opportunities Australia has to revolutionise its power sector, we find the behavior of your government quite perplexing.

Australia’s renewable energy pipeline is massive, with some of the biggest possibilities in Queensland and the Northern Territory: two areas that are crying out for well-paying careers and training opportunities. Total Household PV will shortly become one of the biggest energy generators in the country, and Australia even stands the chance to become a renewable energy exporter to South East Asia. We ask that you and your party kindly move on from the obsession with coal (and recently nuclear - an industry that has zero long-term prospects in Australia) and look to the future, which has bright possibilities. A good start will be reviewing and upgrading the Renewable Energy Target when it expires in 2020. Setting a new bar will not be hard: there is enough renewable energy in the pipeline to push Australia from about 20% renewables now to at least 50% by 2030. What a golden opportunity!

Send Action Alert Message to:

Honorable Angus Taylor MP
Minister for Energy & Energy Reductions

18 Hill Street Camden
Camden NSW 2570

Telephone: +612 4658 7188
angus.taylor.mp@aph.gov.au
@AngusTaylorMP

Learn More:


Brazil

Spotlight Activity Report: Brazil Leads the Way in the Use of Renewable Energy

Even though Brazil is currently in political turmoil in relation to environmental and sustainable development policies, the Brazilian energy matrix is still a benchmark that can be used to ascertain Brazil’s use of renewable energy.

A great deal of Brazil’s renewable energy comes from hydroelectric power plants. However, a significant share of the country’s renewable energy arises from prior public policies that tried to enhance the share of non-traditional renewables (especially sugarcane used to make ethanol).

43.5% of Brazilian consumption is supplied by renewable sources, while 14% of the world consumption is supplied by these same sources. This data comes from Brazil’s National Energetic Bulletin and are based on 2016 figures.

Brazilian renewable energy resources consist of: 39.1% sugarcane and its derivatives, 27.6% hydroelectric power plants, 18.8% vegetal coal and firewood and 14.5% other renewables (solar, wind, biomass, etc).

The following chart compares Brazil’s use of various renewable energy resources to the worldwide use of the same resources¹:

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¹ Translation: Petróleo e derivados – Oil and derived; Gás Natural – natural gas; Hidráulica - hydro; carvão – coal; biomassa – biomass; derivados de cana: derived from sugarcane; renovável – renewable
Matriz Energética Mundial 2016 (IEA, 2018)

Matriz Energética Brasileira 2017 (BEN, 2018)
A comparison between the share of renewables within the energetic matrix, worldwide, and in Brazil:

Most Brazilian energy consumption is supplied by hydroelectric power plants – 65.2% – and a share of 19.2% arises from non-renewable sources (coal, natural gas, nuclear and oil). However, most impressive is the share of “alternative” renewables: 15% of Brazilian electricity consumption comes from biomass, wind, and solar power plants. A comparison between the world and the Brazilian sources of electricity is as follows:
Matriz Elétrica Mundial 2016 (IEA, 2018)

Matriz Elétrica Brasileira 2017 (BEN, 2018)
Historically, due to the abundance of hydro resources, Brazil has focused its investments in creating a large, reliable, and resilient infra-structure system for energy generation from hydroelectric power plants. Currently, around 200 are in operation and this figure is expected to increase as the national energy system is considered to have deteriorated and needs to be renewed. Even though it is considered the cheapest source of electricity, hydropower has to mobilize a large amount of fixed capital and often incurs social and environmental costs. Moreover, hydroelectric plans are always dependent on rainfall patterns, which imposes an additional risk of their operation and, therefore, tends to increase the cost of capital investments in such plants.

Brazil has a high potential to generate electricity through wind power plants and solar panels. This potential, however, has not yet fully realized as Brazil still suffers from a lack of infrastructure for both generation and distribution.

A few investments have recently been made in alternative energy infrastructure and investors are more interested each day. This can be observed by the quantity of green bond emissions financing these investments: from the outstanding 23 green bond emissions, 10 are related to wind and solar plants, and they comprise 23% of the total amount of debt issued through this type of asset. Considering that solar and wind plants are cheaper and faster to build, the figures show that these sources of energy are gaining traction in the Brazilian energy matrix.

**Activity Rating: ***Right Direction**

Brazil holds a comparative advantage regarding the use of renewables as sources of energy. This is mainly due to the large supply of natural resources that enable a stronger presence of these sources in comparison to other countries. Moreover, Brazil has launched a successful program engaging the use of ethanol as fuel. However, renewable energy is not part of the core agenda of the current government.

**Action Alert Message:**

_Brazil is recognized as a world leader for alternative renewable sources of energy, especially bio-fuel. We do see, however, an increasing pressure from entities aiming to strengthen the use of non-renewables within the Brazilian energy matrix, although these are lower cost-efficient energy sources that enhance global warming. It is important that the government and its representatives, including the Ministry of Mines and Energy, take action to support the continuing use of renewables, contributing therefore with the commitments taken with the signature of the Paris Agreement._

**Send Action Alert Message to:**
Mr. Bento Albuquerque, Ministry of Mines and Energy
gabinete@mme.gov.br

*This Post was submitted by Climate Scorecard Brazil Country Manager Rafael Gersely.*
Canada

Spotlight Report: Canada is Taking Steps Forward to 100% Use of Renewable Energy

Canada has considerable non-emitting renewable resources and hydropower. The National Energy Board (NEB) reported in 2018 that roughly 82% of Canada’s electricity was generated from: hydro/wave/tidal 61%, wind 5.5%, biomass/geothermal 1%, and solar 0.7%. Wind and solar technologies are seen as competitive. Nuclear 14% is listed in this mix, however many will argue nuclear is not a clean energy given public concern over the risk of accidental release of its long-lived radioactive waste that must be isolated and stored from the biosphere for thousands of years. Fossil fuel use for electricity includes coal 9.1%, natural gas 8.3%, and oil 0.4%.

A May 2019 report, ‘Zeroing in on Emissions’, from the David Suzuki Foundation advises that much of Canada’s power is already non-emitting, and that strong consensus exists among researchers that it’s possible to accelerate this trend to meet our climate goals. Canada will not be able to decarbonize its energy system, however, unless provinces and utilities aggressively dial down the emissions associated with electricity generation to zero and generate much more clean power than today.

British Columbia, Manitoba, Quebec, and Newfoundland have an abundance of hydroelectric power. Ontario and New Brunswick also rely on nuclear. The Suzuki Foundation notes Alberta, Saskatchewan, New Brunswick, and Nova Scotia still rely on coal to generate electricity. Together, Alberta, Saskatchewan and Ontario account for almost 90% of natural gas–generated electricity in Canada, and new natural gas plants are still being built. Even with federal climate policies proposed or in place, including federal regulations requiring coal plants to retire or be equipped with carbon capture and storage units by 2030, Canada must prioritize clean electricity with additional policies to reach its existing 90% national non-emitting electricity target by 2030 and a 100% renewable energy electricity target for its government buildings by 2025.

This report goes on to say criticism of 100% renewable scenarios has focused on the ability of variable renewable energy sources to reliably meet demand, their cost relative to nuclear power, carbon capture and storage; the feasibility of constructing sufficient energy storage to ensure reliable energy supply, the feasibility of transitioning to a hydrogen-based liquid fuel system, the lack of spatial detail in models to create the scenarios, and the feasibility of the assumed rapid energy efficiency gains. Questions remain as to whether and at what cost a 100% renewable scenario can supply Canada’s electricity where demand has grown substantially by 2050.

Policy incentives and declining costs are driving significant growth in the use of renewable generating technologies. Our relatively clean grid means building on Canadian soil will have a lower carbon footprint likely than elsewhere. A May 2019 report from Clean
Energy Canada shows not only is Canada’s clean energy sector growing faster than the rest of our economy (4.8% versus 3.6% annually between 2010 and 2017), it is also attracting tens of billions of dollars yearly.


Accounting for social and environmental costs of energy, and subsidies to different energy providers, gives a clearer picture of the true costs which include carbon emission costs, climate change impacts, decommissioning, and waste disposal. If those costs were always listed, the economic case for renewable sources would strengthen. For more renewable details, visit https://www.nrcan.gc.ca/renewable-energy-facts/20069.

Moving forward, collaboration across jurisdictions can support renewable energy advantage to increase reliability, electricity trade, capacity and the sustainability of our electricity systems.

**Activity Rating: ***Moving Forward**

**Take Action:**
To request action, please contact Minister of Natural Resources, Amerjeet Sohi, with the following message:

_We ask the federal government to integrate functions of energy, climate, and economic development as a fundamental governance and structural issue, in sustaining a low-carbon economy prioritizing renewables and our global emission targets (see Canada’s Generation Energy Council report 2017)._  

**Contact**
The Honourable **Amarjeet Sohi, Minister of Natural Resources**  
Email: Amarjeet.Sohi@parl.gc.ca  
Mail: House of Commons, Ottawa, ON K1A 0A6  
Phone: (613) 992-1013

_for more information, please email Climate Scorecard Canadian Country Manager: Diane Szoller at Canada@climatescorecard.org_  

**China**

**Spotlight Activity Report: Renewable Energy Use is Growing in China**

In response to climate change and environmental pollution, the energy and power systems of major countries in the world are in a transition period of replacing traditional
energy sources to renewable energies. As one of the largest energy consumers in the world, China’s energy consumption accounts for 24% of the world’s energy. In addition, the consumption growth rate is 3.9% on average over the past decade. It is thus important to understand the national plan and the status quo of renewables in China.

Since 2005, China has experienced a large energy transformation in the electricity sector. Apart from coal, crude oil, and gases, different forms of renewable energies have entered Chinese energy sector. The main producers of China’s renewable energy are in the west. The major renewable energies in China are hydro, solar, and wind energy. The hydro energy stations are mainly constructed in provinces where it is geographically allowed, for example Sichuan and others. Wind energy production is concentrated in the coastal cities, desert areas, and grasslands. Unlike hydro and wind energy, solar energy is produced on a large scale and has widespread household usage. Solar panels are seen everywhere as you enter China, especially in villages where there are large roofs for installations.

As renewable industries expand rapidly, China’s infrastructure is not mature enough to absorb the energy produced. To encourage the installation of renewables, the Chinese government has awarded $13 billion dollars in industry subsidies each year. This has attracted tremendous levels of investment as more and more businesses have entered the photovoltaic and wind energy industries. With high subsidies and high returns, renewable industries have grown fast. However the manufacturing sector has not developed as quickly, leaving a gap between renewable energy supply and demand. China still has a long way to go to improve its ability to efficiently absorb renewable energy.

China has plans with respect to the share of renewable energy in its energy base. In 2018, the share of renewable energy was about 22.2% according to the Chinese National Energy Administration (CNEA). This was 7.7% higher compared to the data in 2012. The government has set goals of 25% by 2020 and 35% by 2035 for the country’s renewable energy usage. Currently, the CNEA also has set goals for all the provinces in China to reach a certain portion of its energy in renewables. Lin Shanqing, the Vice President of the Chinese National Energy Administration, said that as energy transformation progresses and develops, new situations and new problems will increase.

The cost of renewable energy in China has decreased in the market compared to a decade ago. It is found that in areas where there is low cost for infrastructure construction and good market conditions, the cost of renewables is competitive compared to fossil resources.

Activity Rating: ***Right Direction

The subsidies given by the National Finance Department have greatly encouraged investment in renewable energies. Combined with the renewable energy quota set for different provinces, China is taking strong steps to promote the use of renewable energy.
Action Alert Message:

Dear National Energy Administration,

Thank you for setting up plans and providing subsidies to encourage renewable energy’s usage. However, in order to reach the government’s 25% renewable energy usage goal, we only have one year to go. More actions need to be taken in order to meet this goal.

Please send this message to:

Lin Shanqin
Vice President of Chinese National Energy Administration

Website page:
http://www.nea.gov.cn/wsxf/slfw.htm

This Post was submitted by Climate Scorecard China Country Manager Siya Tong

European Union

Spotlight Activity Report: The EU Has Set Strong Renewable Energy Targets That Still Need To Be Met

In its effort to reduce its dependence on imported fossil fuels and to make it energy production cleaner, the EU established the Renewable Energy Directive in 2008 (2009/28/EC). It sets a binding target of 20% final energy consumption and at least 10% of transport fuels from renewable sources by 2020. To achieve this, each EU Member State had to adopt a national renewable energy action plan showing what actions are foreseen. National targets vary from one country to another from just 10% for Malta to 49% for Sweden. While the net results of the 28 Member States forecast a share of renewable energy consumption above 20%, there is a significant variation between EU Member States performance. Croatia, Denmark, Sweden and Estonia are among the eleven EU Member States that have surpassed their 2020 targets. On the other hand, five Member States are expecting a deficit with Italy recording the highest deficit.

Following the Paris Agreement, the European Commission established in 2018 the new revised Renewables Energy Directive (2018/2001). The new Directive, which sets a new binding renewable energy target for the EU for 2030 of at least 32% (subject to a possible upwards revision by 2023), aims at establishing a new stable legislative framework to support the EU in its clean energy transition and to reduce greenhouse gas emissions. EU countries are required to draft 10-year National Energy & Climate Plans for 2021-2030, outlining how they will meet the new 2030 targets for renewable energy and for energy
efficiency. Final plans are to be submitted to the European Commission by 31 December 2019.

EU Directives establishes a cooperation mechanism between its member states which help them meet their renewable energy targets. The cooperation mechanisms can take the form of:

- Statistical transfers of renewable energy
- Joint renewable energy projects
- Joint renewable energy support schemes

Renewable energy can be produced from a wide variety of sources. EU capacity of production of renewable energy is vast. It varies from wind and solar to hydro, tidal, geothermal and biomass. The growth in electricity generated from renewable energy sources during the period 2007 to 2017 largely reflects an expansion in three renewable energy sources across the EU, wind power, solar power and solid biofuels. In 2017 hydro power has been replaced for the first time by wind power as the single largest source for renewable electricity generation in the European Union.

Every two years, EU countries report on their progress towards the EU’s 2020 renewable energy goals. Based on the national reports and other available data, the European Commission produces a report which gives an overview of renewable energy policy developments in the 28 EU countries. The last published report shows that in 2017, renewable energy accounted for 19.5% of total energy use in the EU-28, on a path to the 2020 target of 20%. This is a significant increase from 10.4% in 2004. Despite that, disparities between Member States is huge with Sweden at the top of the podium with 54.5% of its consumed energy is from renewable sources while Luxembourg, Malta and the Netherlands at the bottom of the list with 5.2%, 5.7% and 5.8% respectively. Contrary to that, with 7.6%, the EU is still lagging behind its target of 10% of renewable energy used in transport activities.

**Activity Rating: Standing Still**

The EU has established policies allowing the block to meet with its commitment to the Paris Agreement. Despite the fact that last statistics show that the EU will exceed its 2020 set targets, the block is still lagging behind its target of renewable energy in transport activities. First draft of National Energy and Climate Plans provided by Member States also show that more needs to be done in order to reach its 2030 set targets. In addition, cooperation mechanisms need to be adapted in order to encourage countries that are left behind to maximize the utilization of the potential of renewable energy in their countries and to be as close as possible to the rest of their counterparts.

**Take Action:**

Dear Mr. Arias Cañete,
We would like to congratulate you for taking the lead in making the EU a good example in the use of renewable energy. However, we recommend that the EU should strengthen its policies to ensure its ability to reach its 2020 and 2030 set goals. We also recommend that the EU should start to look deeper into its policies and mechanisms to encourage Member States who are left behind and relying on their counterparts to achieve their targets to maximize the utilization of the untapped potential of renewable energy sources in their countries.

We are looking forward to your answer and working on climate action together.
With our respectful and best regards,

Contact Information:

European Commission
Rue de la Loi / Wetstraat 200
1049 Brussels
Belgium

This Post was submitted by Climate Scorecard EU Country Manager Ibrahim Abdel-Ati

France


In 2018, the share of renewable sources of the gross final energy consumption in France was 16%. Among renewables, the most important are wood fuel (41%) and hydropower (20%), followed by biomass (9%), thermal power (8%) and wind power (7%). There is significant potential for growth in most types of renewable energy: according to an estimate by the electric utility company ENGIE, French departments were using at best only 15% of their renewable potential. Potential is seen especially in offshore wind power, whereas most traditional hydropower potential has already been harnessed.

The French Environment and Energy Management Agency ADEME published in 2017 calculations of the costs of different modes of renewable energy production, taking into account the entire lifetime of the power plant. Accordingly, hydropower would provide the country’s cheapest energy at 15-20 €/MWh, while the cost of geothermal and onshore wind power would be at around 50-90 €/MWh. Most other renewables would range at approximately 100-300 €/MWh. Nuclear energy, dominating the French energy market today at around 70% of energy consumption, is the second least expensive type of energy at 50 €/MWh, although the costs for the new EPR design are calculated at 120 €/MWh. Fossil fuels lie at 100€ /MWh.
The 2015 law on energy transition for green growth stipulates the share of renewables of the country's gross final energy consumption should be 23% by 2020, and 32% by 2030. Figures are further specified for types of energy usage. While the French government offers financial support and competitive advantages to renewable energy production, Climate Scorecard argues such subsidies are neither an efficient nor, in the long term, a sustainable method. Instead, we propose to modify energy and building regulations currently hindering the development of heat pumps and promoting CO2-intensive gas heating.

Energy efficient heat pumps are a major asset in the battle against global warming. Their cooling and heating technology has the potential to major energy and environmental issues facing our planet. Since heating accounts for more than half of households' energy consumption, increasing the use of heat pumps would markedly reduce household dependency on non-renewable energy sources. This would bring France rapidly closer to its renewable energy objectives.

Activity Status: *Falling Behind

With its current level at some 16%, it seems unlikely that France will reach its own target of 23% renewables of the gross final energy consumption by 2020, nor the common EU target of 20% by 2020.

Take action:

Write to the President of France, Mr. Emmanuel Macron, and Ministers for the Ecological and Inclusive Transition, Ms. Élisabeth Borne, Ms. Brune Poirson and Ms. Emmanuelle Wargon:

Dear Mr. President, Dear Ms. Ministers,
We commend the readiness of France to have assumed a greater responsibility than the EU28 common target of a share of 20% renewable energy of the gross final energy consumption by 2020. However, today France is falling behind both its own ambition of 23% renewable energy and the common target of 20%. Transition to renewable energy is vital for countering climate change. We urge your Government to take prompt action to approach the set target in the short term and to ensure reaching the mid-term target of 32% renewable energy by 2030. As one step in the right direction, we propose revising current energy and building regulations that are promoting CO2-intensive gas heating and hindering the development of climate friendly heat pumps.

With our respectful and best regards,
[sign name]

Send Action Alert Message to:

Emmanuel Macron
Website: http://www.elysee.fr/ecrire-au-president-de-la-republique/
Germany

Spotlight Activity Report: The Government Is Failing To Take Action To Meet The Renewable Energy Targets It Has Set

In July 2019, the energy distribution of renewable and non-renewable energy sources was dominated by non-renewable sources producing 54.5% of the total, equivalent to 22.29 TWh. In comparison, it was 18.60 TWh generated from renewables, with the most dominant being wind with 6.64 TWh (16.4%) followed by solar with 6.37 TWh (15.5%).

In July 2018, the distribution was more uneven with a dominance of non-renewables (particularly brown coal) with a share of 62.2% of the total energy production. This highlights the improvement of the net energy sector.

Considering the statistics for the first half of 2019, we find that in total wind was the most dominant energy source (ca. 67 TWh) followed by brown coal (53.0 TWh) and black coal (26.4 TWh). For the first time, however, renewable energy sources provided more energy (92.2 TWh) than non-renewables (79.4 TWh) during the first 6 months of the year. These numbers were all published by the Frauenhofer Institute.
Germany has put a lot of focus on the renewable energy sector with the “Energiewende” and the EEG from 2000. The main goal of the “Energiewende” is to achieve up to at least 80% of the total energy consumption being supplied by renewable energy sources by 2050. Meanwhile, the country wants to phase out coal by latest 2038 and nuclear energy by 2022.

Initially, every investor for the construction of renewables was receiving monthly stable payments for the first 20 years after construction but the EEG has experienced a number of reformations, which first resulted in a reduced number of subsidies for the further installments of photovoltaic cells and in 2017 for a reduced number of subsidies for the extension of the wind sector.

Cost of renewable energy resources
A study released in 2018, provides a comparison between costs per kWh for the different energy sources. Figure 1 shows the costs associated with each energy source with photovoltaic sources on the left side (yellow), wind sources in the middle (blue) and fossil fuels (grey = black coal, brown = brown coal, red = gas and steam). From Figure 2, it becomes clear that particularly onland shore and free-standing PV fields are the most profitable and practical source of energy generation for use in the free standing solar energy parks. In the last decades, the costs of PV’s have dropped rapidly, while fossil fuels have seen the opposite trend.
As it can be seen from Figure 1, the main sources of renewables in Germany are wind, biomass and solar with solar being highly dependent on the sunny periods, which are currently still unreliable. For instance, in June 2019, during one of the hottest periods of the year, 33.4 TWh was generated in one day making up 52.4% of the whole energy required. On the other hand, in December 2018, only 0.58 TWh were generated through photovoltaic cells. However, wind has shown to be a very efficient and reliable source of energy providing energy all year around providing up to 16 TWh during the winter. At this stage, most turbines are located onshore but a high capacity yet remains through the current construction of offshore wind farms. In the last few years there has been a continuous decline in further developing and expanding the wind sector due to multiple reasons.

The main reason for the reduced expansion of wind resources is that since 2017, the investment in the wind sector has decreased due to less subsidies and higher competition being available for this sector, making it difficult to expand. Also, due to the current bureaucracy within Germany, international investors don’t want to rely on or play with the idea of going through customs and rules, and rather decide to invest more overseas.

Activity Rating: ***Right Direction
The German government has recognized the importance of extending the renewable energy sector, but actions are too slow and not precise enough to achieve the initially set goals. The Erneuerbare Energien Gesetz (EEG) was a unique and innovative reform that should continue to subsidize our renewable energy sector. However, lately the EEG has become a larger burden than it is useful. It is a bureaucratic obstacle pushing investors overseas. At the same time, renewables have yet to find their way into the public transport system, which is still largely dominated by combustion engines and other vehicles. All mining of coal and the extraction of oil should slow down and stop as soon as possible. Germany should not stop its efforts to become 100% renewable.

**Action Alert Message:**

Mr. Podewils, the Agora Energiewende is encouraged to speak up and become a central body in giving advice in the transition of renewables in Germany. It is important that every necessary stakeholder and citizen knows about the fact that the elimination of coal is not going to cost more than anticipated and the consumer and general taxpayer does not have to count on extra costs. If it becomes more public that the energy transition will not hinder the general public, more support will be given by us citizens. It is your responsibility as one of the best think tanks in Germany to take action and speak up.

Christoph Podewils  
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Agora Energiewende  
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**Learn More**

1. **Link of article on recent study for what the “ruling out” of coal means:**  
   https://www.agora-energiewende.de/presse/neuigkeiten-archiv/was-der-kohlekompromiss-fuer-deutschlands-energiewirtschaft-bedeutet/

2. **Link to presentation of the Frauenhofer Institute explaining the energy distribution trend of 2018 & 2019:**  

3. **Link to status on Germany’s wind sector and its crisis:**  
   https://www.spiegel.de/wirtschaft/soziales/windenergie-die-grosse-windkraftkrise-a-1279820.html
India

Spotlight Activity Report: India Is Taking Steps Forward To Make Use Of Its Extensive Renewable Energy Resources

The renewable energy sector in India has been growing steadfastly in the last few years, with the country now home to some of the largest solar and wind installations in the world. The sector received a major boost after 2015 following the government’s decision to create 175 gigawatt (GW) of renewable energy capacity in the country by 2022. The new target redefined the scale and scope of the sector, especially for wind and solar which comprise 60 GW and 100 GW (the original goal for solar was 20 GW), respectively, of the goal. Over the last few years, the government has launched a series of supportive policies and schemes to encourage the building up of renewable capacity in the country. The dramatic fall in the price of photovoltaic cells by more than 50% over the last 5 years in domestic markets has further been spurring the demand and investments in renewables sector. With fast expanding demand and a steep fall in prices, the market size of the renewables is further set to expand and deepen.

In 2014 the renewable energy sector began to take flight in India. Some of the key country goals included finding the right energy mix through policy ecosystem and by involving the private sector. Five years down the road, renewable capacity in India has reached 73 gigawatt (GW), accounting for over 20% of the country’s total. Solar has performed particularly well: in 2017-18 alone, around 10 GW of solar was installed equaling the entire installed base. The capacity growth was driven by a sharp fall in tariffs, with both solar and wind auctions attracting bids that were lower than the cost of power from coal-based plants.

While 2018 left us with a sense of success, a lot still needs to be done to maintain the momentum. Indeed, 2018 has seen a reversal of some of the positive trends. Installations dropped to ~6.6 GW in the months between January to September. Tariffs went up as the government introduced a safeguard duty on imported PV modules. Solar auctions were cancelled or retendered for a lower size due to lack of developer interest and discoms’ demand for lower tariffs. Some of this slowdown is a temporary phenomenon, since the longer term trends — such as declining PV module costs — remain in place. But there are
also some policy and implementation hiccups that need to be addressed to ensure the sector continues to grow strongly.

**Fact Sheet on renewable sources of energy in India**

Table 1: Installed grid interactive renewable power capacity in India (excluding large hydro) as of June 30, 2019

<table>
<thead>
<tr>
<th>Sources of renewables</th>
<th>MW</th>
<th>Percentage share of total MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind Power:</td>
<td>36,368</td>
<td>45.2</td>
</tr>
<tr>
<td>Solar Power:</td>
<td>29,549</td>
<td>36.7</td>
</tr>
<tr>
<td>Biomass Power:</td>
<td>9,806</td>
<td>12.2</td>
</tr>
<tr>
<td>Small Hydro Power:</td>
<td>4,604</td>
<td>5.7</td>
</tr>
<tr>
<td>Waste-to-Power:</td>
<td>138</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>80,465</td>
<td>100</td>
</tr>
</tbody>
</table>


The focus of India’s government has now shifted to clean energy after it ratified the Paris Agreement. With the increased support of government and improved economics, the sector has become attractive for investors for large deployment of capital into this sector. As India looks to meet its energy demand on its own, expected to reach 15,820 TWh by 2040, renewable energy is set to play an important role.

**Moving Forward**
The Government of India is committed to increased use of clean energy sources and is already undertaking various large-scale sustainable power projects and promoting green energy heavily. In addition, renewable energy has the potential to create many employment opportunities at all levels, especially in rural areas.

The Ministry of New and Renewable Energy (MNRE) has set an ambitious target to set up renewable energy capacities to the tune of 175 GW by 2022 of which about 100 GW is planned for solar, 60 for wind and other for hydro, bio among other. As of June 2018, Government of India is aiming to achieve 225 GW of renewable energy capacity by 2022, much ahead of its target of 175 GW as per the Paris Agreement. India’s renewable energy sector is expected to attract investments of up to US$ 80 billion in the next four years.

It is expected that by the year 2040, around 49% of the total electricity will be generated by renewable energy, as more efficient batteries will be used to store electricity which will further cut the solar energy cost by 66% as compared to the current cost.

It is estimated that the use of renewables in place of coal will save India Rs 54,000 crore (US$ 8.43 billion) annually.

**Government initiatives**

Some initiatives by the Government of India to boost the Indian renewable energy sector are as follows:

- A new Hydropower policy for 2018-28 has been drafted for the growth of hydro projects in the country.
- The Ministry of New and Renewable Energy (MNRE) has decided to provide custom and excise duty benefits to the solar rooftop sector, which in turn will lower the cost of setting up as well as generate power, thus boosting growth. ([www.mnre.gov.in](http://www.mnre.gov.in))
- The Indian Railways is taking increased efforts through sustained energy efficient measures and maximum use of clean fuel to cut down emission levels by 33% by 2030.

**Activity Rating: **** Moving Ahead**

India is a signatory to the Paris agreement and continues to stay the course with a slew of measures including a strong focus on renewable energy, investments in green technologies, gradually reducing dependence on fossil fuel and enabling policy frameworks to provide continuity through involvement of sub regional governments. One
such measure that the Indian government in tandem with the private sector has taken up is to step up its efforts to expand the markets around renewables, scale production and deepen consumption, spur investments and deploy extensive financial capital in the area of clean energy and renewables. India has already set a target of 175 GW out of which 73 GW is already achieved with a clear focus on reducing dependence on fossil fuel. Given the size and scale of the tasks involved these measures will need a constant oversight by domestic actors on implementation of measures as set by India.

**Action Alert Message**

Keeping in view the urgency of the climate challenges, call to collective action can be requested to the Indian Prime Minister as per his details below:

*Renewables are key to advancing green climate while keeping emissions within permissible limits, going forward. However, India’s march towards a clean and green environment can effectively be sustained by backing the country’s current performance levels with enforceable policies for country’s Paris Climate commitment of 1.5 degrees Celsius to stay course in run up to 2030.*

**Shri. Narendra Modi**  
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*This Post was submitted by Climate Scorecard India Country Manager Pooran Chandra Pandey*

**Indonesia**

**Spotlight Activity Report: Indonesia Is Lacking The Investment Needed To Harness Its Renewable Energy Potential**

Indonesia’s current energy mix is 55% coal, 26% gas, 12% renewable, and 7% oil. Indonesia plans to increase renewable energy to 23% by 2025. By 2050, Indonesia aims to raise renewables to 31%. Indonesia plans to gradually phase out coal and gas by an undetermined date.

While only 3.5% of the overall energy mix comes from geothermal, geothermal is the most heavily invested renewable with 80% of overall renewable energy investment. Indonesia has 28 GW of potential geothermal. With the Pacific Ring of Fire running underneath the country, Indonesia is an extremely volcanically active region of the world that has an
estimated 40% of global geothermal reserves. Despite dominating the domestic renewable energy investment, geothermal is underutilized; only 1.9 GW were used in 2018. However, this still puts Indonesia in second place in the world for geothermal installed production (the United States is first at 3.6 GW). It is projected to surpass the United States by 2023. In 2024, Indonesia plans to install 4 GW of geothermal capacity, providing 5% of national energy needs. These increases are small compared to the potential geothermal reserves.

Indonesia could do more to increase geothermal energy production, such as increasing subsidies for independent power producers (IPPs) who are slow to invest in geothermal due to high upfront costs. Indonesia recently issued law no. 21 of 2014 on Geothermal which allows geothermal development in conservation forests. The law ended the categorization of geothermal as mining. Investors are wary to commit to geothermal while One Map is still underway; until land control is resolved, investing in geothermal in areas with contested claims is perceived as risky. The state electricity company (PLN, Perusahaan Listrik Negara) uses a feed-in-tariff scheme to purchase geothermal projects. Investors shy away from renewable sources due to uncertainty in PLN pricing. PLN will purchase power from IPPs by setting tariffs. These tariffs are based upon benchmarking against the Electricity Basic Cost (Biaya Pokok Penyediaan Pembangkitan, BPP). This basic electricity cost does not include cost of power transmission. If local BPP is higher than the national BPP, the tariff is set at 85% of local cost. Varying local conditions therefore make predicting the value of produced power difficult for investors. Further, the BPP (basic electricity cost) does not vary depending on source.

There is an estimated 75 GW of technically potential hydropower in Indonesia, concentrated in Sumatra, Java, and Sulawesi. The economically viable total GW is likely quite lower than 75 GW. Of the 56 GW expected increase in total energy use by 2030, PLN aims to install 8.3 GW of hydropower. PLN appears to be making progress in hydropower. In July of this year, PLN announced the largest hydropower plant in North Kalimantan with 1.35 GW of capacity.

**Activity Rating: Standing Still**

PLN has gone forward with numerous renewable energy projects, however investment is slow. In 2018, only $1.6 billion went to renewable energy projects. This investment level is 10% to 15% of what is needed to achieve the 23% 2025 target. The IESR (Institute for Essential Services Reform) estimates that Indonesia will need $8 to $12 billion in renewable investment a year to reach this target. MEMR – the Ministry of Mining and Energy Resources – must improve energy policy, particularly for investors, to achieve this 2025 target. Some ministries are doing good work, such as the Ministry of Finance which recently created a Government Drilling Program to reduce upfront costs for geothermal exploration. Until recently, IPPs had to shoulder the exploration costs of proving their geothermal source before PLN agreed to sign with an IPP. IPPs had to pay between $20 and $50 million to prove a reserve before they could even sign with PLN. Some sites might
fail to prove potential. This program reduces that risk. MEMR should implement similar programs to facilitate renewable investment.

**Action Alert Message**

Encourage MEMR to facilitate renewable investment and set more ambitious renewable energy targets, particularly in geothermal.

*Indonesia plans to expand 35 GW in coal to achieve its energy needs in the next 10 years. This is out of line with preventing a greater than 1.5 degrees Celsius temperature increase. MEMR, along with PLN, should push for renewables to make up a larger percentage of Indonesia's future energy mix. This can be achieved with policy changes. Indonesia should subsidize geothermal plant construction, which is up to twice as expensive as coal plant construction. MEMR should push the government to reduce fossil fuel subsidies that make renewable energy sources less attractive to investors and decrease renewable tariffs and feed-in fees. Indonesia should reduce the risk of investing in renewables which increase the interest on bank loans for renewable projects. If PLN and IPPs more evenly share the risk of renewable projects, land use disputes are resolved, and upfront construction costs are reduced, renewables will be more attractive and lucrative. To reduce risk to investors, MEMR and PLN must clarify costs of electricity purchases, particularly in the maximum 85% ceiling for BPPs. MEMR should also decrease regulatory uncertainty. PLN could increase the length of time IPPs own and operate facilities under the build, own, operate and transfer (BOOT) schemes to encourage renewable investment.*

**Send Action Alert Message to**

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PLN
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Tweet the agency @pln_123

*This Post was submitted by Climate Scorecard Indonesia Country Manager Tristan Grupp*

**Japan**

**Spotlight Activity Report: Japan Needs To Unlock Policy Barriers In Order To Increase Its Use Of Renewable Energy**

Under the Paris Agreement signed in 2015, Japan committed itself to NDC (Nationally Determined Contribution) of GHG (greenhouse gases) reduction: 26% by 2030 and 80% by 2050, compared to that of the year 2013.
In order to achieve these targets, the government of Japan has laid out its long term energy-policies in the “5th Strategic Energy Plan”, published in July 2018. According to this Strategic Energy Plan, Japan aims to achieve GHG reduction of 26% by 1) raising the share of renewable energy to 22-24%; 2) utilizing nuclear energy to 20-22% of total energy share; 3) efficient fossil fuel use; and 4) 35% cut in substantial energy consumption by energy saving. As for 80% target of 2050, the government aims to gradually shift towards a carbon-free society. However, these policy goals are still achieved half way through, are not rigorous enough, and more efforts are expected.

Currently as of 2018, it is estimated that the share of total renewable energy to total power generation (including home consumption) in Japan was 17.4%, total fossil fuel accounting for about 80% and nuclear energy around 5% (Figure 1). Among the renewables, hydro and solar energy account for the major part of the total power generation (Figure 2). Share of solar energy saw a substantial increase thanks to the introduction of feed-in-tariff (FIT) scheme in 2012. Yet, other renewable energies such as wind, biomass, geothermal and small hydro still hold only a small amount of shares to total energy production. In addition, the Japanese government is planning to revise the FIT scheme currently in practice, which would raise the market price for renewable energy supplied electricity. Overall landscape of renewable energy source in Japan remains grim.

It is also the case that developments of geothermal energy production in national parks are prevented due to regulations by the Ministry of Environment to protect the natural environment. In a similar manner, the development of major wind power generation plants is strongly disincentivised due to obligatory legal environmental impact assessments (EIA) which could take as long as 4 years. In some cases, timber chips used in biomass energy production are imported from outside of the country due to high-cost of timber chips produced in Japan. Renewables, as new-coming power suppliers into the market, are also often greatly disadvantaged compared to the existing supplies such as nuclear power and coal fired power plants which are given priority in the grid connection.
Japan still has a high share of fossil fuel produced energy. Liquid natural gas is amply used to meet the demand of electricity previously supplied by nuclear generation before the Fukushima nuclear accident, as renewables and energy savings are insufficient to cover the electricity production loss.

Compared to other countries of similar development level, Japan lags behind in both its GHG reduction target and its achievement. Many European countries have already achieved more than 30% share of total energy production by renewables. There are also many countries with more than 20% share of VRE (Variable Renewable Energy), compared to a mere 7% in Japan. Equally, Japan’s target to raise the share of renewables to 24% by 2030 seems notably low considering the fact that some countries have already set out a target of 100% electricity supply with renewable energy.

Activity Rating: **Standing Still**

Despite the seeming advancement in the share of renewable energy in recent years, Japan still lags behind in diversifying among different types of renewables and achieving a notable share of renewable energy in general. It is necessary to remove or mitigate certain regulations regarding the use of natural resources for the purpose of renewable energy production, such as the previously-mentioned case of geothermal or wind. Considering the huge risk of accidents, promotion of nuclear energy should be reconsidered.

Some work with the electricity market is also needed. Barriers to enter the market are currently too high for renewable energy due to the “first-come basis” based on the
electricity business Act, which limits physical space available for grid connection. Additionally, it should be made obligatory to display the details of electricity prices according to the type of power supply and to release information on power generation companies and wholesale electricity trading market.

**Action Alert Message**

*Dear Ministry of Economy, Trade and Industry,*

*Although the difficulty of balancing mitigation of climate change and economic prosperity always remains, we ask that the Ministry becomes more aware of the responsibility Japan holds to international society and aims higher in its commitment to renewable energy development. We expect that the Ministry reconsiders the use of resources for nuclear energy and makes full use of potentially effective advanced technologies available in promoting renewable energy. Especially as the FIT system currently in practice are being reconsidered, we would like a substantial alternative plan to keep promoting renewable energy.*

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[https://mm-enquete-cnt.meti.go.jp/form/pub/enecho01/form](https://mm-enquete-cnt.meti.go.jp/form/pub/enecho01/form)
03-3501-1511

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*This Post was submitted by Climate Scorecard Japan Country Manager Yukiko Nukina*
Spotlight Activity Report: Mexico’s Current Fossil-fuel Based Energy Strategy Is Not Compatible With Its Climate Mitigation Goals

Mexico has great potential for generating electricity from renewable sources. Thanks to the implementation of the Energy Reform and the goals set in the Energy Transition Act, public policies that allow the implementation of clean energy projects have been developed. The country has specific goals and tools for transitioning to clean energies, and there are key mechanisms that support the promotion of clean energy generation.

The main instruments governing the clean energy sector in Mexico are the Law for the Development of Renewable Energy and Energy Transition Financing, enacted in 2008, the National Energy Strategy 2013–2027, the Energy Transition Law, enacted in 2015, and international commitments related to pledges to reduce emissions. In its Energy Transition Law, Mexico committed to reach a minimum share of clean energy generation of 25% by 2018, 30% by 2021 and 35% by 2024.

In 2014, the country set up Clean Energy Certificates (CELs), an important incentive for clean energy. In this mechanism, electrical utilities and voluntary users have clean energy quota obligations and can buy and sell CELs, equivalent to 1 megawatt-hour (MWh) produced with clean energy. This approach guarantees that an increasing share of total power demand will be met with clean generation. The target begins at 5% in 2018 and will increase gradually to 13.9%.

Another valuable instrument, which is currently on hold, is the national Long-Term Auctions (SLPs). Long Term Auctions were a bidding mechanism for the assignment of long-term contracts for electricity coverage for the sale of power and accumulative electricity. Private companies bid for projects to cover clean energy needs (at first for the government owned CFE and then private companies were also able to buy clean energy. SLPs will increase the amount and proportion of energy generated via clean sources, thus generating CELs as well.

Through SLPs, entities responsible for providing electricity to consumers can enter into contracts to meet its Power, Cumulative Electric Power, and CELs needs. This tool assisted Mexico to become one of the countries with the lowest prices for renewable energy generation in the world. Costs per MWh fell by more than half, from $47.78 in 2016 to $20.15 in the third auction in 2017.

In 2016, Mexico made a series of commitments on climate change, along with the United States and Canada, including pledges to achieve 50% clean power generation across North America by 2025 and to develop a long-term low GHG emission strategy for 2050. More recently, Mexico joined 23 other countries in the Powering Past Coal Alliance, vowing to phase out existing coal plants and restrict the construction of new coal plants without carbon capture and storage technology.
However, regardless of the county’s legal framework and international pledges, its energy mix is dominated by oil and gas, with fossils accounting for nearly half of the total, a considerably larger portion than the regional average. In the first half of 2018, Mexico had an installed energy capacity of 75,918.42 MW, of which 31.45% came from clean sources. On the other hand, generation from clean sources reached 24.12%, less than a percentage point to meet the 25% clean energy generation target stated in the Energy Transition Act. This total consists of 17.29% came from renewable sources, while 6.83% was "other clean energy" which includes nuclear and co-generation. Large-scale hydropower is the leading source of renewable energy capacity (15%), with wind a distant second (6%).

Enacted laws and reforms, as well as implemented instruments, allowed Mexico to increase its renewable energy share considerably: from 2017 to 2018. The highest-growing renewable technologies were photovoltaics, wind, and cogeneration. These laws enabled clean energy installed capacity by 11.84% and generation by 21.71%, achieving lower prices per kWh as well.

The trend towards renewable energy has slackened in recent years. Although president Obrador’s administration has maintained the goal of 35% of all power generation coming from clean sources by 2024, actual policy steps have not been aligned with such target. Obrador’s administration has placed energy as one of the main axes in its plans and policies, with the aim of achieving “energy self-sufficiency” by 2024. Rather than focusing on renewables, plans and policies are heavily reliant on a revamp of the oil industry. Mexico's current administration aims to prioritize modernization of the country's existing
power plants, mainly coal and natural gas, and refineries. This entails more GHG emissions and more negative externalities related to fossil fuels. However plans for repowering existing big hydro plants have also been discussed.

The future of Mexico's energy sector is still uncertain. Albeit it is understandable that energy self-sufficiency, accessible electricity, and low fuel prices are sought for, it is imperative to fast-track the transition to a low-carbon economy. Continuing with the uptake and advancement of clean energy technologies should be a policy priority.

**Activity Rating: *Falling Behind***

Mexico has taken big steps towards a low-carbon, future-proof economy. Using solar and wind energy, the country has proved the benefits of having a clean energy transition. Renewables also help reduce the geopolitical risk of fossil fuels since gas is imported from the United States. Returning to the use of fossil fuels means taking steps back on climate action, air quality, new investment and technologies as well as not achieving one of the government's main goals of energy security.

The current fossil fuel-based strategy is not compatible with mitigation goals and renewable energy commitments. The strategy not only entails environmental and health risks, but potentially a huge economic and political misstep: renewables help reduce the geopolitical risk of fossil fuels, as Mexico imports most of its gasoline, natural gas, and coal. Developed and developing nations alike are increasingly looking towards greener and more efficient options for energy and fuel generation, sending a clear signal as to where future investment and R&D will be allocated.

**Action Alert Message:**

*The current strategy is not compatible with national mitigation and energy penetration goals and commitments. We applaud the efforts to guarantee accessible and affordable energy. However, it is necessary to carry on with the energy transition, as it implies economic, environmental and social benefits, as well as achieving national and international climate goals. Studies and past experiences have proven that renewable energy can be more profitable and help achieve energy security, along with a better quality of life for the country. We ask the current administration to make clean energy a priority and support the expansion of renewable energy technologies, furthering the country's environmental commitments and goals. We ask the new government to ensure that its energy initiatives are consistent with national climate goals and commitments, not only for the betterment of the planet and future generations, but also for public health as well as long-term economic stability.*

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More information

This Post was submitted by Climate Scorecard Mexico Country Managers Valeria Lopez Portillo and Aline Nolasco Escalona

Nigeria

Nigeria is endowed with abundant energy resources, both conventional and renewable. It has enough renewable energy resources to meet the power needs of both urban and rural Nigerians. Yet, Nigeria has one of the lowest supply rates of electricity per capita in Africa. Many rural communities in particular lack access to electric power.

Nigeria’s most pressing need is for larger electricity supply and stronger grid reliability and security. The Renewable Energy Master Plan (REMP) being put in place is meant to increase the supply of renewable electricity from 13% of total electricity generation in 2015 to 23% in 2025 and 36% by 2030.

There are basic bureaucratic hurdles to effectively put into action an orderly energy policy in Nigeria. The level of energy supply in Nigeria keeps alarmingly fluctuating and reducing. There is an urgent need for the country to take advantage of its huge natural renewable resources such as solar PV, wind power, small hydropower, biomass, etc. to avoid a worsening energy supply scenario and provide feasible electricity to rural dwellers. (energsustainsoc.biomedcentral.com)

Nigeria’s climate, resources, and economic and societal conditions make solar energy a suitable alternative energy source. The Northern part of Nigeria has the highest potential for solar. The North has an average solar insolation of 2200 kWh/m^2, while the southern part has 1800 kWh/m^2.

Currently, total hydroelectric power potential is estimated to be about 8,824 MW with an annual electricity generation potential in excess of 36,000 GWh. This consists of 8,000 MW of large hydro power technology while the remaining 824 MW is small-scale hydro power technology.

Renewable energy sources have low operational and maintenance costs, most renewable energy technologies have high up-front capital cost compared to their conventional energy alternatives. Apart from the higher capital costs most renewable energy technologies face higher risks and uncertainties when making investment decisions just as conventional energy.

Nigeria has put in place a number of policies intended to promote the use of renewable energy, such as:

- **National Energy Policy (NEP), 2003, 2006, 2013** - developed by the Energy Commission of Nigeria (ECN) The main goal of the policy is to create energy security through a robust energy supply mix by diversifying the energy supply and energy carriers based on the principle of an energy economy in which modern renewable energy increases its share.
- **National Economic Empowerment and Development Strategy (NEEDS), 2004** - by the National Planning Commission (NPA) in 2004 this policy supports the
creation of renewable energy agency and technologies which will be funded under the National Power Sector Reform Act.

- **National Power Sector Reform Act (EPSRA), 2005** – This policy seeks to privatize the Nigeria power sector thereby making it more efficient and effective.
- **Renewable Electricity Policy Guidelines (REPG), 2006** – This policy promotes the expansion of electricity generation from renewables to at least 5% of the total electricity generated in the country.
- **Renewable Energy Master Plan (REMP) 2005 and 2012** - by the Energy Commission of Nigeria (ECN), in collaboration with the United Nations Development Programme (UNDP) in 2005 but later in 2012. The REMP stress the need for the integration of renewables into buildings, electricity grids and for off-grid electrical systems. Further, the importance of solar power in the country’s energy mix is also highlighted. According to the REMP, Nigeria intends to increase the supply of renewable electricity from 13% of total electricity generation in 2015 to 23% in 2025 and 36% by 2030. However, the REMP have not been approved by the National Assembly to be passed into law.

Despite these policies Nigeria has failed to utilize diverse energy resources for adequate development of the nation. Throughout the country there is an inadequate understanding of renewable energy, its source, how and what it can be used for. Though most renewable technologies have become popular in developing countries, it still seems new in Nigeria despite all the policies on ground supporting renewables.

**Activity Rating ** Standing Still

Strong and long-term political support at the federal, state and local government level is a consistent component in the successful development of renewable energy. Such support is lacking from the Nigerian government.

**Take Action:**

Write to Saleh Mamman and Prof. Eli Jidere Bala

_Dear Sir,_

_We suggest that there is a need for widespread information in Nigeria on renewable energy resource availability, benefits and opportunity. The government should increase investment in renewable energy using both public sector funding and private investments so as to enhance technological innovation. Also a system of rational expectations between renewable electricity producers and the grid operators is imperative for the growth in grid-based renewables_

**Contact**

Honorable Minister,
The Federal Ministry of Power,
Mabushi, Abuja
Russia

Spotlight Activity Report: Leadership Working Toward Enabling Industrial And Household Level Production Of Renewable Energies

During his speech earlier this year, Deputy Director of the Department of Electric Power Industry Development of the Ministry of Energy of Russia was reported as saying that the Russian Federation is consistently ranked among the five leading countries in the world in terms of electricity production, while in accordance with the structure of the installed capacity of Russian power plants as of 01.01.2019, thermal power plants account for 67.7% of the installed capacity, hydroelectric power stations - 19.9%, nuclear power plants - 12%, wind power stations - 0.3%, solar power plants - 0.08%.

According to the policy pursued by the Government of the Russian Federation to support the development of the electric power industry operating on renewable energy “has made it possible to achieve significant growth rates in the production of electric energy using renewable energy sources” (Ministry of Energy of the Russian Federation, March 25, 2019). The one-year growth rate of electricity generation, between 2017 and 2018, was 42%; however, the renewable energy sector consists of less than 1% of the country’s energy portfolio (Ministry of Energy of the Russian Federation, March 25, 2019).

First Deputy Minister of Energy of the Russian Federation, Alexey Texler, said although the overall share of power generated from renewable energy sources is minimal, Russia's energy balance is one of the cleanest in the world: “The share of coal in the energy balance of our country is only 15%, in China this figure is more than 65%, in Europe a little lower than 30%, in the USA a little more than 30%”.

He continues by saying that, comparatively among the top energy producers in the world that use non-renewable energy sources, Russia’s energy portfolio consists of 50% of
energy produced from gas, “which is twice as environmentally friendly as coal and 1.5 times more than fuel oil” (Ministry of Energy of the Russian Federation, March 12, 2019).

At the forum “National Ecology Project: Tasks of Business and the State at the RSPP Russian Business Week Conference”, Texler stated that the country is implementing a whole range of measures to reduce the anthropogenic load of the fuel and energy complex on the environment: “To this end, we are taking steps to introduce the best available technologies, utilize associated petroleum gas emissions, expand the use of renewable energy sources and environmentally friendly energy resources - primarily natural gas” (Ministry of Energy of the Russian Federation, March 12, 2019).

Figure 3 IEA World Energy Balances. Complete Energy Balances for over 150 Countries and Regions. https://www.iea.org.statistis/balances/

Figure 4 IEA Global Engagement. Russia. https://www.iea.org/countries/Russia/ Progress
The deputies of the State Duma (the lower house of the Russian Federal Assembly, the highest legal force in Russia) unanimously adopted in the first reading a draft law developed by the Ministry of Energy of the Russian Federation “On Electric Power Generation” regarding the development of micro-generation (Ministry of Energy of the Russian Federation, February 6, 2019). The document was presented by State Secretary - Deputy Minister of Energy of the Russian Federation Anastasia Bondarenko, who, in her report, stated that the bill was developed to stimulate the development of small-scale renewable energy generation facilities with an installed capacity of up to 15 kW (typically estimated at being able to power a small home: appliances, family room, home office, kitchen and laundry room).

The adoption of the bill will simplify the procedure for placing micro-generation facilities, and provide their owners with the opportunity to sell surplus generated electricity in retail markets. “An object of micro-generation is an object for the production of electricity, which also operates on the basis of renewable energy sources, which include solar, wind, water energy with a maximum power of up to 15 kW. Examples are solar panels installed on roofs of houses,” said Anastasia Bondarenko, contributing to the development of distributed generation in the country, meet the goals set by the May decree of the President of the Russian Federation, work to improve the reliability of energy systems, and will also smooth out peak hours of consumption and reduce energy costs (Ministry of Energy of the Russian Federation, February 6, 2019).

Also this year, Russia continues its initiative under cooperative activities with Japan which includes research into the use of renewable energy sources (The Seventh Meeting of the Russian-Japanese consultative Energy council, Department of Energy, 2019).

During the Conference “Risk Management in the Energy Sector – 2019", which was held in Istanbul, Turkey, during which the Deputy Director of the Department of International Cooperation of Russia’s Ministry of Energy, Alexander Tolparov, attended, emphasized the necessity of depoliticizing processes in the energy sector, enhancing technological cooperation in the field of clean consumption of fossil fuels, and continuing the search for joint approaches to risk management in the energy sector during major international projects (Ministry of Energy of the Russian Federation, May 28, 2019).

Activity Rating: ***Right Direction

A leadership that is working toward enabling the industrial production of renewable energies as well as enabling small-scale, household-level production of renewable energy will, hopefully, catalyze the private sector to find improved ways to capitalize on renewable energy production, making it cheaper and bringing down the remaining barriers in the transition away from fossil fuels. The Russian Federation, being a leading producer of energy and exporting large shares of it to neighboring countries, can become a great global asset in both renewable energy production and a leading example for transitioning consumers, private sector and governmental leadership to cleaner energy production.
Saudi Arabia


The main sources of renewables in Saudi Arabia are solar and wind energy. Currently, renewables are not being fully utilized, but there have been ambitious plans to develop solar and wind projects in order to diversify the country’s energy mix.

The share of renewables in Saudi Arabia represents a negligible amount of the energy it uses. Although the Saudi government has been hiking energy prices, they are still subsidized and much lower than the cost of renewables. In 2018, the cost of electricity consumption for Saudi residents ranged from Riyal 0.18 – 0.30/kWh (US$
0.048-0.071/kWh). In comparison, Saudi Arabia national procurement program for solar secured a price of around U.S. cents 2.3417/1 kWh.

Saudi Arabia has contradictory renewable energy policies. It has enacted several policies to support the use of renewable energy. It established the National Renewable Energy Program (NREP) to substantially increase the share of renewable energy in the total energy mix. It issued a regulatory framework for electricity consumers to operate their own, small-scale solar power generating systems. This creates a significant financial incentive and accelerates private sector investment in small-scale renewable energy applications. At the same time, the government has increased the electricity tariffs three times to discourage energy use and implemented Time-of-Use tariff policy where higher tariffs are applied for peak times, during the day which coincides with peak solar PV output. The Vision 2030 targets for Saudi Arabia contain an obligation to renewables for 9.5 GW by 2030, which represents 11% of the total power consumption of the kingdom.

Activity Rating **Standing Still

There has been a big push to build mega-renewable projects in Saudi Arabia, such as the large 200 GW solar project announced last year. However, this project has since been cancelled, and the future of other renewable energy projects is still in question. What is known now is that renewables still make up a negligible part of Saudi Arabia’s energy mix, and the goal of procuring 11% of Saudi Arabia’s energy from renewables by 2030 is quite below what one would expect of a country like Saudi Arabia, a country ripe with potential for renewables. Saudi Arabia has great potential to move the world’s energy usage away from fossil fuels, particularly oil, but it seems that it has been slow to fulfill this potential.

Action Alert

We recommend that the Ministry of Energy, Industry, and Mineral Resources to follow in the steps of other developed countries that have switched to a mostly renewable energy mix. These countries have done their part to reduce carbon emissions, without sacrificing economic output. Saudi Arabia is in a position to be a world renewable energy leader, seeing that it has great potential to produce energy from renewables, and it possesses the technical ability to integrate renewable energy grids into its mix.

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This Post was submitted by Climate Scorecard Saudi Arabia Country Managers Abeer Abdulkareem and Amgad Ellaboudy: Contact Abeer@climatescorecard.org
SAUDI ARABIA (Arabic)

الطاقة المتجددة

أهم مصادر الطاقة المتجددة في السعودية هي الطاقة الشمسية وطاقة الرياح حاليًا لا يتم استخدام الطاقة المتجددة بشكل كامل، ولكن هناك خطط متميزة لتطوير مشاريع الطاقة المتجددة وطاقات الرياح لتكون خليط الطاقة في البلد.

وتتمثل حصة الطاقة المتجددة في السعودية نسبة ضئيلة من الطاقة التي تستخدمها. وعلى الرغم من أن الحكومة السعودية قد رفعت أسعار الطاقة، إلا أنها لم تساهم في المرأة من كمية الطاقة المتجددة. ففي عام 2018، تراوحت كلفة استهلاك الكهرباء للمناطق السعودية 0.18-0.30 دولارًا في الساعة (48.70-71.00$) سنويًا أمريكيًا كيلو وات في الساعة.

السعودية لديها سياسات طاقة متجددة متماسكة. فقد وضعت عدداً من السياسات لدعم استخدام الطاقة المتجددة ونشأت البرامج الوطني للأعمال المتجددة لرفع مستوى الطاقة المتجددة في مزيج الطاقة الكلية. واصدرت آلية تنظيمية لاستهلاك الكهرباء لضمان أنظمة التوليد الصغيرة للطاقة الشمسية وبدأت حاليًا، مما يبشر بعملية استثمار القطاع الخاص في تطبيقات الطاقة المتجددة الصغيرة في البلاد. وفي الوقت ذاته، رفعت الحكومة أسعار الطاقة المتجددة لتشجيع استخدامها وبدأت سياسة الترويج للاستهلاك المتجددة.

وقت الاستخدام حيث تفرض تسعيرة أعلى لأفراد الذروة خلال النهار، والتي تتراوح مع القيمة المتبولة للطاقة الشمسية. وتتضمن اهداف رؤية 2030 انها ما يتوصل إلى الطاقة المتجددة بـ 9.5 بحلول عام 2030 والتي إن فإن الاستهلاك الذكي للطاقة في المملكة.

*تقييم النشاط*

كان هناك دافع كبير لبناء مشاريع ضخمة قابلة للتجديده في المملكة العربية السعودية مثل مشروع الطاقة الشمسية الكبير الذي تبلغ طاقته 200 رياضات والذي تم الإعلان عنه العام الماضي. ومع ذلك، فقد تمت إلغاء هذا المشروع منذ ذلك الحين، وما زال مستقبلاً مشاريع الطاقة المتجددة الأخرى وضمان كفاءة الاستهلاك المتجددة لا تزال تشكل جزءًا ضئيلًا من مزيج الطاقة في المملكة العربية السعودية. وبناءً على هذه الدراسات، فإن 11% من الطاقة السعودية من مصدر الطاقة المتجددة بحلول عام 2030 هو أقل بكثير مما يتوقعه المرء من بلد مثل المملكة العربية السعودية، دولته لديها الكثير مع إمكانات الطاقة المتجددة. لدى المملكة العربية السعودية إمكانات كبيرة لتحويل استخدام الطاقة في العالم بعيدًا عن الوقود الأحفوري، ليست من النافع، ولكن يبدو أن تحقيق هذه الإمكانيات كان بطيئًا.

نتيجة العمل، المملكة العربية السعودية

نوصي وزارة الطاقة والصناعة والثروة المعدنية باتباع خطط الدول المتقدمة الأخرى التي تحوّلت إلى مزيج الطاقة المتجددة في الغالب. لقد قامت هذه الدول بدورها لتقديم أبعادات الكربون، دون التضحية بالإنتاج الاقتصادي. المملكة العربية السعودية في وضع يمكنها من أن تكون رائدة عالمياً في مجال الطاقة المتجددة، حيث ترى أن لديها إمكانات كبيرة لإنجاح الطاقة المتجددة، والمزيد من مصادر الطاقة المتجددة، وتمتلك القدرة التقنية على دمج شبكات الطاقة المتجددة في مزيجها.

إرسال رسالة تنبه العمل إلى:

خالد الفالح
وزير الطاقة والصناعة والموارد المعدنية
South Africa

Spotlight Activity Report: The Department Of Energy Has Been Supportive Of Renewable Energy Use But Needs To Do More

South Africa’s energy resource is dominated by coal-fired generation stations with a net output of 37.8 GWp, which represents more than 90% of the country’s total installed capacity of over 45 GWp. Renewable Energy (RE) is still a new sector in South Africa, with the first commercial utility projects initiated in 2013 and it merely accounts for 5% of South Africa’s electricity. The South African renewable energy sources are dominated by solar photovoltaic (PV) and wind and are backed by a growing small-scale embedded generation market (mostly solar for commercial and industrial businesses). At the time of writing this report, 3.8 GW of RE is commercially operating, of which the three main technologies are concentrated solar power (CSP), solar PV, and wind.

The Renewable Energy Independent Power Producers Procurement (REIPPPP) was established in 2010 and it represents the country’s most comprehensive strategy to date in achieving the transition to a greener economy. The programme has been designed to contribute to the development of a local green industry and the creation of green jobs.

The programme seeks to procure energy from small scale (Independent Power Producers) IPPs, with projects that generate between one Megawatt (MW) and five MW of energy from solar, wind, biomass and landfill gas projects. Through the REIPPPP, the Department of Energy (DoE) is targeting the procurement of 13 225 MW from IPPs by 2025. The IPPs, with the support of the DoE, has procured 6 376 MW of energy to date. This has been managed through bid rounds in the small and large REIPPPP bid windows. To date, the programme has attracted more than R200 billion in investments, of which R48.7 billion is foreign equity and financing activities.

Specific to the procurement of new generation capacity, South Africa is guided by National Development Plan, the IRP 2010-2030 (most recently, draft Integrated Resource Plan (IRP) 2018), which stems from the broader national energy plan, embodied within the Integrated Energy Plan (IEP) and RE White Paper. NDP proposes that gas and other renewable resources like wind, solar and hydro-electricity will be viable alternatives to coal and will supply at least 20 000 MW of the additional 29 000 MW of electricity needed by 2030. The draft IRP 2018 allocations indicate 8 100 MW for wind, 5 670 MW
Solar Photovoltaic (PV) and 2 400 MW of small-scale embedded generation (SSEG) to be procured by 2030, which has the potential of attracting in excess of R200 billion in the next 12 years.

**Activity Rating: ***Right Direction**

DoE goals beyond 2020 include contracting more than 20 000 MW of renewable energy, including an increasing share from regional hydro-electricity. To fulfil the requirements of the economy without compromising government’s commitment to sustainable development, the department is pursuing a balanced mix of energy that includes clean and renewable resources, as stipulated in the IRP. The draft IRP 2018 update calls for more renewable energy contribution through Independent Power Producers and the decommissioning of more coal-fired power stations by 2030. It envisions additional generation capacity by 2030 of 8100MW each from wind and gas, 2500MW from hydropower and 5670MW from photovoltaic. The country supports research, technology development and special measures aimed at environmentally sustainable economic growth.

**Action Alert:**

*Dear Honourable Minister Gwede Mantashe,*

Assuming that all 8100MW of new procurement is achieved by 2030, this means that wind will make up just more than 15% of the country’s power mix bringing onshore wind to 11442MW in total. Finalisation of the IRP is important for policy certainty and investment attractiveness in renewable energy resources projects. The IRP 2019 update must be finalised and published, with a commitment to regular annual updates, moving in line with technological and economic changes. The transition to renewable energy could result in a cheaper, cleaner and more reliable electricity supply for South Africa according to the study undertaken by the University of Cape Town’s Energy Research Centre.

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**Learn more**
See an overview “draft IRP 2018”,  

*This Post was submitted by Climate Scorecard South Africa Country Manager Tabana Mailula*
South Korea

Spotlight Activity Report: South Korea Plans To Expand Its Use Of Renewable Energy

The country’s new energy policy roadmap, proposed in April, was approved at the Cabinet meeting, according to the Ministry of Trade, Industry, and Energy. South Korea’s energy guidelines are renewed every five years with a 20-year goal.

The proposal is in line with the Moon Jae-in government’s push to phase out coal and nuclear plants and instead move toward clean and safe energy sources to meet the country’s demand for electricity.

“The government plans to gradually decrease the number of nuclear and coal plants to have a clean and safe portfolio of energy,” the ministry said in a statement.

Under the proposal, renewable energy sources, such as sunlight and wind, will account for up to 35% of the country’s electricity output in 2040, sharply up from around 6% of the country’s energy portfolio in 2017.

The country will refrain from building new energy plants running on conventional sources. Some existing coal plants will be renovated to run on more clean resources, such as LNG, according to the energy plan.

“We have decided to increase the share of renewable power to between 30% and 35% by 2040 to move toward cleaner and safer energy based on an advisory group’s recommendation,” Park Jae-young, director of the Ministry of Trade, Industry and Energy, told a public hearing in Seoul. The role of coal power is expected to be cut further, while gas power generation will be expanded, Park added.

Activity Rating: ****Moving Ahead

The government’s new energy policy is a welcome change away from the country’s dependence on coal and nuclear power

Action Alert Message:

We commend the Ministry of Trade, Industry and Energy for its bold new energy plan to significantly increase South Korea’s use of renewable energy. We urge the Ministry to take the next step and commit to making South Korea carbon neutral by 2050.
Spain

Spotlight Activity Report: Spain Lurches Forward In The Renewable Energy Sector, With Solar And Wind Energy At The Top Of The List

With a geography that lends very well to solar and wind energy, Spain has many possibilities when it comes to renewable energy sources. Spain plans for 42% of its overall energy to come from renewable resources by 2030, and 100% by 2050, in keeping with its carbon-neutral goal for 2050. In August, the European Investment Bank (EIB) made the announcement that they would back and finance 21 wind farms in six different regions of Spain, a project worth over €385 million and expected to produce a maximum of 547MW. The EIB sees Spain as a very promising prospect for renewable energy, considering its sunny, windy landscape.

Spain has also seen record demand in low-temperature thermal solar energy sources over the past year, with demand spanning from family homes to small and medium businesses to large energy corporations, such as the primary Spanish electric provider, Endesa. Thanks to the relaxation of government regulations on self-generation of solar energy, many Spaniards have gotten on the green bandwagon, being proactive for the environment and bolstering their wallets at the same time. The previous administration, the Popular Party, restricted and disincentivized many environmentally friendly projects through various bureaucratic hurdles, but the current socialist administration (PSOE), led by Pedro Sánchez, has enabled citizens and businesses to work more easily toward these types of goals.

Spain was recently applauded for its low levels of carbon, as its fossil fuel usage dropped to an all-time low in June 2019. This change can be attributed to many changes that Spain has made in the last few years, including their renewable sources; however, one of the leading reasons for this is Spain’s switch to natural gas use. Unfortunately, although natural gas emits 50-60% less carbon dioxide than coal, natural gas is not a renewable energy source.

Activity Rating: ****Moving Ahead

Spain’s efforts to support the use of renewable energy have exponentially increased since 2018. Many positive initiatives have been created that have enabled Spain to leave much of its anti-environment reputation behind. We do caution readers to be aware of the
current inability of Sánchez’s government to compromise with other parties to create a functional government. If he is not able to maintain power, it is possible that a change of government would also mean a change—and possibly a reversal—in Spanish environmental policy.

**Action Alert Message:**

Please send the following message to the policymaker below, to incite helpful action on the part of the Spanish citizens:

Dear Mr. Domínguez:

*I am sending a letter of appreciation and recognition for all the work you have done with renewable energy in Spain since you were appointed to office. Spain is clearly very dedicated to making strides in the environmental sector, many of which are derived from renewable energy resources such as wind and solar power. I hope that Spain will continue on this path no matter the party in power, and that you can relay the importance of these missions, especially renewable, to your entire department and surrounding contacts, as to continue the good work even after your appointment is over.*

**Send Action Alert Message to:**

D. José Domínguez Abascal  
Secretaría de Estado de Energía  
Subdirección General de Planificación Energética  
Ministerio de Energía, Turismo y Agenda Digital  
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España avanza en el sector de las energías renovables, con la energía solar y eólica de los más importantes

Con una geografía que se presta muy bien para la energía solar y eólica, España tiene muchas posibilidades de fuentes de energía renovables. España planea que el 42% de su energía total provenga de recursos renovables para el año 2030 y el 100% para el año 2050, de acuerdo con su objetivo de ser carbono neutral para el año 2050. En agosto, el Banco Europeo de Inversiones (BEI) anunció su respaldo y financiamiento de 21 parques eólicos en seis regiones diferentes de España, un proyecto valorado en más de €385 millones y que se espera que produzca un máximo de 547MW. El BEI ve mucha promesa en España y sus energías renovables, considerando su paisaje soleado y ventoso.

España también ha visto una demanda récord en fuentes de energía solar térmica de baja temperatura durante el año pasado, con una demanda que abarca desde hogares familiares hasta pequeñas y medianas empresa, e incluso grandes corporaciones energéticas como el principal proveedor español de electricidad, Endesa. Gracias al relajo de las regulaciones gubernamentales sobre autogeneración de energía solar, muchos españoles se han comprometido a vivir de una manera más sostenible, tomando decisiones proactivas para el medio ambiente y ahorrando dinero al mismo tiempo. La administración anterior, el Partido Popular, restringió y desincentivó muchos proyectos del medio ambiente por obstáculos burocráticos, pero la actual administración socialista (PSOE), dirigida por Pedro Sánchez, ha permitido que los ciudadanos y las empresas trabajen de forma más eficiente hacia este tipo de objetivos.
Hace poco aplaudieron a España por sus bajos niveles de carbono, ya que su uso de combustibles fósiles se ha caído a un mínimo histórico, según las cifras de junio del 2019. Este cambio se puede atribuir a los grandes cambios que ha realizado España durante los últimos años, incluyendo sus fuentes renovables; sin embargo, una de las principales razones es por el cambio de carbón a gas natural. Desafortunadamente, aunque el gas natural emite 50-60% menos de dióxido de carbono que el carbón, el gas natural no es una fuente de energía renovable.

**Calificación de la actividad: Avanzando****

Los esfuerzos de España para apoyar el uso de energías renovables han aumentado exponencialmente desde el año 2018. Se han creado muchas iniciativas positivas que han permitido a que España deje atrás una gran parte de su reputación anterior como “anti-medioambiental.” Advertimos a los lectores que sean conscientes de la insolencia actual del gobierno de Sánchez, incapaz de comprometerse con otras partes para crear un gobierno funcional. Si el PSOE no puede mantener el poder, es posible que un cambio de gobierno también signifique otro cambio, posiblemente una reversión en la política ambiental española.

Envíe el siguiente mensaje al político a continuación, para incitar acciones por parte de los ciudadanos españoles:

**Estimado señor Domínguez:**  
Le envío una carta de agradecimiento y reconocimiento por todo el trabajo que ha realizado con las energías renovables en España, desde su nombramiento de cargo como Secretario de Estado de Energía. Es evidente que España está muy dedicada a avanzar en el sector medioambiental, muchos de los cambios son derivados de las energías renovables, como la energía eólica y solar. Espero que España continúe en este camino sin perjudicar a los ciudadanos cuando hayan cambios de poder en los partidos políticos. Así mismo, espero que Ud. pueda transmitir la importancia de estas misiones, especialmente renovables, a todo su departamento y contactos cercanos, para que el buen trabajo continúe, incluso después de que su periodo a cargo haya terminado.

**Thailand**


In order to increase renewable energy, Thailand has several plans and roadmaps in place, which includes “gas plan, oil plan, the Energy Efficiency Plan (EEP), the Alternative Energy Development Plan (AEDP) and the Power Development Plan (PDP), which integrates the Smart Grid Plan (SGP)”. Similarly, the IRENA Report determines that “the share of renewable energy in Thailand is expected to increase from the current 12% to 37%.

Thailand also has established a roadmap for enhancing the growth of renewable energy, which is known as REmap 2036 Under REmap, “solar power alone will reach in 2036 a
total capacity of 17GW instead of previous target of 6GW”. The new solar power target of 17GW in 2036 is likely to be achieved due to “decreased solar panel costs and Thailand’s abundant solar energy resource potential”.

Thailand will also establish its new Power Development Plan (PDP) during the first quarter of 2019. Under the new PDP, the renewable energy quota for Thailand will increase to 18% (20,757 MW) by 2037 and “solar power generated by the private sector is expected to be at 10,000 MW”.

On May 24, 2019, a pilot program for 100 MW of household solar rooftops was launched. The pilot program on its first day installed solar rooftops at 70 households and generated total power capacity of 393.11 Under Thailand’s Alternative Energy Development Plan (AEDP 2018). Power generation capacity for renewable energy sources will be fed into the national power grid. This is estimated to include “solar power generating 15, 574 MW, biomass generating 5,786 MW, wind turbines generating 2,989 MW, hydroelectric power from domestic generators and from Laos generating 3,000 MW, and waste to energy generating from 500 MW previously to 900 MW at present.” As an outcome, these renewable energy sources will “contribute a total of 29,358 MW, or 33% of the national electricity generating capacity”.

At present, Thailand has plans to boost its renewable energy production through the liberalization of businesses. Liberalization will enhance the growth of renewable energy in Thailand by “opening the door to new business opportunities for local foreign companies, technologies, and concepts”.

To learn more about Thailand’s renewable energy status please visit https://pugnatorius.com/solar-energy-outlook-2020/

**Activity Ranking: ***Right Direction**

Thailand is certainly moving in the right direction with respect to boosting its renewable energy production. Steps being taken to enhance renewable energy growth in Thailand include market incentives to encourage renewable energy investments, facilitation of policies and plans in favour of increasing renewable energy growth, and implementing renewable energy projects or pilot programs such as the 100 MW of household solar rooftops launched on May 24, 2019. At present, different projects are also in-place for increasing power generation from solar power. However, one crucial consideration needs to be given by the government and policymakers for ensuring that renewable energy growth is successfully achieved for the long-term. This consideration should include the active involvement of all stakeholders in the policy-formulation, thereby ensuring strong public as well as stakeholder support is for policies being taken to boost renewable energy.

**Take Action**
To help Thailand in boosting its power generation from renewable energy sources at present and in the long-term, you can contact the members of the Department of Alternative Energy Development and Efficiency, Ministry of Energy, Thailand with the following Action Alert message:

We congratulate the Government of Thailand for undertaking different measures and policies for enhancing renewable energy production and generation. Boosting renewable energy will certainly strengthen Thailand’s NDC commitment to the Paris Agreement. However, more is needed to be done. Here, your role will be crucial. As a prominent member of the Department of Alternative Energy Development and Efficiency, Ministry of Energy, Thailand, I kindly request you to consider one recommendation. The recommendation is to include active involvement of all stakeholders during the formulation of renewable energy plans and policies. This will lead to strong stakeholder and public support for renewable energy policies and projects.

Send Action Alert Message to:

Mr. Yongyut Jantararotai  
Director General  
Department of Alternative Energy Development and Efficiency, Ministry of Energy  
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Thailand,  
Telephone: +662-223-0021-9, Ext: 1021  
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For more information please contact Climate Scorecard Thailand Country Manager Neebir Banerjee: Neebir@climatescorecard.org or neebirban@yahoo.com

Turkey

Spotlight Activity Report: Turkey Needs To Set Higher Renewable Energy Targets

There has been a significant increase in the renewable energy field in Turkey in the last 15 years. Beginning in 2019, Turkey’s electricity production capacity increased to 89,046.9 MW. Of this power, 22,393.5 MW is based on renewable energy sources and 46,115.4 MW are based on fossil fuels. The share of the dam hydroelectric power plants is 20,538 MW. The share of wind energy in renewable energy sources increased to 7,031.1 MW, solar energy increased to 5,238.8 MW, geothermal energy increased to 1,302.5 MW, and the power of stream-type hydroelectric power plants rose to 7,839.1 MW. The power of biomass-based power plants has reached 659 MW and the power from waste heat generation plants has reached 323 MW.
Within the scope of Turkey’s 10th National Renewable Energy Action Plan total energy consumption for the year 2023 is predicted to be 1.2 trillion MWh and 252 billion MWh of this consumption is predicted to be from renewable resources. The target of the country was to have at least 30% of electricity production from renewable energy sources. This target was accomplished in 2017 reaching 32%.

However, the calculations show that Turkey’s solar energy capacity is 500,000MW. Only this renewable source shows that Turkey’s renewable energy target is way below its potential. Besides solar potential, Turkey has a 31,500 MW thermal heat potential and a significant wind power potential. However, due to the technological deficiencies and financial constraints, wind energy has a low share in electricity generation.

Besides the targets and constraints discussed above, Bloomberg NEF published a report about the long-term outlook of the energy market in Turkey. According to the report, by 2050 Turkey is expected to double its installed energy capacity. Half of this is expected to be wind and solar energy. By 2050, solar energy investment costs are expected to fall by 77% and wind by 56%. It is stated that the electricity that will be produced from the new wind and solar energy installed power in 2023 may be more competitive than the new thermal power plants.

**Activity Ranking **Standing Still

Turkey’s national target is not challenging the country compared to its enormous renewable energy potential. A stronger regulatory framework should be identified that can guide the development of a long-term renewable energy plan. This regulatory framework should enable at least 50% of Turkey’s energy consumption to come from renewable sources. According to a low-cost scenario of Bloomberg NEF, 88% of electricity produced in Turkey can be provided from zero carbon emission sources by 2050.

**Action Alert**

Turkey should set up new and challenging targets for electricity production from renewable energy sources. The government should make sure that there is a regulatory framework that can support the renewable energy sector.

**Contact**

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This Post was submitted by Climate Scorecard Turkey Country Manager Ozlem Duyan
United Kingdom

Spotlight Activity Report: The Uk Is Making Good Progress In Its Transition To Renewable Energy But Needs To Get Rid Of Fossil Fuel Subsidies

In the UK, there is a variety of renewable energy sources as the technologies gain more investment over time. Currently, 33% of the UKs energy supply is obtained from renewables, with half of this coming from wind energy, as the UK is in the best position to utilize wind power in the whole of Europe. Other prominent sources include wind, bioenergy, marine energy and solar PV, with their respective output as follows.

![Renewables 2018 Chart]

However, the UKs renewable energy is not being fully utilized. Renewable energies had more energy capacity than fossil fuel energy in 2018, according to a study done by Imperial College London, shown below.
This would suggest renewable energy accounts for little over 50% of the UK's power sources. Although, this transition has shown very fast progression, due to investment growth post - 2011, and it may simply take time for infrastructure to catch up to transport renewable energy to people’s homes and businesses. In addition, it is difficult to store renewable energy as the technology needs improvements, so this transportation infrastructure is vital. A summer day in the UK peaks at 30GW (in the daytime), whereas renewable capacity is currently at 42GW. This is predicted to rise to 46GW by 2017. This means there will be large competition between renewables and non-renewables for energy supply, as Nuclear plants must be kept open 24/7 to see returns on their investments. Surrounding renewable storage infrastructure will need to improve to store the excess supply, making them more reliable and competitive. In addition, it is important to note here that the continuous fossil fuel subsidies in the UK continue to make fossil fuels more competitive than they are in reality, posing a further threat to renewable energy investment.

At present, renewable energy is also by far the cheapest energy source to produce in the UK, especially onshore wind and hydroelectricity. The cheapest of the UK electricity to produce is hydroelectric power, at an average of $0.05 per kilowatt hour (kWh), far below fossil fuels. This is not due to subsidies as some may suggest. Initially, the high risk of renewables as a new untested technology led to high lending rates on investments, but now the lending rates have improved as renewables are becoming more reliable. Combine this with the mass production of infrastructure, and the cost of production has rapidly reduced in the past ten years. According to EY’s renewable country attractiveness index, the UK scored 8th, reflecting the large growth in renewable investment for the UK. The
excess supply has also reduced the price of renewables, making them more accessible to the market.

The attractiveness in investments has been aided by policy decisions. To begin, the government announced the *The Renewable Heat Incentive* which introduced a feed-in tariff to subsidise the cost of heat production from biomass and geothermal renewable energies. Later, in 2013, the government introduced a series of reforms for the UKs electricity market, simply labelled the *Electricity Market Reform*, that included increasing the price of carbon, also known as the carbon floor price, and setting stricter emissions performance standards to restrict non-renewable technologies. 2014 saw the *Contract for Difference* policy that obligates the government to pay the difference between an agreed strike price and the market price. If the strike price is higher than the market price, the government pays the renewable energy company to keep the price low. Finally, in March 2019, the Offshore Wind Sector deal was signed, that aims to triple the number of green collar jobs in the industry to 33% by 2030, with a specific focus on encouraging women’s participation in the sector. This works with educational institutions to train new workers. All of these policies have worked to shape the UK discourse towards an encouragement of renewable energy, as well as protecting the niche and making renewables economically competitive. They have been successful; today renewable energies are competitive without the above subsidies.

**Activity Rating: ****Moving Ahead**

**Take Action:**

Please send the following message to the policymaker(s) below.

*Dear Mr Javid,*

*As Chancellor of the Exchequer, I am obliged to write to you to discuss the UKs current fossil fuel subsidies. I hope to engage you in an alternative possibility for the UKs energy future in a post-Brexit setting that enables a competitive renewable energy sector.*

*Recent data suggests renewable energy capacity exceeds that required for the UK daily usage in both summer and winter. The capacity stands at 3 times that required and is predicted to grow in the future. This has been promoted through some very successful subsidy programs such as the CfD and the Offshore Wind deal which I commend. However, moving forward large obstacles still restrict the UKs capacity for a low-carbon energy sector that can fulfil the goals agreed in the Paris Agreement, that limits global temperature rise to 2 degrees Celsius.*

*The UKs fossil fuel subsidies remain the highest in Europe at £10.5 billion annually, which exceeds the £7.5 billion allocated to renewable energy sources. Studies suggest the cost for renewable energy has reduced so rapidly that they are now competitive without these subsidies. Therefore, the promotion of renewable energies is not only necessary for the planet’s health, but is also the most economically efficient allocation of the UKs budget. This will produce a stable*
energy supply for UK consumers in the years to come, and will maintain a competitive advantage for the UK energy sector within the EU market post-Brexit.

I hope these suggestions to reduce fossil fuel subsidies to maintain the resilience and competitive advantage of the renewable energy sector is seriously considered.

Yours sincerely,
Sign Name Here

This Post was submitted by Climate Scorecard UK Country Manager: Zara Holden

United States


The main sources of renewable energy in the U.S. include hydroelectric, geothermal, solar, and wind energy, as well as biomass. In 2018, approximately 98% of the volume of all renewable energy produced in the U.S. was also consumed in the U.S.

Based on statistics from the U.S. Energy Information Administration (EIA), in 2017, renewables make up approximately 11% of the total energy consumed in the U.S., and the percentage of renewables - in particular solar and wind - of the U.S.’ overall energy portfolio has increased significantly over the last decade. Almost 20% of the electricity generated in the U.S. in 2018 came from renewable sources. Since 2000, the consumption of renewable energy has more than doubled.
In its analysis of 2017 data, Lazard found that the levelized cost of energy (LCOE), which determines the cost per kWh or MWh over the lifetime of the generating plant, for solar and wind has decreased steadily from 2009 to 2017. In the case of utility scale solar generation, the LCOE has dropped significantly in this time to be cost-competitive with both combined-cycle natural gas and wind.

Using unsubsidized costs, wind and utility scale solar were the lowest-cost sources of energy in 2017, followed closely by combined-cycle natural gas generation. Coal and nuclear far outstripped renewables and natural gas in unsubsidized LCOE.
Federal tax incentives exist to encourage the expanded generation of renewable energy in the U.S. These include a production tax credit for new wind, geothermal, and biomass, and other eligible technologies at a fixed rebate per MWh of generation, as well as an investment tax credit for new utility-scale and small-scale solar projects. Additionally, federal tax credits exist for residential solar projects. At the state level, almost 3,500 policies and incentives for renewable energy and energy efficiency exist. An interactive map of state renewable energy and energy efficiency incentives can be found [here](#).

Most of the planned growth in the U.S. renewable energy sector is driven by businesses and sub-national climate change mitigation commitments. Sierra Club hosts an interactive map of cities, counties, and states across the U.S. that have already transitioned or are committed to transition to 100% renewable energy by 2050. Many Democratic representatives and presidential candidates have called for a national-level program to significantly increase the scale and capacity of renewable energy generation in the U.S., but Republican members of Congress have largely blocked any progress towards this goal.

**Activity Rating: ***Right Direction***

While the federal government continues modest support for the expansion of renewable energy in the U.S., states, counties, cities, and businesses are driving significant expansion in the renewable energy sector, particularly in the expansion of both onshore and offshore wind generation in the U.S.

**Action Alert Message:**
Send a message to your members of Congress calling for dedicated funding for the expansion of renewable energy generation capacity through workforce training and tax incentives policies.

Renewable energy represents more than just a means of powering our homes and businesses - it produces a healthier, more resilient, more sustainable world, by providing jobs in better conditions than many in the fossil fuel industry; by generating necessary power with much lower public health and pollution outcomes; and by reducing our nation’s contributions to climate change. Please support programs to incentivize the expansion of the renewable energy sector in the U.S., particularly workforce training programs for renewable energy jobs and fiscal incentives for renewable energy resource deployment.

Contact Information:
Use this website to find the contact information for your elected officials:
https://www.usa.gov/elected-officials

This Post was submitted by Climate Scorecard US Country Manager Stephanie Gagnon