

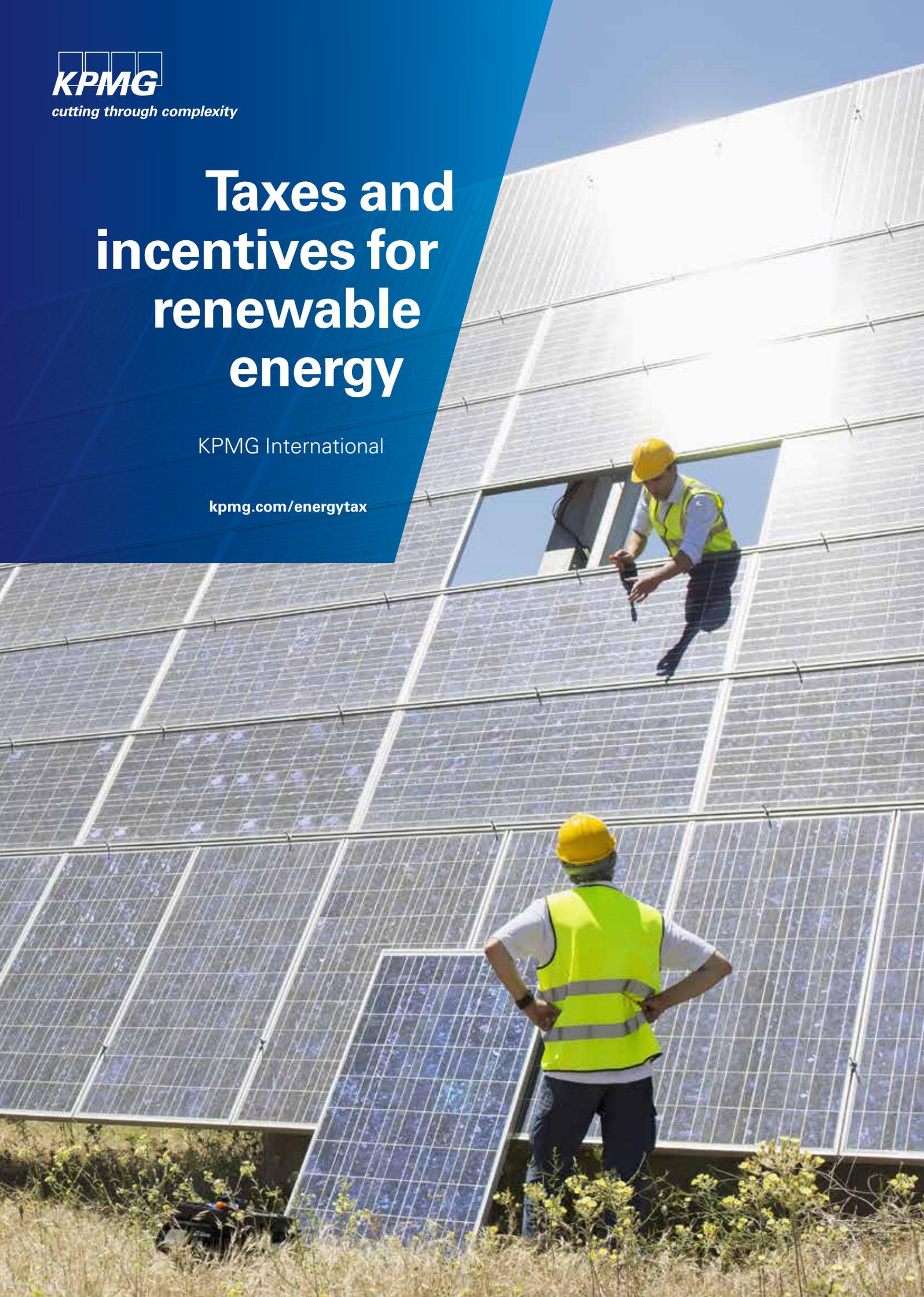


cutting through complexity

# Taxes and incentives for renewable energy

KPMG International

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***Taxes and Incentives for Renewable Energy*** is designed to help energy companies, investors and other entities stay current with government policies and programs that support renewable energy from wind, solar, biomass, geothermal and hydropower. Compiled by KPMG's Global Energy & Natural Resources tax practice, the 2015 edition provides updates on renewable energy promotion policies for 31 countries. It also includes information on adoption trends for renewables, the growing prominence of emerging markets, new solar and wind initiatives, and key investments in renewable energy around the world.



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# Introduction

Growth in taxes and incentives for renewable energy			
	Start 2004	2013	2014
Countries with policy targets	48	144	<b>164</b>
States/provinces/countries with feed-in policies	34	106	<b>108</b>
States/provinces/countries with RPs/quota policies	11	99	<b>99</b>
Countries with tendering/public competitive bidding	n/a	55	<b>60</b>
Countries with heat obligation/mandate	n/a	19	<b>21</b>
States/provinces/countries with biofuels mandates	10	63	<b>64</b>

Source: REN 21 Renewables 2015 Global Status Report

The past year has seen a number of remarkable milestones and developments related to renewable energy:

- Global investments in renewable energy increased 17 percent, the first increase since 2011.<sup>1</sup>
- Renewable energy accounted for 48 percent of new generating capacity installed globally.
- Renewable energy provided 9.1 percent of global electricity generation.<sup>2</sup>
- Developing economies almost matched developed economies in renewable energy investments.
- Solar in China and Japan and offshore wind in Europe received record financing.

The continued growth in renewables has been driven by several factors. First of all, we see a continued awareness worldwide that renewable energy plays a key role in helping to mitigate the rise in greenhouse gas emissions. According to recent estimates, renewable energy

generation accounted for an avoidance of 1.3 gigatonnes of emissions in 2014.<sup>3</sup> The effect of carbon emissions on global climate will be the main focus for the 2015 United Nations Climate Change Conference (COP21) in Paris during November and December. As with previous conferences, the overarching goal is to reduce greenhouse gas emissions through binding agreements among all the nations in the world.

Renewables also support energy access and affordability. Currently, 15 percent of the world's population — over a billion people mostly in emerging Asia and Africa — has no access to electricity.<sup>4</sup> In many emerging countries, energy sources such as wind and solar can support decentralized, mini-grid and off-grid solutions such as small wind turbines for powering remote telecommunications and solar-powered irrigation kits. In developed countries like Australia, Europe, Japan, and North America, we see significant growth in “prosumers” — residential customers who produce their own electric power through solar panels.

Equally important are economic factors. Over 7.6 million people worldwide now work directly or indirectly in the renewables sector.<sup>5</sup> Renewables are seen as a sound investment and a way to mitigate economic risk by increasing energy diversity and reducing dependence on fossil fuels. Renewables are also becoming more attractive due to advances in technology and decreased costs. Solar photovoltaic (PV) panels have dropped in price by 80 percent since 2008, with further declines expected in the future.<sup>6</sup>

In line with these industry drivers, policy support continues to encourage significant investment and low costs through economies of scale.<sup>7</sup> The number of countries with renewable energy targets and policies increased again in 2014, and several jurisdictions made their existing targets more ambitious — including a rising number with 100 percent renewable energy or electricity targets. As of early 2015, at least 164 countries had renewable energy targets, and an estimated 145 countries had renewable energy support policies in place.<sup>8</sup>

1. Global statistics from REN 21 Renewables 2015 Global Status Report; IEA World Energy Outlook 2015 Special Report; Global Trends in Renewable Energy Investments 2015 (UNEP, Bloomberg New Energy Finance); Bloomberg New Energy Outlook 2015

2. Excluding hydroelectric generation

3. Global Trends in Renewable Energy Investments 2015

4. Ibid.

5. Ibid.

6. Solar energy to be cheapest power source in 10 years, International Business Times, February 24, 2015

7. Op. cit., REN21

8. Ibid.

Power generation is the focus of most renewable energy policies. Feed-in tariffs (FITs) and Renewable Portfolio Standards (RPS) policies remain the most commonly used mechanisms. Policymakers — particularly in Europe — continue the recent trend of amending existing policies rather than adopting new mechanisms. RPS policies are most popular at the state and provincial levels. Tendering schemes, net metering or net billing policies, green banks and green bonds represent other options that are gaining support from policymakers. Counter to these policies, however are new charges or fees on renewable energy power that have been introduced in an increasing number of countries.

For renewable heating or cooling, financial incentives remain the most widely used form of policy support,

accompanied by other policy tools such as solar-specific renewable heat mandates. Transport-related policies currently focus on the biofuel sector and on road transport, although other modes of transportation also are attracting attention.

Cities continue to lead the way for renewables by setting and achieving ambitious targets that, in turn, have influenced national policies. By early 2015, several countries had achieved 100 percent of their renewable energy or electricity targets, with the vast majority of targets enacted at the city/local level.<sup>9</sup> Many municipalities have achieved their targets by mandating energy-saving methods through building codes and local distribution systems. Local and national policymakers have also supported the integration of

biofuel and electric vehicles into public transportation fleets.

In addition, the private sector is rethinking its attitude about renewables. For example, Google has announced agreements to fund over US\$2 billion in renewable energy projects, and the company has set for itself a goal of powering operations with 100 percent renewable energy.<sup>10</sup>

With growing energy demand, a strong commitment to reduce carbon emissions, further advances in technology, greater incentives for investment, and continued policy support, renewable energy will play an increasingly important role in the global energy mix for the 21st century.

(For additional information about these policies, see appendix A/page 78).



9. Ibid.

10. <http://www.google.com/green/energy/#investments>

# 2015 industry trends

Over the long term, the prospects for renewable energy remain positive, marked by steady growth across all sectors. Between now and 2040, research and analysis suggest that:<sup>11</sup>

- Overall energy demand will rise by over 30 percent.
- Renewables will grow to account for 56 percent of power capacity.
- Developing countries will build three times the renewable capacity as developed countries.
- Penetration of renewables will double to 46 percent of electricity output.
- Costs for wind will decrease by 32 percent and solar by 48 percent.
- Solar will account for over a third of global capacity additions.

These long-term trends are clearly reflected in the top headlines for the industry in 2014. Renewables reached almost 11 gigawatts (GW) of installations. Developing countries almost surpassed developed countries in total investments for renewables, increasing their share of investment activity to 49 percent — a new record.<sup>12</sup> China alone attracted over US\$83 billion, representing almost a third of global investment and an increase of 33 percent for that country over 2013.<sup>13</sup>

The largest single initiatives for renewable energy in 2014 involved solar panel projects in China and Japan. Almost US\$75 billion was invested by the two Asian countries. China dedicated almost US\$40 billion to large, utility-scale installations of more than 1 megawatt (MW). Japan invested almost US\$35 billion in smaller solar projects of less than 1 MW, supported in part by FITs to stimulate the installation of solar, wind, and other forms of renewable energy.

Wind turbine power generation represented the other major development area for renewables.

Again, China was the leader with US\$38 billion in investments, representing almost two-thirds of wind financing in developing countries. These investments were driven by national policies as well as anticipated reductions in FITs. Germany, the UK and the Netherlands invested over US\$5 billion in wind power, much of it for offshore installations. Seven projects costing US\$1 billion or more reached “final investment decision” stage during 2014. The largest project was the US\$3.8 billion financing by 12 banks, three export credit agencies, the European Investment Bank and a Danish pension fund for the 600 MW Gemini installation off the coast of the Netherlands.<sup>14</sup> Globally, US\$18.6 billion worth of offshore wind projects were financed in 2014, representing an increase of 148 percent over 2013. Europe accounted for US\$16.2 billion of the world offshore wind investment, with China the remaining US\$2.4 billion.

Challenges for renewables include policy uncertainty, a trend toward auctions and away from FITs and green certificates in developed countries, retroactive changes in subsidies, and the need to expand electricity distribution systems and integrate renewable-based systems with existing power grids. In addition, the rapid drop in crude oil prices in 2015 and the continued low prices for natural gas in North America may have an impact on adoption rates for renewables, although no significant changes have been seen so far in policymaking or investments. In fact, the continued growth of renewables during a period of historically low prices for oil and gas can be explained in part by the success of policies that decouple the renewable market from the fossil fuel market.

The development of more sophisticated power storage and delivery systems will become increasingly important for renewables and require high investments. As the global middle class continues

to expand, energy consumption will be marked by greater peak demand periods driven by home appliances, cooling and heating systems and transportation. However, renewables such as solar and wind are variable energy sources, dependent on whether the sun shines and the wind blows. To incorporate these renewables into their traditional energy mix, utilities will need to continue their development of battery storage systems, smart metering, demand-response solutions, and other innovations that increase energy efficiency while helping to match fluctuating supply and demand.

The following key sectors represent a number of recent industry trends:

**Solar PV:** Although hydropower is still the main source of renewable energy, rapidly falling costs have made solar PV the largest market for new investment. In fact, unsubsidized solar PV-generated electricity has now become cost-competitive with fossil fuels in a growing number of locations around the world. The recovery that began in 2013 for solar PV continued in 2014, with an estimated 40 GW installed for a total global capacity of about 177 GW.<sup>15</sup> China, Japan, and the US accounted for the vast majority of new capacity. However, significant new capacity was planned or added in Latin America, several African countries, and markets in the Middle East such as Saudi Arabia. In January 2014, Dubai Electricity & Water Authority awarded a contract to build a 200 MW, US\$330 million PV plant to a group led by Saudi Arabia’s ACWA Power International.<sup>16</sup> Most EU markets declined for the third consecutive year, but the region — particularly Germany — continued to lead the world in terms of total solar PV capacity and contribution to the electricity supply.

**Concentrating Solar Thermal Power (CSP):** The sector maintained strong growth with total capacity increasing 27 percent to 4.4 GW.<sup>17</sup> Most capacity is

11. Op. cit., Bloomberg New Energy Outlook 2015; World Energy Outlook Special Report, REN 21

12. Op. cit., REN21

13. Op. cit., Global Trends in Renewable Energy Investments 2015

14. Ibid.

15. REN21, Technology Roadmap: Solar Photovoltaic Energy, International Energy Agency

16. Op. cit., Global Trends in Renewable Energy Investments 2015

17. REN21

delivered through parabolic trough plants, but 2014 saw a greater diversification of technologies such as linear Fresnel and tower plants that produce energy as heat through the use of long and narrow segments of mirror that pivot to reflect sunlight onto a fixed absorber tube. Only the United States and India added CSP facilities to their grids in 2014, but South Africa and Morocco continued construction and planning for CSP. Spain remained the global leader in existing capacity, although European markets remain stagnant. However, costs are declining for CSP, particularly in the global sunbelt, and a variety of technologies are under development that can support CSP, such as thermal energy storage (TES) systems.

**Solar Thermal Heating and Cooling:**

Solar thermal heating technologies capture the heat of the sun and transfer it to air or water to heat buildings. Solar chillers use thermal energy to produce cold air or water through absorption cooling technology. The technology is used primarily for large domestic water heating systems in hotels, schools,

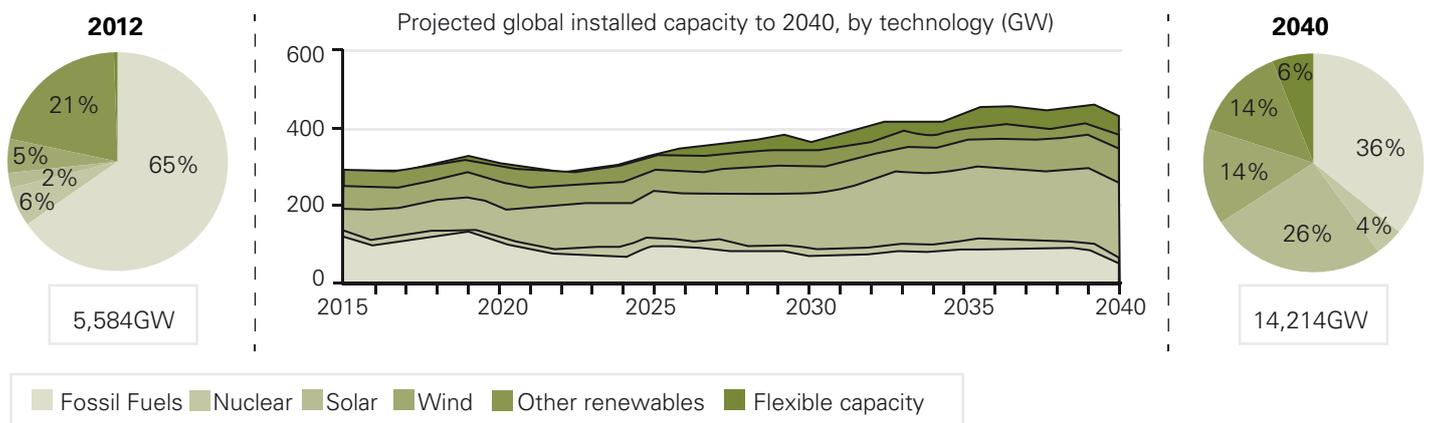
factories and other large complexes. In general, solar thermal technologies declined in 2014, especially in Europe and China. Cumulative capacity of water collectors reached an estimated 406 GW-thermal (GWth) by the end of 2014 (with air collectors adding another 2 GWth), providing approximately 341 terawatt-thermal (TWth) of heat annually.<sup>18</sup> Despite overcapacity and weakening demand in 2014, China again accounted for about 80 percent of the world market for solar water collectors. Domestic sales expanded in much of Asia, parts of Africa, and Latin America.

**Wind Power:** Wind is still the cheapest option for new power generation, and global wind power added a record 51 GW in 2014 — the most of any renewable technology — for a total of 370 GW.<sup>19</sup> An estimated 1.7 GW of grid-connected capacity was added offshore for a world total exceeding 8.5 GW. Wind energy is the least-cost option for new power generating capacity in an increasing number of locations, and new markets continued to emerge in Africa, Asia, and Latin America. Asia remained the largest

market for the seventh consecutive year, led by China, and overtook Europe in total capacity. The US was the leading country for wind power generation. After years of operating in the red, most turbine makers pulled back into the black with all the top 10 companies breaking installation records.

**Hydro:** Most hydro-electric projects of more than 50 MW have been in operation for decades and represent a different stage in renewable technology. However, mention should be made of several recent achievements in this sector. These are led by the final commissioning of the giant 13.9 GW Xiluodu Dam in Yunnan and Sichuan provinces, China.<sup>20</sup> In addition, Andritz, an Austrian company, has been awarded a contract to supply electromechanical equipment for the 2.1 GW Lauca hydropower plant in Angola.<sup>21</sup> Other financings include US\$904 million for the ICE Reventazon hydro-electric project in Costa Rica and US\$747 million for the Nam Ngiep 1 project in Laos.<sup>22</sup>

**Annual Capacity additions, 2015-40 (GW)**

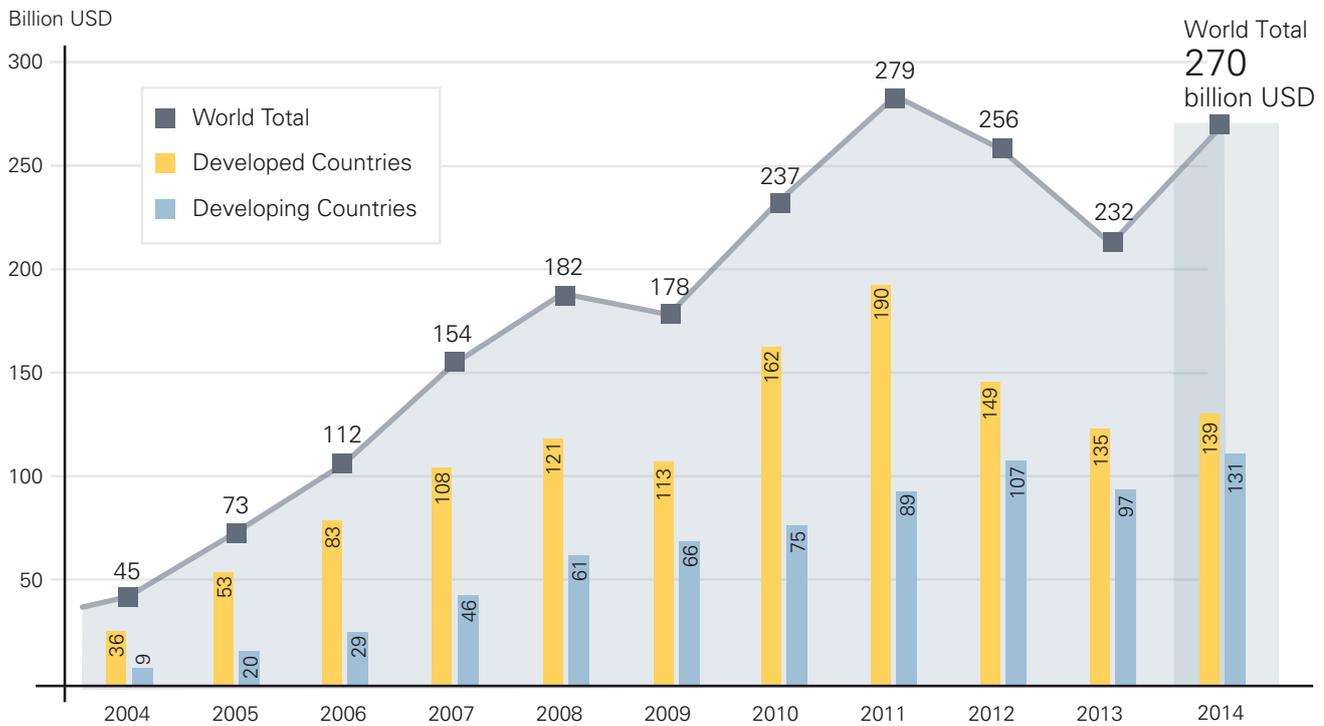


Source: Bloomberg New Energy Finance

18. Ibid.  
 19. Ibid.  
 20. Op. cit., Global Trends in Renewable Energy Investments 2015  
 21. Ibid.  
 22. Ibid.

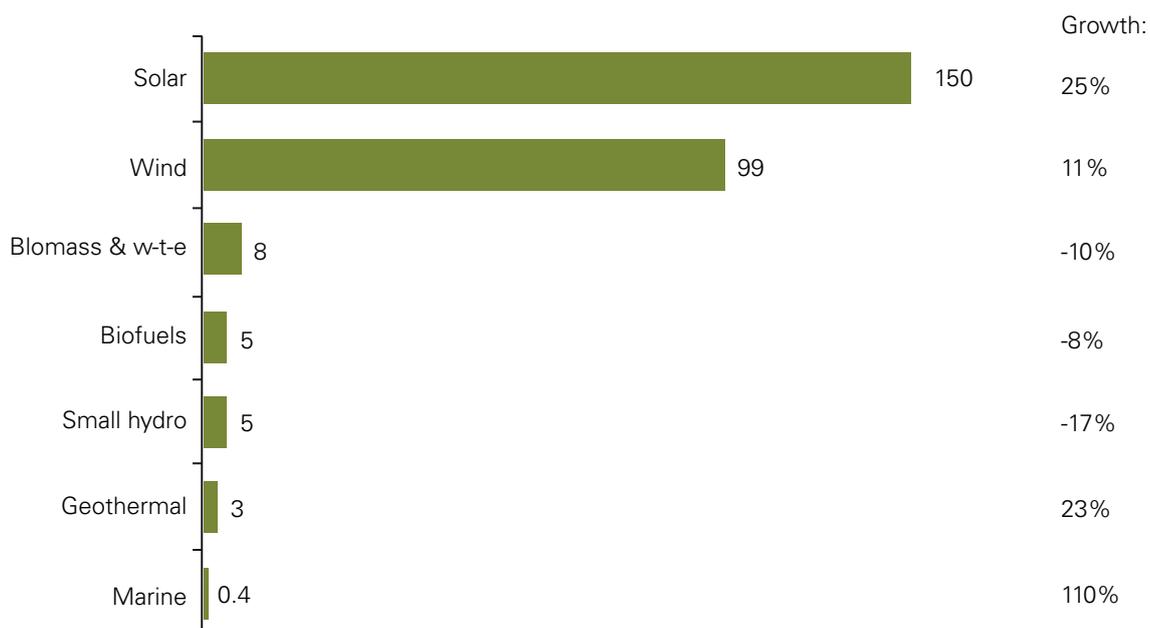
# Global investment in renewable energy production

## Global New Investment in Renewable Power and Fuels, Developed and Developing Countries, 2004–2014



Does not include investment in hydropower > 50 MW

## Global new investment in renewable energy by sector, 2014 compared to 2013, US\$ billions



New investment volume adjusts for re-invested equity. Total values include estimates for undisclosed deals.

Source: UNEP, Bloomberg New Energy Finance.

By the end of 2014, the renewable energy industry had achieved a significant turnaround in investment activity. For the first time in 3 years, global new investment was on the upswing, increasing by 17 percent over 2013 and reaching a total of US\$270 billion for 2014.<sup>23</sup> Renewables outpaced fossil fuels for the fifth year running in terms of net investment in power capacity additions. Investment in developing economies was up 36 percent, almost reaching the investment total for developed economies, which saw an increase of only 3 percent.

Although China, the US, Japan, the UK and Germany remained the leaders in investments for renewables, activity continued to spread to new markets throughout 2014. Brazil (US\$7.6 billion), India (US\$7.4 billion) and South Africa (US\$5.5 billion) were all in the top 10 of investing countries.<sup>24</sup> Chile, Indonesia, Kenya, Mexico, South Africa, and Turkey each invested more than US\$ 1 billion in renewable energy.<sup>25</sup> Uruguay, Panama, the Philippines and Myanmar invested between US\$500 million to US\$1 billion.

Backed by lowering costs and policy support, solar and wind continued to dominate the industry. In 2014, these two sectors accounted for 92 percent of overall global investment in renewable power and fuels, while biomass and waste-to-energy made up only 3 percent of investments.<sup>26</sup> In terms of total capacity including utility-scale and small projects, solar led the industry with US\$136.3 billion in investments, up 25 percent over 2013. Wind was the largest sector in terms of utility-scale asset finance, attracting US\$ 92 billion, an increase of 10 percent over last year. Large-scale solar farms grew 15 percent, reaching US\$ 62.8 billion. The next largest sector was biomass and waste-to-power, with US\$7.4 billion, down 10 percent from last year.

Equity raising by renewable energy companies on public markets rose 54 percent in 2014 to US\$15.1 billion.<sup>27</sup> The increase was driven by the recovery in sector share prices between mid-2012 and March 2014, and by the popularity with investors of US “yieldcos” and European quoted project funds. These investments in operating-stage wind, solar and other renewable energy projects raised US\$5 billion from stock market investors in 2014.

The year 2014 also saw the creation of two new South-South development banks: the US\$100 billion New Development Bank created by the BRIC countries — Brazil, Russia, India and China — along with the Asian Infrastructure Investment Bank created by 23 Asian countries. The expansion of new investment vehicles for renewables — such as green bonds, yield companies, and crowdfunding — have attracted new classes of capital providers and are helping to reduce the cost of capital for financing renewable energy projects. For example, more than a quarter of new investment in renewable energy for 2014 went to small-scale projects, particularly solar PV.

Between 2010 and 2014, investment levels in renewables remained relatively steady with annual totals between US\$230 billion and US\$280 billion. Although the total for 2014 was on the high side of this range, there is no assurance that current trends will necessarily continue. Nevertheless, renewables are being increasingly perceived as a stable, relatively low-risk investment by institutional funds. This is evident partly in the rising commitment by institutions to renewable power projects, and partly in their backing for green bonds, which reached a record US\$39 billion of issuance in 2014.<sup>28</sup> The German utility EON reflected the

growing consensus about the relative risk of renewables when it committed to retaining its renewables, distribution and transmission businesses, while putting its conventional generation arm into a separate company.<sup>29</sup>

(For additional information, see appendix B/page 79)

## China:

Out of every three dollars spent in global renewables investment during 2014, almost one dollar went to China, making it the world’s leader in investments and new installations for renewable power.<sup>30</sup> Investments totaled about US\$80 billion, with 90 percent of that amount assigned to asset financing for utility-scale projects.<sup>31</sup>

Wind predominated large-scale development, attracting US\$37.9 billion, an increase of 30 percent over 2013. Not surprisingly, the country set a new global record for wind installations — 21 GW — as development accelerated to beat anticipated reductions in the FIT. Major transactions included the 200 MW Longyuan Rudong intertidal offshore wind farm (US\$990 million) and the 400 MW Huadian Qingyang Huanxian Maojing onshore wind farm (US\$560 million).

China also built a record volume of solar capacity last year, supported by US\$29.7 billion in investments, a 20 percent increase over last year. As with wind, the majority of investments involved utility-scale plants. Major projects included the 530 MW Longyangxia PV plant (US\$848 million) being developed by Huanghe Hydropower Development and the 300 MW Minqin Hongshagang PV plant (US\$420 million) owned by China Singyes Solar Technologies. Small-scale PV investment rose from US\$1.2 billion in 2013 to US\$7.6 billion, an increase of over 633 percent. In September, the

23. Op. cit., Bloomberg New Energy Finance, REN 21. Figure excludes large hydroelectric projects using traditional technology

24. Ibid.

25. Ibid.

26. Op. cit., Global Trends in Renewable Energy Investments 2015

27. Ibid.

28. Op. cit., Global Trends in Renewable Energy Investments 2015, REN21

29. Ibid.

30. Ibid.

31. Ibid.

government released a new policy on solar generation systems connected to the distribution grid, encouraging further development.

more on page 22.

## United States

Among developed economies, the US retained its leadership in renewable energy investments, which increased 7 percent to US\$36.3 billion. In terms of financing types, venture capital and private equity in solar rose from US\$373 million in 2013 to US\$1.3 billion in 2014. The biggest deal was a US\$250 million private investment in Sunnova for expanding residential solar sales. Overall, US public market activity in solar increased by 76 percent to reach US\$5.9 billion.

Three of the top four deals in solar were based on yieldcos — publicly-owned companies formed to own power plants and pass most cash flow to investors as dividends. The largest yieldco was AbengoaYield, which raised US\$829 million through an IPO on Nasdaq. In May,

California-based Pattern Energy Group raised US\$586 million in a secondary-share placement. In California and some other states, subsidies were perceived as no longer necessary, shifting the solar policy debate to retail rates and net metering. Investment in US small-scale solar capacity grew by 66 percent last year to US\$12.9 billion, with the residential market welcoming new financing methods and other innovations.

Overall investments for wind declined by half to US\$6.9 billion, driven mainly by uncertainty over whether the Production Tax Credit would be extended. At the same time, public market investment in wind more than doubled last year to US\$893 million. Like solar, much of this financing was driven by yieldcos.

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## Japan:

Japan followed close behind the US in renewable energy investment. The 2014 Strategic Energy Plan includes a generous FIT that encouraged US\$34.3 billion in investments, with

82 percent (US\$28.1 billion) spent on small-scale solar projects, a US\$6 billion increase over 2013. The FIT has been such a success that some 70 GW of solar applications were approved by November 2014, prompting half of the country's vertically integrated utilities to announce restrictions in Q4 2014 on grid access. In December, the government proposed changes to the rules on FIT applications, grid connection approval and curtailment.

The 2014 Strategic Energy Plan also includes provisions to shorten the time required to conduct environmental impact assessments for wind farms; deregulate the process of setting up small hydropower plants; and exempt solar power stations from regulations under the Factory Location Act, which otherwise imposes a three-month requirement prior to construction.

The events of Fukushima in 2011 continue to influence the course of renewable energy policies for Japan. Responding to fears regarding the safety of nuclear power after the



events of Fukushima, the country's nuclear reactors were taken offline between 2011 and 2012, oil and natural gas imports were increased, and the government provided new incentives for renewable energy. However the decision to take nuclear reactors offline has now been reversed by the 2014 Strategic Energy Plan and the Nuclear Regulation Authority of Japan is reviewing 18 reactors for restart. These developments will most likely affect the government's perspective on policymaking for renewable energy in the future.<sup>32</sup>

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## United Kingdom

The UK was Europe's largest single investor in renewable energy for 2014, although its contribution of US\$13.9 billion represented only a 1 percent increase over last year.<sup>33</sup> Wind attracted US\$8 billion, compared with US\$2.7 billion for solar. Offshore projects accounted for 86 percent of investments for wind. The biggest "final investment decisions" were for the 402 MW

Dudgeon plant (US\$2.6 billion) and the 389 MW West of Duddon Sands wind farm (US\$2.1 billion). The UK's largest transaction in onshore wind was also the country's largest renewable energy public-market investment — US\$200 million for the Greencoat UK Wind fund through a secondary share placement. The UK was also one of the few countries to attract any marine energy investment, at US\$123 million. Slightly over two-thirds of this amount funded the first phase of the 86 MW MeyGen Inner Sound tidal stream project, projected to be the world's largest tidal array.

In the first round of the UK's auction program for its new Contracts for Difference to support renewables, winning bids came in at tariffs estimated to be some 10 percent below the all-in remuneration available under the outgoing Renewables Obligation (RO) incentive. The results, announced in late February 2015, also showed offshore wind bids winning through at 14 to 18 percent below what would have been available under the RO.

## Germany:

After the UK, the leading European investor in offshore wind projects was Germany, with financing for this sector increasing 4 percent to US\$11.4 billion in 2014. Although Germany was number one in European solar investments in 2013, the country saw investments in this sector drop by half in 2014. Only 2 GW was installed – below the government's target range of 2.4 to 2.6 GW. The decrease in FIT rates and the self-consumption charge introduced in August led to a one-third reduction in investment in small-scale PV to US\$3 billion – well below the US\$25 billion level reached in 2010.

In contrast, wind attracted more than 2.5 times as much investment (US\$8.2 billion), of which 61 percent was spent on three offshore projects. The two biggest deals were for the 350 MW Wikingen and 277 MW Borkum Riffgrund wind farms, both of which cost US\$1.7 billion.

more on page 30



32. Op. cit., Global Trends in Renewable Energy Investments 2015, REN21

33. Ibid.

# Renewable energy promotion policies by country

The following chart is a summary of the support schemes available for the countries highlighted in this publication. Additional details regarding the investment and operating support schemes for each country can be found in the following pages.

COUNTRY	Renewable energy targets	REGULATORY POLICIES							FISCAL INCENTIVES AND PUBLIC FINANCING				
		Feed-in tariff/premium payment	Electric utility quota obligation / RPS	Net metering	Biofuels obligation/mandate	Heat obligation/mandate	Tradable REC	Tendering	Capital subsidy, grant, or rebate	Investment or production tax credits	Reductions in sales, energy, CO <sub>2</sub> , VAT, or other taxes	Energy production payment	Public investment, loans, or grants
<b>HIGH INCOME COUNTRIES</b>													
Australia	○	●	○		●	●	○	★*	○				○
Austria	○	○			○		○		○	○			○
Belgium	○		●	●	○		○	○	●	○	○		
Canada	●	R*	●	●	○		○	○	○	○	○		○
France	R	R			○	○	○	○	○	○	○		○
Germany	○	R			○	○			○	○	○		○
Greece	○	R		○	○	○			○	○	○		○
Ireland	○	○			○	●	○	○					
Italy	○	R		○	★	○	○	○	○	R	○		○
Japan	R	R	○	○			○	○	○				○
The Netherlands	○	○		○	○		○		○	○	○	○	○
New Zealand	○								○				○
Norway	○		○		○		○	○	○		○		○
Poland	○	R	○		○		○	R			○		○
South Korea	○		○	○	○	○	○		○	○	○		○
Spain	○			○	R	○	○		○	○		○	
Sweden	○	○	○		○		○		○	○	○		○
United Kingdom	○	○	○		○		○		○		○	○	○
United States <sup>1</sup>	R*	R*	R*	R*	○	●	●		○	R	○		○
Uruguay	○	○		○	○	○		○	○		○	○	○
<b>UPPER-MIDDLE INCOME COUNTRIES</b>													
Argentina	○	○		○	R			★	○	○	○	○	○
Brazil	○			○	R	●		★		○	○		○
China	R	R	○		○	○		○	○	○	○	○	○
Costa Rica	○	R		★	○			○			○		
Mexico	○			○				○		○			○
Peru	○	○	○		○			○			○		○
Romania	○		○		○		○						R
South Africa	R		○		○	○		★	R		R		○
Turkey	R	○			○				○				○
<b>LOWER-MIDDLE INCOME COUNTRIES</b>													
India	○	○	○	●	○	●	○	★	○	○	★	○	○
Philippines	○	○	○	○	○	○		○	○	○	○	○	○

○ – existing national (could also include state/provincial), ● – existing state/provincial (but no national), ★ – new (\* indicates state/provincial), R – revised (\* indicates state/provincial), x – removed/expired

1 State-level targets in the United States include RPS policies.

## Market Issues

To help clients address key challenges in today's rapidly evolving renewable energy sector, KPMG member firms provide services backed by a global network of resources, information and experience. The KPMG Energy & Natural Resources practice has specialists in the field of renewable energy, based in key business locations around the world, acting as a single network. In each location, KPMG professionals can offer practical, in-depth, renewable energy experience. They can also draw on the KPMG global network of Energy & Natural Resources practitioners to provide clients with immediate access to the latest industry knowledge, skills, resources and technical developments.

With regular calls and effective communications tools, we can share observations and insights, debate new emerging issues and discuss issues that are critical to clients' management agendas. This global network also produces regular surveys and commentary on key issues affecting the sector, business trends, changes in regulations and the commercial, risk and financial challenges of doing business.

## KPMG's ENR Tax Services & Solutions – Engaging the Green Agenda

KPMG firms can help you to review your regulatory and sustainability business strategies and your energy and emissions trading objectives. We can provide tax characteristics of carbon credits, resolve Clean Development Mechanism issues, and define implications of Certified Emission Reduction forward contracts from both trading and transfer pricing standpoints.

We can also help you navigate the wide array of available global and local Government and municipal grant programs or tax incentives related to the production and sale and purchase of alternative energy and green products. These include FITs, tax holidays, accelerated depreciation, carbon tax/pricing, trading schemes, energy taxes, excise taxes or VAT in relation to wind, solar, biomass, biofuels, geothermal and hydropower sources, as well as increased energy efficiencies, smart-grid technologies, and carbon capture and storage technologies.

Due to the impact of these incentives and taxes on your investment decisions, KPMG firms can factor them into tailored due diligence and tax modeling services. These services apply not only to production or sale/purchase of green goods but also to green investments and financing arrangements.

KPMG's Global ENR Tax network includes professionals who specialize in these tax practice areas:

- Financial Services Tax
- Global Indirect Tax
- Global Transfer Pricing Services
- International Corporate Tax
- Mergers & Acquisitions.

## Investing in the sector

KPMG member firms invest significant time and resources in deepening our understanding and knowledge of the sector. This enables us to provide clients with strategic and insightful services that are tailored to their specific needs and based on an understanding of their challenges.



# Argentina



## Support schemes

### Investments and other subsidies

Support is available for renewable energy sources including biofuels, solar, wind, hydro and geothermal, among others.

*At the local tax level:*

- anticipated value added tax (VAT) refunds for the new depreciable property (except for automobiles) included in the project
- accelerated income tax depreciation. (Filing two claims for the same project is not allowed.)

The property used for the project will not be a part of the minimum, presumed, income tax taxable base. In addition, biofuel producers will not be subject to the hydric infrastructure tax, the tax on liquid fuels and the gas oil tax for the amount of fuel that is marketed in the national territory.

*At the provincial level:*

- real estate tax exemption
- stamp tax exemption
- turnover tax exemption/deferral
- tax stability.

The type of benefit depends on the geographic area in which the renewable energy plant operates, so the plant's specific location must be supplied for a proper tax classification.

## Operating subsidies

### Subsidies at the national level:

- wind: Argentine peso (ARS)0.015/kWh
- solar: ARS0.9/kWh
- hydro for less than 30 MW installed capacity: ARS0.015/kWh
- other: ARS0.015/kWh. Several provinces have different incentive feed-in tariffs according to the kind of energy they want to promote.

## Quota obligation

The aim is to reach a contribution of sources of renewable energy equal to 8 percent of the total national consumption of electric energy within a term of 10 years, starting in 2006, the effective date of the regime.

Quota obligations also include the use of fossil fuel mixed with at least 10 percent of biofuels, including biodiesel and bioethanol.

## Additional information

The following authorizations are required for the construction of renewable energy plants:

- authorization to use the land
- environmental impact study
- approval by the Energy Secretariat
- bidding offer submitted through the Program of Electric Generation through Renewable Energies (Programa Generación Renovable or GENREN).

## Bill:

In March 2014, a bill was brought before the Argentine Senate to make the application of Law 26190 more flexible and to achieve an 8 percent share in the satisfaction of the national demand of electric energy within a 10-year term (expiring in 2016). In addition, the bill sets a new goal for 2025, which consists in increasing the aforementioned share to 20 percent. As of mid-year 2015, the Argentine Senate has approved this bill, and we assume that the House of Representatives' half sanction will follow.

Apart from the benefits provided by prior regulations, the bill introduces a provision for the collection of a tax bonus to be allocated to the payment of national taxes.

# Australia

## Support schemes

### Renewable Energy Target (RET)

Australia's RET is designed to ensure that 20 percent of Australia's electricity comes from renewable sources by 2020. The RET continues to act as the principle driver of new renewable energy investment across Australia and will achieve a target of 33,000 GWh of renewable electricity by 2020. The renewable energy sector has received increased certainty this year with the Australian Parliament passing renewed legislation committing to the target after a review process.<sup>1</sup> No further reviews of the scheme are to occur until it ends in 2020.

In addition to the RET there are also a number of policies, programs and incentives, with key initiatives specifically related to renewable energy which are described below.

### Australian Renewable Energy Agency (ARENA)

ARENA is an independent agency established by the Australian Government on 1 July 2012 and operates under the ARENA Act 2011. It has two key objectives: to improve the competitiveness of renewable energy technologies, and to increase the supply of renewable energy in Australia. It has approximately AUD2.5 billion in funding for renewable energy projects and research and development activities.<sup>2</sup> To date, it has committed AUD1.1 billion to 230 projects across a range of technologies.<sup>3</sup>

Listed below are ARENA's current initiatives.

#### Emerging Renewables Program (ERP)

The ERP is focused on supporting renewable energy technology at the development, demonstration and supported commercial stages of the innovation chain. Ultimately the aim is to lower the cost of energy produced

by renewable energy technologies to a point where they are better able to compete with traditional fossil-fuel technologies. Funding is available under two categories:

- **Projects** – Offers funding for renewable energy and enabling technologies and products as they move through the technology innovation chain. The application process is undertaken in two phases, with funding allocations expected to fall within the range of AUD2 million to 30 million.
- **Measures** – Offers funding for initiatives that involve a renewable energy industry capacity building activity, skills development activity or a preparatory activity for an ARENA Project. The application process is undertaken in one phase and is expected to fund up to AUD3 million, with a maximum funding pool of AUD10 million.

#### Supporting High value Australian Renewable Energy Knowledge (SHARE)

initiative is in addition to these two categories and seeks to build on the store of publicly-available knowledge about renewable energy technologies and approaches that are best suited to Australia. The SHARE initiative can support the direct commissioning research, studies or knowledge products that meet knowledge gaps within the industry or help overcome barriers to its growth in priority areas including understanding renewable energy potential, grid integration and international engagement.

#### Research and Development Program (RDP)

The RDP is focused on supporting R&D activities that will contribute to increasing the commercial deployment of renewable energy. Up to AUD300 million in grants has been allocated to develop ARENA's

R&D portfolio.<sup>4</sup> This initiative has had two funding rounds to date which have focused on solar excellence and industry collaboration respectively.

#### Accelerated Step Change Initiative (ASCI)

ASCI supports exceptional, breakthrough projects that are not otherwise eligible under existing ARENA programs. Expressions of interest from Australian and international companies and research institutions will be accepted until 2018. Eligible projects must require an ARENA contribution of AUD5 million or more, with the overall project cost expected to be more than AUD20 million.

Projects that are at the research and development (R&D) phase of a renewable energy technology or include a technology that has yet to be proven at the pilot scale are not eligible. Projects can, however, include R&D components where they assist in the demonstration, commercialisation or deployment of a renewable energy technology.

#### Clean Energy Finance Corporation (CEFC)

The CEFC was established by the Australian Government under the Clean Energy Finance Corporation Act 2012 and is a commercially oriented financier which aims to make a positive return on its investment. The CEFC co-finances and invests, both directly and indirectly, in clean energy projects using a range of financial instruments but does not issue grants. After its first 2 years in operation the CEFC has committed over AUD1 billion in investments across 70 projects with a total value of AUD3 billion.<sup>5</sup> The CEFC focuses on technologies and projects that are in the later stage of development and those that can produce a positive rate of return and an ability to repay capital.

1. <http://www.environment.gov.au/minister/hunt/2015/mr20150623.html>

2. <http://arena.gov.au/about-arena/>

3. <http://arena.gov.au/media/arena-awarded-world-environment-day-award-2015/>

4. <http://arena.gov.au/initiatives-and-programmes/research-and-development-programme/>

5. <http://www.cleanenergyfinancecorp.com.au/media/107349/aie-ceo-series-vic-26-may-2015-.pdf>

### Renewable Energy Venture Capital Fund

The Southern Cross Renewable Energy Fund is a 13-year, AUD200 million venture capital fund, operated by Southern Cross Venture Partners. The fund was initially established under the Australian government's AUD100 million Renewable Energy Venture Capital Fund (REVC) with the Government's contribution matched by an additional AUD100 million contributed by Softbank China Venture Capital.

### R&D Tax Incentive

The R&D Tax Incentive scheme is a broad-based program accessible to all industry sectors. In many instances, activities conducted as a part of renewable energy development may be eligible for the R&D tax incentive. Currently the program offers two tiers of incentive based on the turnover of the company in question:

- Smaller companies (those with an aggregated turnover less than AUD20 million) can access a refundable 45 percent R&D tax offset, provided they are not controlled by income tax exempt entities; and
- Larger companies (those with an aggregated turnover of AUD20 million or more) can access a non-refundable 40 percent R&D tax offset.

Only the first AUD100 million of R&D expenditure per income year receives R&D tax offsets above the corporate tax rate, and unused non-refundable offset amounts may be able to be carried forward to future income years.

### Operating subsidies

#### Feed-in Tariff

There are no national-based FITs. However, a number of state-based initiatives exist for small-scale

generation. The Australian Capital Territory (ACT) previously ran a Large Scale FIT Scheme which provided the ACT government with power to grant FIT entitlements up to 210 MW of generation capacity.

### Quota obligation

20 percent reduction by 2020.

### Additional information

The Victorian State Government has recently made renewable energy a priority focus sector of its economy and is establishing a AUD20 million New Energy Jobs Fund that will focus on driving investment into renewable energy projects and technologies.



# Austria

## Support schemes

### Investments and other subsidies

#### Small solar plants

Less than 5 kWp investment subsidies are granted for the plants, sufficient for them to achieve a 6 percent capital yield.

For plants between 5 kWp and 200 kWp, an investment subsidy is granted of 30 percent, not to exceed euros (EUR)200.

#### Waste liquor plants

Maximum 30 percent of the investment (not including real estate costs)

- up to 100 MW: EUR300/kW
- 100 MW to 400 MW: EUR180/kW
- more than 400 MW: EUR120/kW.

#### Small hydro plants

- maximum 30 percent of the investment for 500 kW capacity: up to EUR1500/kW
- maximum 20 percent of the investment for 2 MW capacity: up to EUR1000/kW
- maximum 10 percent of the investment for 10 MW capacity: up to EUR400/kW
- Between these set percentages, the maximum is calculated via linear interpolation.

#### Medium hydro plants (<10 MW)

- maximum 10 percent of the investment
- maximum EUR400/kW and maximum EUR6 million per plant.

## Operating subsidies

### Feed-in tariff

#### Wind energy:

- cents (ct)9.36/kWh.

#### Solar:

*On buildings:*

- 5 kWp to 200 kWp: ct11.50/kWh.
- 201 kWp to 350 kWp: ct12.50/kWh.

*In open space:*

- 5 kWp to 350 kWp: ct10.00/kWh.

#### Geothermal:

- ct7.36/kWh.

#### Sewage gas

- ct5.88/kWh.

#### Landfill gas

- ct4.90/kWh.

#### Compact biomass (such as forest woodchips or straw)

- ct8.81/kWh to ct13.86/kWh, depending on the production capacity (declining tariff).

#### Waste with high biogenic contingent

- same as for compact biomass, minus 25 percent.

#### Liquid biomass

- ct5.68/kWh; surplus of ct2/kWh for production in an efficient power-heat cogeneration.

#### Biogas from agrarian production

- ct12.80/kWh to ct19.31/kWh, depending on the production capacity (declining tariff).

## Additional information

### Legal

The feed-in tariffs are regulated by the law for the promotion of electricity production from renewable energy resources (Ökostromgesetz 2012). The concrete feed-in tariffs have to be determined each year by a decree from the Ministry of Economics.

#### Duration of the feed-in tariffs

15 years for liquid and concrete biomass or biogas; 13 years for all other renewable technologies.

#### Administrative procedures

Applications have to be filed with the Renewable Energy handling Center (Ökostromabwicklungstelle, <http://www.oem-ag.at/>).



# Belgium

## Support schemes

### Investment and other subsidies

#### Corporate income tax incentives

An increased investment deduction is available for investments made by a Belgian company into newly acquired or built tangible fixed assets or into new intangible fixed assets, provided that these assets are being used in Belgium for the purpose of a professional activity. The increased investment deduction will also be provided with respect to investments made in “energy saving assets,” that is, fixed assets used for a more rational approach to energy consumption, for the improvement of industrial processes from an energy-based point of view, and especially for the recovery of energy in the industry.

#### Applicable rules and rates

A percentage of the acquisition or investment value of energy saving assets that have been newly acquired or established during the taxable period will be tax deductible. This comes in addition to the accounting depreciations that are also tax deductible.

The increased investment deduction should therefore be applied as a one-off deduction and equals 13.5 percent (indexed yearly — percentage investments 2015) of the acquisition value or investment value.

#### Tax deduction

The increased investment deduction will be applied on the profits of the taxable period in which the assets have been newly acquired or established (that is, when they became depreciable). When the deduction cannot be fully set off against the profits of the taxable period, the proportion of the deduction that has not been used can be carried forward without any time limit and can be set off against the profits of the subsequent taxable periods. The application of the carried-forward increased investment deduction is however limited to a certain amount per taxable period, being EUR620,000 for investments made in 2014, or 25 percent of the total amount

of carried forward increased investment deduction if this amount is higher than EUR2.48 million (per financial year 2014).

#### Formalities

The Royal Decree implementing the Belgian Income Tax Code contains a list of eligible investments. Some examples are wind turbines, solar panels, combined heat and power plants, biomass and waste handling, processing installations or heat recovery devices.

A certificate issued by the competent Regional Authority confirming that the assets are enlisted should be requested within three months following the last day of the taxable period in which the assets are acquired or established. To verify the authenticity of the investment made, it is necessary that the application to the competent Regional Authority is accompanied with supporting documents and other items for determining the accuracy of the amount and the value of the investments.

#### Regional Support Schemes

In Belgium, renewable energy is a regional matter; only offshore wind power and hydro power are governed by national (federal) regulations. Depending on the competent Regional Authority, applications can be made for specific support schemes.

Financial support to encourage Belgian companies to invest in state-of-the-art, ecological technologies can be obtained via an open online system and will be granted by the competent Regional Authorities.

Provided that certain conditions have been met, these regionally granted subsidies are tax-free for corporate income tax purposes.

#### Federal System of Certificates

In Belgium, electricity from renewable sources is promoted mainly through a quota system based on the trade of certificates — in other words, green

energy certificates and/or combined heat and power (CHP) certificates.

The certificate can be considered as a transferable intangible asset, demonstrating that the energy plant as mentioned realized a certain amount of energy savings. The competent Regional Authorities grants these certificates on a monthly basis to the owners of such energy plants as a reward for the energy savings they achieved.

Belgian electricity suppliers have to make sure that a minimum amount of the electricity they provide to the end consumers can be considered as green or renewable energy. To demonstrate that they have reached this minimum amount of renewable energy, the electricity suppliers need to submit a sufficient number of certificates to the Regional Authority. Electricity suppliers who do not produce renewable energy themselves (and have not been granted certificates) or suppliers that do not provide enough renewable energy themselves are able to buy these certificates on the market.

Producers of renewable energy can sell the certificates they have received to an electricity supplier who needs to reach the minimum amount of renewable energy. Moreover, to ensure the sale of certificates at a minimum value, the distribution network operator, as part of its duty as a public service, will also purchase certificates at a minimum guaranteed value, upon request of an energy producer.

As a result, producers of renewable energy can use the certificates that were granted to them by the competent Regional Authority to:

- meet the minimum renewable energy requirements (in case the producer is also an electricity supplier)
- sell the certificates on the market at market price
- sell the certificates to the distribution network operator at a certain minimum guaranteed value.

# Brazil

## Support schemes

### Investments and other subsidies

#### Taxes over revenue and imports (PIS and COFINS)

- A special tax regime is applicable in Brazil for producers and importers of biodiesel, which includes two programs: the Social Integration Program (Programa de Integração Social or PIS) and the Contribution to the Social Security Fund (Contribuição para o Financiamento da Seguridade Social or COFINS). The PIS and COFINS taxes due are definitive, meaning that the resale of biodiesel by wholesalers, distributors and retailers is not subject to PIS and COFINS. Under this tax regime, the producers and importers can opt for:

- a 6.15 percent PIS rate and a 28.32 percent COFINS rate levied on gross revenues derived from biodiesel sales; or
- a fixed value of PIS and COFINS by cubic meter of commercialized biodiesel Brazilian real (BRL)26.41 and BRL121.59, respectively.

Producers opting for the fixed value can obtain certain reductions and exemptions of the amounts due, depending on the supplier of raw material or input applicable to the production (for example, acquisition from castor bean producers or from family farmers). Moreover, the entity that sells biodiesel that is subject to the non-cumulative regime of PIS and COFINS is entitled to a 45 percent presumed credit based on the income from the sale in the domestic market or the export of biodiesel.

- Sugarcane sales are exempt from PIS and COFINS, provided that the tax payer is under the non-cumulative regime.
- There is a special tax regime for producers, importers and distributors of ethanol. The producers and importers may opt for:

- a 1.5 percent PIS rate and a 6.9 percent COFINS rate levied on gross revenue of ethanol sales
- a fixed value of PIS and COFINS by cubic meter of commercialized ethanol – BRL8.57 and BRL39.43, respectively, up to 31 August 2013.

The Brazilian government edited Decree 7.997/13, which sets forth that, from 1 September 2013 until 31 December 2016, the fixed value of PIS and COFINS by cubic meter of commercialized ethanol shall be increased to BRL21.43 and BRL98.57, respectively.

Despite this, the Brazilian government approved Federal Law n. 12.859/2013 that grants to the producers and importers a presumed credit in the same values, which leads to a practical effect of zero rate of PIS and COFINS. Also, the taxpayers may opt for this new fixed value and the presumed credit in advance (from 8 May 2013).

For distributors of ethanol, the following options are available, depending on the option of the producer or importer:

- a 3.75 percent PIS rate and a 17.25 percent COFINS rate levied on gross revenue of ethanol sales
- a zero rate for the fixed PIS and COFINS.

- Ethanol sales carried out by retailers and sales negotiated through the Future & Commodities Exchange (Bolsa de Mercadorias e Futuros or BM&F) are not subject to PIS and COFINS, as long as the commodities' contracts do not stipulate physical delivery as part of contracts that are financially settled.

#### Federal and state VAT (IPI and ICMS)

- Biodiesel and ethanol sales are not subject to the Industrialized Products tax (Imposto Sobre Produtos Industrializados or IPI).
- Equipment used in the renewable energy generation process is generally exempted from the IPI.

- The State Value-Added Tax on Sales and Services (Imposto Sobre a Circulação de Mercadorias e Serviços or ICMS) can possibly be exempted for some products used for biodiesel or ethanol production. In addition, the ICMS calculation basis may be reduced for interstate operations related to ethanol and biodiesel production and distribution. This reduction depends on individual state law.
- In the same way, operations involving equipment used in the generation of wind and solar energy can possibly be ICMS tax exempt until 31 December 2021.

#### Contribution for Intervention in the Economic Domain (CIDE)

- Ethanol sales are not subject to Contribution for Intervention in the Economic Domain (Contribuição de Intervenção no Domínio Econômico or CIDE).

#### Operating subsidies

Brazil currently has no feed-in tariff policy.

#### Additional information

Brazil is considered the world's seventh largest investor in renewable energy. Nationwide, 79.3 percent of the Internal Energy Supply (Oferta Interna de Energia or OIE) is renewable, whereas the world's average is 20.3 percent.

Furthermore, the National Bank for Economic and Social Development (Banco Nacional do Desenvolvimento Econômico Social or BNDES) provides a variety of financial programs to stimulate the production of renewable energy. The development of the renewable energies in Brazil is increasing, and almost half of the energy consumed in Brazil is now generated by renewable sources.

The actual scenario is very advantageous for renewable energy. The government expectations are that renewable energy may be responsible

for 18 GW out of a total increase of 63 GW in the total installed capacity of the segment over the next 10 years.

According to the Ministry of Mines and Energy, Brazil is especially well situated for becoming a major producer of biodiesel. The country contains a vast amount of arable land, much of which has the right soil and climate for growing a variety of oilseeds.

The growth of biodiesel as an alternative energy source in Brazil is supported by Federal Laws 11.097/05 and 13.033/14, which mandate a minimum of 5 percent of biodiesel to be mixed with diesel and the monitoring of this mixture in the marketplace. The Laws also support the funding of R&D for biodiesel and other energy sources, as well as all phases of production, including the acquisition of equipment and technology.

In a related matter, Brazil is one of the most promising countries for wind energy. The first wind energy auction was held at the end of 2009, in which the government bought 1,805 MW of wind energy at a price of BRL148.39/MWh. Encouraged by the success of this auction, the government continues to hold auctions on an annual basis.

### Additional benefits not yet in force

Several other incentives being discussed in the Brazilian scenario are also worth mentioning:

The Brazilian Commission of Infrastructure Services (CI) approved PLS311/09, a federal project law that establishes the Special Regime of Taxation to encourage the development and generation of electric power from alternative sources (Regime Especial de Tributação para o Incentivo ao Desenvolvimento e à Produção de Fontes Alternativas de Energia or REINFA). This project foresees several tax benefits such as exemptions of PIS and COFINS, import taxes and IPI for companies operating under the regime. It is important to emphasize that this is not a law in force, yet. At the present time, it is still awaiting internal procedures in the Federal Senate.

After COP-15, Brazil formalized its commitment to reduce carbon emissions and increased its goal by 2.8 percent. Under the National Policy on Climate Change (law 12.187/09), Brazil has pledged to reduce carbon emissions 38.9 percent by 2020. According to this law, Brazil could grant several tax benefits to encourage the use

of renewable energy. At this point in time, these benefits have not yet been implemented.

In 2013, the government created a program of incentives to the ethanol sector. This program involves several benefits to this market that will be implemented soon:

- creation of a line of credit of BRL6 billion for the production and storage of sugarcane and ethanol with reduced interests
- increasing of the percentage of ethanol to be mixed with gasoline from 20 percent to 25 percent
- reduction of chemical input costs, by diminishing the chemical industry costs with the increasing of its PIS and COFINS credits.

Finally, other general benefits that are not specific to renewables may apply, such as the Special Incentives Program for Infrastructure Development (Regime Especial de Incentivos para o Desenvolvimento da Infra-Estrutura or REIDI), SUDAM/SUDENE incentives, and technology innovation. Each one has its requirements for application and, in some cases, depends on government approval.



# Canada

## Support schemes

### Federal investments and other subsidies

The Government of Canada has committed that by 2020 Canada's total greenhouse gas emissions be reduced by 17 percent from 2005 levels and 90 percent of Canada's electricity be generated from sources that do not produce greenhouse gas pollution. Here is a summary of incentives and grants that the federal government has invested in support of these goals.

### Income tax incentives

#### Accelerated Capital Cost Allowance (ACCA)

Advantageous ACCA rates are available for certain types of assets used for clean energy generation and energy conservation:

- Class 43.1 (30 percent declining balance basis) for certain clean energy generation and energy conservation equipment.
- Class 43.2 (50 percent declining balance basis) for certain equipment described in Class 43.1 that is acquired on or after 23 February 2005 and before 2020 that is used for clean energy generation, energy conservation and higher efficiency standards.
- Recent federal budgets that support, along with other equipment, the following components:
  - o electricity
    - high-efficiency cogeneration equipment
    - small hydroelectric facilities
    - wind turbines
    - fuel cells
    - wave and tidal power equipment
    - Photovoltaic (PV) equipment

- equipment generating electricity from geothermal energy
- equipment generating electricity from eligible waste fuel.
  - o thermal energy
    - active solar equipment
    - district energy equipment that distributes thermal energy from cogeneration
    - heat recovery equipment used in electricity generation and industrial processes
  - ground source heat pump equipment
  - equipment generating heat for industrial processes or greenhouses, using an eligible waste fuel.
    - o fuels from waste
      - equipment that recovers landfill gas or digester gas
      - equipment used to produce biogas through anaerobic digestion
      - equipment used to convert biomass into bio-oil
      - equipment used to remove non-combustibles and containments from gas.

#### Canadian Renewable and Conservation Expense (CRCE)

To promote the development and conservation of sources of renewable energy, many start-up expenditures on renewable projects can be grouped in a CRCE pool. CRCE can include intangible expenses such as feasibility studies, negotiation, regulatory, site approval costs, site prep and testing, etc. CRCE can also include test wind turbines that are part of a wind farm, on projects where 50 percent or more tangible costs are reasonably expected to be included in Class 43.1 or 43.2 ACCA.

CRCE is fully deductible in any year, can be carried-forward indefinitely or can be transferred to investors through the flow-through share rules.

### Scientific Research & Experimental Development (SR&ED) Program

The SR&ED Program is a federal tax incentive program administered by the Canada Revenue Agency that encourages Canadian businesses of all sizes, and in all sectors, to conduct R&D in Canada. Companies, including those carrying on business in clean energy generation, may be entitled to claim an Investment Tax Credit (ITC) if they incur eligible R&D expenditure. The tax credit is based on money already committed and spent by the company. The program is the single largest source of federal government support for industrial R&D, returning as much as a 35 percent federal cash refund.

### Sustainable Development Technology Canada (SDTC)

SDTC plays a significant role in bridging the gap between research and commercialization of clean technologies. It does this by fast tracking clean technologies through their development and demonstration phases, in preparation for commercialization. SDTC is an arm's length foundation that was created by the Federal government to invest 1.09 billion Canadian dollars (CAD) in innovative technologies and projects that deliver economic, environmental, and health benefits to Canadians.

Backed by CAD915 million in funds, SDTC supports projects that address climate change, air quality, clean water and clean soil. The CAD500 million NextGen Biofuels Fund supports the establishment of first-of-kind, large demonstration-scale facilities for the production of next-generation renewable fuels.

SDTC acts as the primary catalyst in building a sustainable development technology infrastructure in Canada. The SDTC portfolio is currently comprised of 285 clean technology projects, for a total value of CAD2.9 billion, of which over CAD2.0 billion is leveraged primarily from the private-sector. In February 2015, SDTC announced a call for applications, which was open until 15 April 2015.

### **ecoENERGY**

The ecoENERGY program targets several areas including biofuels, energy efficiency and renewable energy.

- **ecoENERGY for biofuels:** The ecoENERGY for Biofuels initiative has a budget of CAD1.5 billion over 9 years to boost Canada's production of biofuels. The program runs from 1 April 2008 to 31 March 2017, and recipients will be entitled to receive incentives for up to 7 consecutive years.
- **ecoENERGY for Renewable Power:** The ecoENERGY for Renewable Power initiative has a budget of approximately CAD1.4 billion over 14 years to encourage using renewable energy sources to create electricity. The program runs from 1 April 2007 to 31 March 2021. There are no new agreements signed after 31 March 2011; however, many projects with existing contribution agreements will still receive payments up until 31 March 2021.

### **Provincial investments and other subsidies**

#### **Bioenergy Producer Credit Program – Alberta**

To expand Alberta's bioenergy sector, the Bioenergy Producer Credit Program was established to provide production subsidies for a variety of bioenergy products, including renewable fuels, electricity, and heat using waste such as manure and wood chips. In

the 2013 budget, the Government of Alberta cancelled future rounds of the Bioenergy Producer Credit Program. However, the government will still be honoring payments to existing grant agreements. The program is valid for bioenergy production from 1 April 2011 to 31 March 2016.

#### **Carbon Capture and Storage (CCS) Fund – Alberta**

The Alberta government has committed CAD1.3 billion to advance CCS technology. Approved projects can receive a maximum of 75 percent of the total incremental cost to capture, transport and store CO<sub>2</sub>. A maximum of 40 percent of the approved funding will be distributed during the design and construction stage based on achieved milestones, and an additional 20 percent of the approved funding will be granted upon commercial operation. The remaining 40 percent of the funding will be provided as CO<sub>2</sub> is captured and stored over a maximum period of 10 years.

The government of Alberta has awarded funding for two projects from its CAD1.3 billion CCS fund:

- Alberta Carbon Trunk Line (CAD495 million)
- Shell Quest (CAD745 million).

#### **Innovative Energy Technologies Programs (IETP) – Alberta**

The Innovative Energy Technologies Program (IETP) supports the Provincial Energy Strategy (PES), which identifies the need for innovation, research and technology development. Announced in 2004, the IETP supports innovative technology development in the production of Alberta's oil, oil sands, and gas resources. It also supports finding commercial technical solutions to the gas-over-bitumen issue to allow the efficient and orderly production of both resources. Over time, program costs will be recovered through additional

recoverable reserves and increased royalties. Successful applicants in the program are provided with royalty adjustments up to a maximum of 30 percent of approved project costs. The industry must provide the remaining 70 percent or more of total project costs. The total industry/government commitment to important new technologies, assuming full subscription of the program, will be CAD1.15 billion.

#### **Innovative Clean Energy Fund (ICE) – British Columbia**

The Innovative Clean Energy Fund encourages the development of new sources of clean energy and technologies and supports precommercial energy technology or commercial technologies not currently used in British Columbia. Since 2008, there are 62 projects with a total amount of CAD77 million that have been approved throughout British Columbia.

#### **SR&ED tax credit – All provinces**

Various provinces provide refundable and/or non-refundable investment tax credits (ITC) worth between 10 percent and 15 percent of annual eligible expenditures (depending on the particular province) for all corporations that do business through a permanent establishment situated in that province. Eligible expenditures are generally those that qualify for federal ITC purposes and are generally capped at a maximum annual credit.

#### **Operating subsidies**

There are no feed-in tariffs or quota obligations at the federal level, but they are implemented in some provinces.

#### **Quota obligation – Alberta**

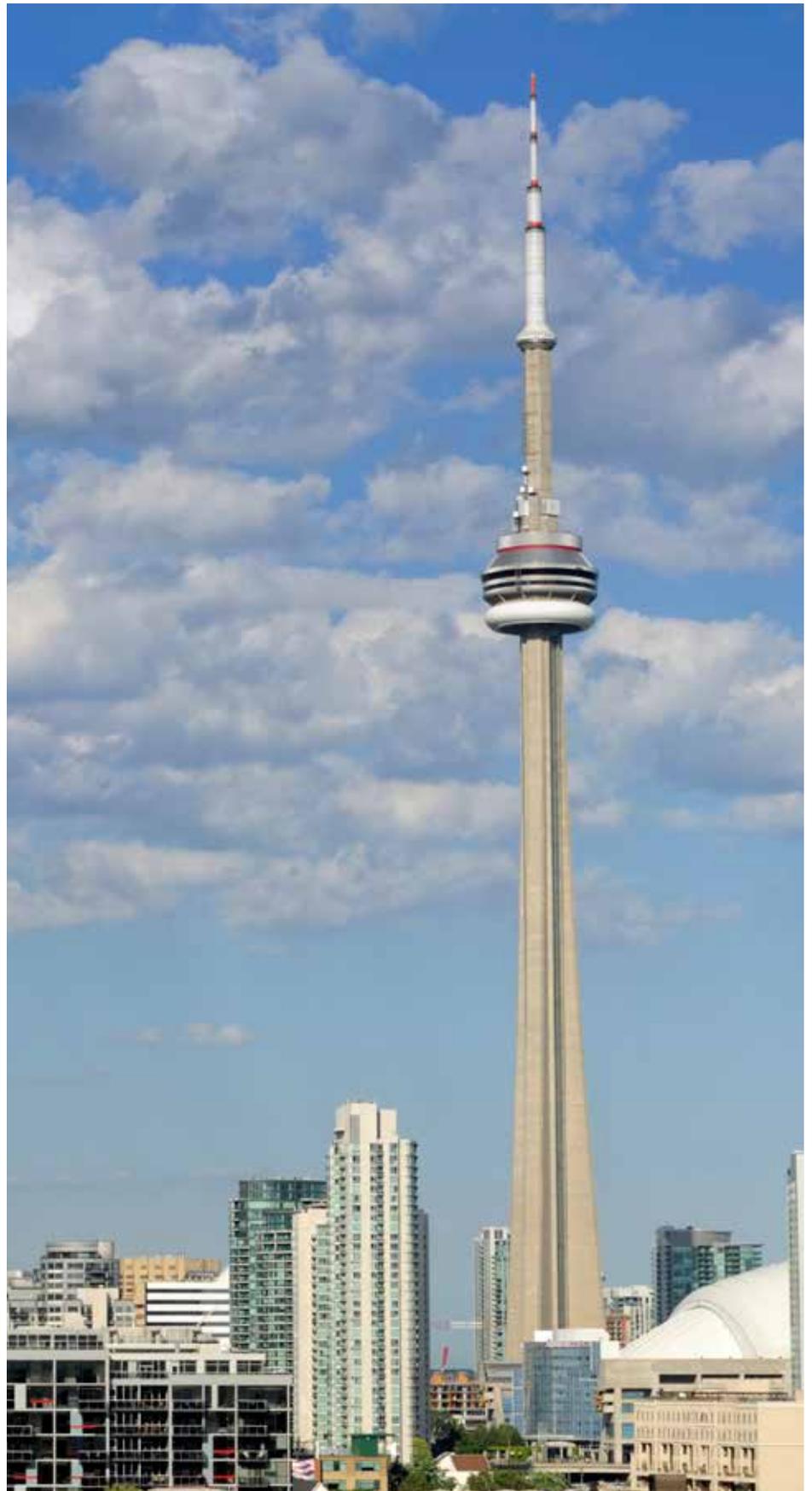
The province of Alberta has required facilities that emit more than 100,000 tonnes of greenhouse gas emissions a year to reduce their emissions intensity by 12 percent. The regulation took effect as of 1 July 2007. Emitters have

four choices for compliance with this emissions reduction target:

- make improvements to their operations
- purchase offset credits from other sectors that have voluntarily reduced their emissions
- pay CAD15 a tonne into the Climate Change and Emissions Management Fund, an arm's length organization independent from the government that invests the funds into initiatives and projects that support emission reduction technologies
- purchase Emissions Performance Credits from facilities that have reduced their emissions intensity below the mandatory 12 percent threshold.

#### **Feed-in tariff – Ontario**

The Ontario feed-in tariff program is North America's first comprehensive guaranteed pricing structure for renewable electricity production, and it provides a way to contract for renewable energy generation. It includes standardized program rules, prices and contracts for anyone interested in developing a qualifying renewable energy project. Prices are designed to cover project costs and allow for a reasonable return on investment over the contract term, and they are subject to review periodically. Qualifying renewable technologies include biogas, renewable biomass, landfill gas, PV, water power and wind power.



# China

## Support schemes

### Investments and other subsidies

#### Corporate Income Tax (CIT)

- A reduced CIT rate of 15 percent is granted to qualified advanced and new technology enterprises. Applicable fields include solar energy, wind energy, biomaterial energy, and geothermal energy.
- The Clean Development Mechanism (CDM) Fund is exempted from CIT on the following income:
  - the portion of Carbon Emissions Reductions (CERs) proceeds that are shared by the government
  - donations from international financial organizations
  - interest income derived from capital deposit or national bonds
  - donations from domestic and foreign entities or individuals.
- Enterprises operating CDM projects are allowed to deduct before CIT the CER proceeds that are shared by the government.
- A 3-year exemption of the CIT is followed by a 50 percent reduction for another 3 years of the standard CIT rate for income derived from specified CDM projects. These projects include hydrofluorocarbons (HFC), perfluorocarbons (PFC), and nitrous oxide (N<sub>2</sub>O) projects, starting from the year in which the revenue from the transfer of greenhouse gas emission reductions is first received. According to the new Administrative Measures Governing the Operation of CDM Projects in 2011, any project companies, except for the 41 state-owned enterprises listed, shall apply for approval with the National Development and Reform Commission (NDRC) at the provincial level first. Then the commission would submit preliminary review

opinions to the central NDRC for further review. (According to the Old Measures, all CDM project companies applied directly to the central NDRC for approval.)

- The New Measure also changes the sharing percentage in the proceeds from the transfer of emission reductions units between the government and companies involved in N<sub>2</sub>O and PFC projects.
- A 3-year exemption from the CIT is followed by a 50 percent reduction for another 3 years of the standard CIT rate for income derived from qualified environmental protection and energy or water conservation projects. This reduction starts from the year in which the first revenue is generated. Applicable fields include biomaterial energy, synergistic development and utilization of methane, and technological innovation in energy conservation and emission.
- A 10 percent credit of the amount invested in the qualified equipment is applied against the CIT, payable for the current year, with any unutilized investment credit eligible to be carried forward for 5 tax years. This applies only if such equipment is qualified as special equipment related to environmental protection, energy, or water conservation and production safety.
- Only 90 percent of the revenue derived from the transaction is taken into account for CIT computation purposes. This applies only if such revenue is derived from the use of specific resources associated with the synergistic utilization of resources as raw materials in the production of goods.
- A 150 percent deduction is given for qualified R&D expenses incurred for CIT computation purposes.

## VAT

- 50 percent refund of VAT is paid on the sale of wind power.
- 50 percent refund of VAT is paid on the sale of self-produced PV power from 1 October 2013 to 31 December 2015.
- 100 percent refund of VAT is paid on the sale of biodiesel oil generated by the utilization of abandoned-animal fat and vegetable oil.
- The portion of VAT paid in excess of 8 percent shall be refunded on the sale of self-produced electricity by hydroelectric power stations with 1 million KW installed capacity from 1 January 2013 to 31 December 2015, while the portion of VAT paid in excess of 12 percent shall be refunded on the sale of self-produced electricity by hydroelectric power stations with 1 million KW installed capacity from 1 January 2016 to 31 December 2017.
- VAT paid on the sale of goods produced from recycled materials or waste residuals is refundable.
- VAT is exempt on the sale of self-produced goods including recycled water, qualified powdered rubber made out of obsolete tires, re-trodden tires and certain construction materials made from 30 percent or more of waste residuals.
- VAT is exempt for sewage treatment, garbage disposal and sludge treatment services.

In November 2011, the government authority expanded the scope of sales of self-produced goods/products by using the prescribed recycled materials, waste residuals and agricultural residuals that are eligible for VAT refund at rates ranging from 50 to 100 percent of the VAT payable. The rates may vary depending on the nature of recycled materials or residuals utilized.

As of 1 April 2013, the taxpayer is further required to meet the local/national pollutant emission requirements in order to receive the VAT incentive for self-produced goods/ products from recycled materials.

### Vehicle and Vessel Tax

As of 1 January 2012, qualified energy efficient vehicles and vessels enjoy a 50 percent Vehicle and Vessel Tax deduction. Qualified new energy (mainly electric) vehicles and vessels may be exempted from Vehicle and Vessel Taxes.

### Vehicle Purchase Tax

From 1 September 2014 to 31 December 2017, new energy vehicles purchased will be exempted from Vehicle Purchase Tax.

### Feed-in tariff incentives available to energy performance contracting (EPC) projects

- Qualified energy service companies (ESCOs) taking part in an EPC project will be eligible for a tax exemption in the first 3 years and a tax reduction by half (an effective rate of 12.5 percent) over the following 3 years, starting from the tax year in which the revenue from the project first arises. Where an EPC project lasts less than 6 years, the ESCO shall be entitled to the incentives based on the actual project period.
- An enterprise that invests in special equipment for energy conservation will obtain a credit against its tax payable that equals 10 percent of the investment amount in the year in which the investment is made. Where there is not sufficient tax payable to absorb the credit in the year, the excess credit may be carried forward up to 5 tax years.
- A qualified ESCO taking part in an EPC project will be provisionally exempt from the Business Tax/VAT on revenues received from the project.

- A qualified ESCO taking part in an EPC project will be provisionally exempt from the VAT on the transfer to the energy user of goods related to the project.
- When, at the end of the term of the energy management contract (EMC), the ESCO transfers to the energy user the assets that have materialized in the course of executing the EPC project, the ESCO can do so as if these assets had been fully depreciated or amortized for CIT purposes. In the same way, when the energy user receives the project assets from the ESCO, the energy user can do so as if these assets had been so depreciated or amortized.
- When the ESCO transfers the project assets to the energy user at the end of the term of the EMC, the ESCO will not have to recognize any revenue to take into account the contributions the energy user has made to the price of the assets.
- An energy user in an EPC project can deduct reasonable expenses actually incurred in accordance with the EMC as, and when, they are incurred for CIT purposes. There is no need to differentiate between service fees and asset prices in claiming such a deduction.

### Operating subsidies

#### Feed-in tariff

With the revised Renewable Energy Law that came into effect in April 2010, the State Bureau of Energy and other departments of the State Council will promulgate guidelines on the full purchase of electricity generated by new energies. According to the revised law, the price of on-grid electricity generated by renewable energies shall be determined by the competent price department of the State Council. The council will consider the difference in

areas and the electricity generated by different types of renewable energy companies.

### Financial funds/allowance

Special funds are made available to facilitate the development of renewable energy relating to the following activities:

- scientific and technical research, standardization processes and model engineering projects
- renewable energy projects in rural and pastoral areas
- construction of stand-alone electricity generation system in remote areas and islands
- renewable energy resource surveys, evaluation and construction of information systems
- localization of manufacturing facilities used in the renewable energy sector.

The special funds may also be deployed as compensation for the higher costs charged by renewable energy plants and indirectly borne by the grid for the purchase of electricity from these plants. Applicants may apply for such funds with the local finance bureaus and the government agencies in charge of renewable energy projects.

### Financial subsidies for energy conservation technologies improvement

During the State's 12th Five-Year Plan period, the central government will continue to arrange special subsidies to support the projects to improve the energy conservation technologies.

The financial subsidies for energy conservation will support the following activities:

- innovation for energy conservation mechanisms
- establishment of energy conservation capacity and public platforms

- integrated demonstrations of fiscal policy for energy conservation
- energy conservation in significant fields, industries and regions
- promotion and upgrading of significant energy conservation technologies
- other relevant activities approved by the State Council.

The allocation of the financial subsidies for energy conservation is closely linked to the nature, goals, investment, achievements and utilization levels for energy conservation. The allocation methods of financial subsidies include direct allowances, bonus, interest discount and reimbursement on the actual costs basis.

### **Financial subsidies for renewable energy development**

To promote the development and utilization of renewable energy, financial subsidies are granted to the following activities:

- demonstration of important technologies for renewable and new energy, and industrialization
- development and utilization of renewable and new energy
- development of platforms for renewable and new energy
- integration of renewable and new energy utilization
- other relevant activities approved by the State Council.

The amount of subsidies granted is subject to the nature, goals, investment and utilization level for renewable energy activities. The distribution methods for financial subsidies include competitive allocation, factor allocation and reimbursement on the actual cost basis.

### **Additional information**

#### **Quota obligation**

The guidelines for quotas in the renewable energy sector have been included in the work plan of the State Bureau of Energy and are expected to be issued by 2015.



# Costa Rica

## Support schemes

### Investment and other subsidies

#### Law 7447

Law 7447 (Regulation of the Rational Use of Energy), Article 38, lists a number of energy-related products that are exempt from the following taxes:

- excise tax
- ad valorem
- general sales tax
- specific customs tax.

These exempt products include:

- Multipurpose solar water heaters
- Water storage tanks for solar heating systems (boiler type)
- PV panels for power generation, any capacity
- Control systems for PV panels, wind and hydro generators working with direct current (DC)
- Static DC to alternating current (AC) converters for PV systems, wind and hydroelectric generators with DC systems
- Deep-cycle, lead-acid batteries and nickel-cadmium or nickel-iron batteries, with capacities greater than 50 amps per hour
- Head economizers for hot water showers and sinks, with consumption of less than 9.5 liters per minute
- Efficient fluorescent and halogen lighting
- Wind and hydro-generators for use not related to private generation of electricity (Law 7200 of 28 September 1990)
- Equipment for controlling voltage and frequency for wind and hydro generators
- DC electronics equipment for use with PV panels, wind and hydro generators

- Materials to build equipment for renewable energy use
- Tempered glass with less than 0.02 percent iron content
- Thermal insulation for thermal solar collectors such as polysocyanurate and polyurethane insulation, additives for preparing them, or both
- Plate-finned tubes and absorbent plates for water heaters
- Specific aluminum profiles to build solar water heaters
- Thermal insulation for water pipes
- Any heat insulator useful to improve the insulation of storage tanks with solar heated water systems
- Measuring instruments related to renewable energies variables, such as: temperature gauges, pressure gauge fluids, solar radiation meters, and anemometers to measure wind speed and direction
- Pump-fed systems with PV and wind systems
- Refrigerators, solar cookers and hydraulic ram pumps.

Moreover, tax reductions for green technology have been introduced, such as a 10 to 30 percent tax reduction for hybrid cars.

#### Temporary import

Law 7557 (General Customs Law), Article 165, states that the products listed above are exempt from import taxes if they are imported with a temporary purpose related to a renewable energy project. After the renewable energy project is finished and the imported products are no longer needed, they can be exported without incurring any customs tax. The products must remain in the country for no longer than 1 year and must then be exported or definitively imported without any transformations.

## Operating subsidies

Costa Rica currently has no feed-in tariff policy.

## Other aspects

### Expansion Plan Generation (PEG)

The Expansion Plan Generation (Plan de Expansión de Generación or PEG) is Costa Rica's framework for medium and long-term planning from 2014 to 2035 in the electricity sector. The first period of the Plan covers construction sites until 2017, including the Reventazón Hydroelectric Project (300 MW), which will come online in 2016. The next period starting in 2018 includes a recommended general program of action until 2035.

### Established renewable resources

Under the PEG, Costa Rica is developing a variety of renewable energy resources to meet electricity demand. Hydropower has been the main source of power, due to its abundance, quality and cost, followed by geothermal and wind. Biomass, based on bagasse, and solar are also contributing to the energy matrix.

### Hydropower

The identified potential of this resource includes about 1,700 MW that partially or totally affects indigenous reserves. Another 780 MW is located in national parks, where the law does not allow any kind of exploitation.

### Geothermal

The identified potential of geothermal is based on a very preliminary and limited estimate. Most sources are located within national parks in the Central and Guanacaste volcanic mountain ranges and are not available for use. The only fields that can be developed are Miravalles and Rincon de la Vieja (Pailas and Borinquen). These fields have

a potential of 300 MW, out of which 195 MW is already in operation.

## Wind

Costa Rica has been the pioneer of wind energy in Latin America. Since 1996, about 5 percent of the country's energy needs are met by wind. The annual cycle of wind generation complements hydropower, since the strongest winds occur in the dry season.

## Biomass bagasse

For bagasse, sugar cane mills have installed their own generation equipment and are able to produce more energy than they need at a low cost. Additional investments in new generation equipment have increased these benefits. The seasonality of growing sugar cane complements the seasonality of hydropower plants.

## Emerging renewable resources

Along with existing sources of renewable energy, Costa Rica is

developing additional sources such as the following:

## Biogas

Biogas is the energy source that is obtained from biomass. As with the sugar mills mentioned above, some small farms have developed systems for personal consumption, with the potential for larger-scale developments in the future.

## Municipal solid waste

Solid waste can be used to generate electricity through steam-producing processes. Several municipalities in Costa Rica have announced their interest in adopting this technology.

## Solar

As prices for PV solar panels continue to decline, this technology is becoming increasingly attractive to investors. Costa Rica's Regulatory Authority for Public Services (ARESEP) has recently proposed new feed-in tariffs for PV

projects ranging in capacity from 1 MW to 20 MW.

## Biofuels

Biofuels may become a significant addition to the country's energy mix in the coming years. Mixtures of diesel with 5 to 20 percent of biodiesel can be used at any of the thermal plants in the country, without adjustments or major retrofits.

There is still no infrastructure for large-scale production, storage or distribution chains. Small amounts have been experimentally used in thermal floors by the Costa Rican Electricity Institute (ICE).



# France

## Support schemes

### Investments and other subsidies

The accelerated tax depreciation has not been renewed as of 1 January 2011. However, companies can still apply a declining-balance method to certain equipment used to produce renewable energy. This method, which is optional, consists of multiplying the depreciation rate for the straight-line method by a coefficient determined by law, based on the asset's expected useful life. In practice, when a company applies the declining depreciation method at the beginning of the depreciation period, it can obtain a tax depreciation higher than the accounting depreciation.

### Biofuels

Biofuels benefit from a partial exemption of the internal tax on petroleum products and of the general tax on polluting activities to compensate for the additional costs arising from biofuel production. Biofuels in gasoline include bioethanol and ethyl tertiary butyl ether (ETBE). This partial exemption is applicable for the period between 2014 and 2015.

### Research tax credit

Companies may be granted a research tax credit on their environmental investments if the expenses they incur while carrying on such projects correspond to research activities eligible for this tax credit. The tax credit will be equal to 30 percent of the eligible research expenses that do not exceed EUR100 million and to 5 percent for the eligible R&D expenses exceeding EUR100 million.

The research tax credit will be offset against the corporate income tax due during the year in which the expenses are incurred. Any surplus tax credit will constitute a receivable for the company that can be used to pay the corporate income tax for the three following years and may be reimbursed afterwards.

### Credit for competitiveness and employment (CICE)

The tax credit is equal to 6 percent of all wages paid to employees during the calendar year for salaries that do not exceed 2.5 times the French minimum wage (salaries of employees who earn more than 2.5 times the minimum wage are excluded from the computation).

The wages used to calculate the CICE base are the same as wages used to calculate employer's social security contributions with respect to base pay, holiday pay, benefits in kind, etc.

The tax credit may be applied to offset corporate income tax liability and the excess could be carried forward for 3 years and may be refunded if not fully utilized at the end of this period.

## Operating subsidies

### Feed-in tariff

Remuneration is available for electricity produced from the following sources according to tariffs which are revised on indexation formula.

### Wind

- Onshore wind power plants: EUR0.082/kWh for 10 years and between EUR0.028/kWh and EUR0.082/kWh for the next 5 years depending on the location of the wind farms and the hours of electricity production.
- Offshore wind power plants: EUR0.13/kWh for 10 years and between EUR0.03 and EUR0.13/kWh for the next 10 years, depending on the location of the wind farms and the hours of electricity production.

These tariffs should be modified further for the implementation of offshore wind farm development zones (see below).

### Solar

Due to several recent changes in the law, different tariffs apply to PV power plants, depending on the kind

of projects (tariffs for the first quarter 2015):

- ground-based PV power plants: EUR0.0662/kWh
- simplified building-integrated generating facilities: EUR0.1347/kWh or EUR0.1279/kWh
- building-integrated generating facilities: EUR0.2655/kWh.

As of 1 July 2011, the above-mentioned tariffs have been adjusted quarterly by the Ministry in charge of energy, depending on the number of grid connection applications received by the distribution system operators over the previous quarter.

A bonus of 5 percent or 10 percent applicable on the above-mentioned tariffs was granted for the components of the PV system made in Europe. This bonus was cancelled effective May 2014 since this system was considered as non-compliant with EU rules on freedom of movement.

The above-mentioned tariffs are mainly applicable for installations below 100 KW power. For the installations exceeding this threshold, they are subject to invitation to tender.

### Geothermal

- France: EUR0.20/kWh, in addition to an energy efficiency bonus of up to EUR0.08/kWh
- French overseas departments: EUR0.13/kWh, in addition to an energy efficiency bonus of up to EUR0.03/kWh.

### Biomaterial (Biogaz)

- Between EUR0.0.8121/kWh and EUR0.1337/kWh, depending on the power of the plant, in addition to an energy efficiency bonus of up to EUR0.04/kWh and to a bonus for processing of animal manure up to EUR0.0.26/kWh.

## Hydro

- EUR0.0607/kWh in addition to a bonus between EUR0.005/kWh and EUR0.025/kWh for small power plants, as well as a bonus of up to EUR0.0168/kWh for electricity produced during the winter
- EUR0.015/kWh for ocean hydraulic energy (wave energy, tidal energy and other hydrokinetic energy sources).

## Biomass

- EUR0.043/kWh in addition to a bonus between EUR0.0771/kWh and EUR0.1253/kWh depending on the energy efficiency, the nature of the resources used and the power of the plant.

Électricité de France (EDF) and other electricity distributors must purchase the electricity produced by a renewable energies producer at fixed tariffs and for a minimum duration. For example, there is a purchase obligation for EDF during a 15 year period for onshore wind power, geothermal power, and biomaterial power and a 20 year period for offshore wind power, solar power (subject to the date of the operational start up of the facilities) and for hydro power. The tariffs mentioned above correspond to the tariff applied to the power plants located in metropolitan France. Increased tariffs apply with respect to Corsica and overseas departments.

## Additional information

### Building and Construction Authorization and Permission (BCAP):

The construction of a power plant is subject to the issuance of a building permit. However, solar power plants (subject to certain conditions) and wind turbines smaller than 12 meters are not

subject to the issuance of a building permit. Specific authorizations exist for wind, hydro and biomaterial power stations. In addition to the building permit, an exploitation authorization issued by the Minister of Energy is required for power plants with an installed load/installed power higher than 4.5 MW. For power plants with an installed power lower or equal to 4.5 MW, only a declaration is required. For wind plant, an environmental permit is also required.

### Renewal of hydroelectric concessions:

The debate over the renewal of hydraulic concessions and its corollary, the liberalization of the market, goes back several years and has been the subject of many reports and changes by the public authorities. For the time being, the renewal of hydroelectric concessions has not been organized.

Therefore, the Government took two approaches in the Energy Transition for Green Growth Act currently in discussion for this renewal: (i) the grouping together of concessions for major valleys (known as the “barycenter” method in order to optimize operations, and (ii) the possibility for the State to create “public-private hydro-electric companies” to operate the renewed concession.

### Offshore wind energy:

France has set a target plan for installing 6,000 MW of offshore wind energy by 2020 through a tender process.

In April 2012, the French government announced an award of four offshore wind farm development zones (2 GW of offshore wind energy capacity).

On 16 March 2013, the French Energy Regulatory Commission issued a second tender for offshore wind farms with 1 GW of new capacity. On May 7, 2014, the French government has awarded a tender to build and run two offshore wind farms to a consortium led by French gas and power group, ENGIE.

Furthermore, the Ministry of environment indicated that France wants to have 6000 MW offshore capacity before 2020. Therefore, specific organizations need to identify new zones for the construction of offshore wind parks. In the coming months, the French government should be announcing a new tender.

### Grid access:

The producer/owner of a new power plant has to apply for a grid connection to the public distribution system such as Réseau de Transport d'Electricité (RTE), Electricité Réseau Distribution France (ERDF) or a local distributing company. Some agreements have to be made by the owner of the power plant for the distribution of electricity produced by the plant:

- public grid contract (Contrat d'accès au réseau public)
- grid connection contract (Contrat de raccordement)
- contract regarding the use of the equipment necessary for the grid connection (Contrat d'exploitation des ouvrages de raccordement).

### New disposal currently discussed by the French Parliament:

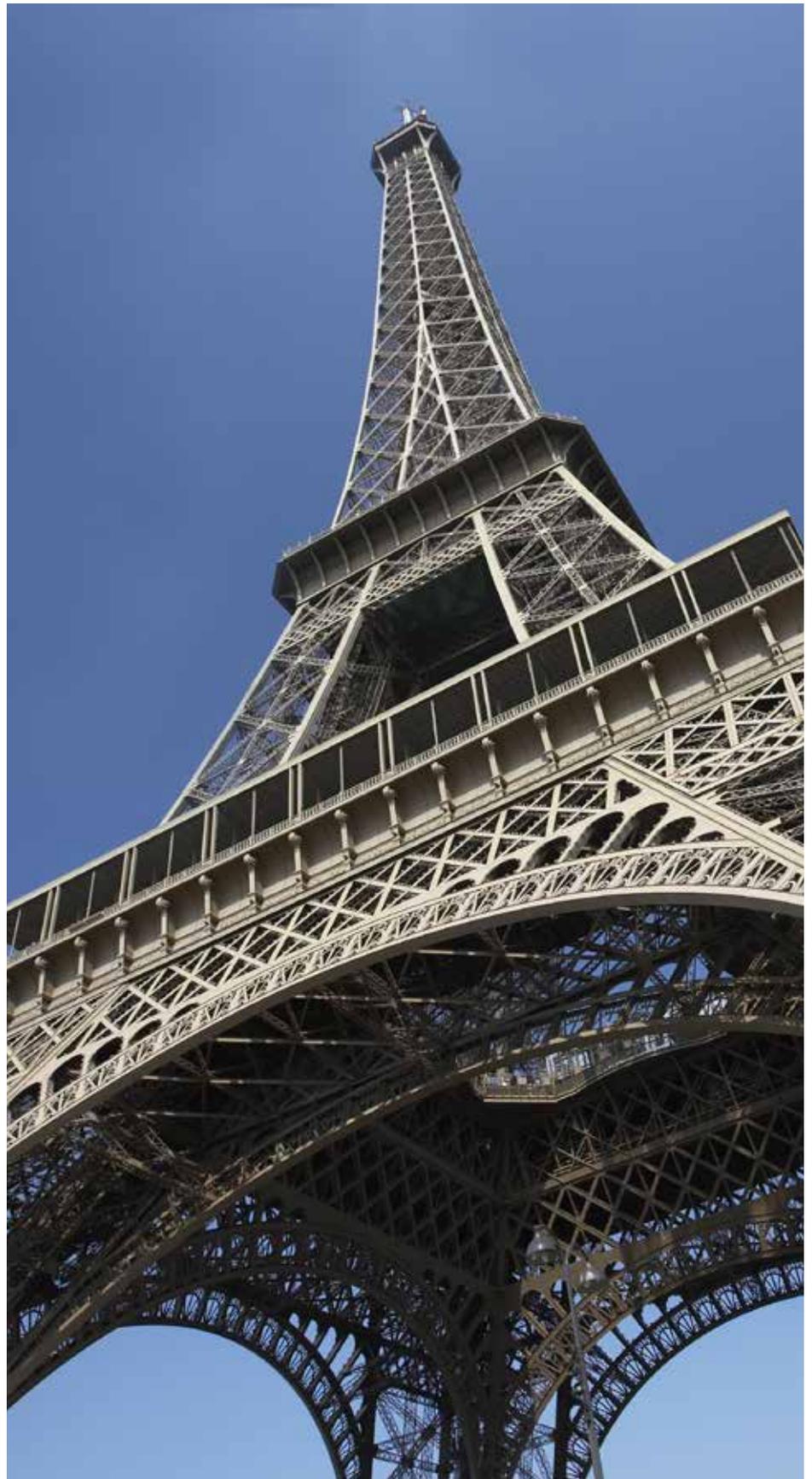
The final version of the Energy Transition for Green Growth Act was voted on 17 August, 2015 and the following measures can be outlined.

- **The introduction of a new model electricity purchase agreement called the “supplemental remuneration agreement.”**

This new agreement applies to facilities with a capacity of over 500 kw. The purchase obligation remains but is substantially modified as the aid is granted in the form of a bonus in addition to the market price. (This is an “ex post” bonus, that is, one that will ensure a known target remuneration for the producer.) From now on, the purchase price will no longer be set upon signing for the entire term of the agreement but will be adjusted based on the market price and other economic criteria related to the facility.

- **The promotion of new forms of financing renewable energy projects.**

To reduce the difficulties often encountered by developers in the construction of wind power facilities, the use of local financing is one of several solutions offered by the Government. To support this local financing, it is provided that “commercial companies and local public-private companies may be set up to offer ‘residents living near the Project construction site’ as well as local authorities access to their share capital.”



# Germany

## Support schemes

### KfW Programs

KfW Bankengruppe is a German government-owned development bank, supporting projects related to the environment as well as other areas.

### KfW Renewable Energies Program

- Investments are available in three programs:
  - Standard: in plants for electricity generation from renewable energy sources such as PV, biogas, hydro, onshore wind or geothermal energy and heat generation in CHP systems.
  - Premium: in large plants for heat generation from renewable energies (solar panels, biomass, biogas, deep geothermal energy) as well as CHP installations and heat networks/pumps not promoted under the Standard program.
  - Storage: in new installations of stationary battery storage systems combined with PV systems.
- Premium funding was initiated to strengthen the establishment of the renewable technologies in the heat market through low-interest KfW loans and repayment subsidies by the Federal Ministry for Economic Affairs and Energy. These technologies include:
  - PV systems with more than 40 square meters gross collector area for the purpose of water heating and/or space heating of properties with three or more residential units or non-residential properties with minimum 500 square meters of usable area
  - biomass plants for the combustion of solid biomass with a rated heat capacity of more than 100 kW
  - heat-controlled biomass CHP with a thermal output at par with at least 100 kW and a maximum of 2 MW
  - heat networks with a minimum of 50 percent of heat generated by renewable energies or with a

minimum of 20 percent of heat generated by solar energy and with heat sales of a minimum of 500 kWh per year and meter of route

- heat storages with more than 10 cubic meters
- biogas pipes with a minimum length of 300 meters (for biogas used for CHP purposes or as biofuel)
- heat pumps with a rated heat capacity of more than 100 kW
- facilities for the development and use of deep geothermal energy with a drilling depth of more than 400 meters, a minimum thermal fluid temperature of 20° C and a minimum geothermal heat output of 0.3 MWth.

All plants shall be commissioned in accordance with their designated purpose for at least 7 years. Plants eligible for remuneration under the Renewable Energies Act (Erneuerbare Energien Gesetz or EEG) 2014 are not entitled to be promoted.

- The funding shall be granted as a long-term, interest-reduced loan up to 100 percent of the investment costs (excluding VAT), maximum total lending of EUR25 million per project (Standard) and EUR10 million per project (Premium).
  - Level of funding shall be increased up to 10 percent for small to medium-sized enterprises (Premium).
  - Eligibility for funding depends on the program part.
  - Loan-term: 5, 10 or 20 years with a repayment-free, start-up period of up to 3 years.
  - In 2014, KfW provided a total credit volume of EUR234 million for Premium and around EUR3.9 billion for Standard. Funding for Storage since initiating the program in May 2013 amounted to EUR134 million.
- ### KfW Offshore Wind Energy Program
- Special promotion of offshore wind energy projects within the 12

nautical mile zone or the German Exclusive Economic Zone (EEZ) of the German North and Baltic Sea. Project financing for up to 10 offshore wind parks is available in the form of:

- direct loans granted by bank syndicates (a maximum of EUR400 million/project)
- finance packages comprising loans from KfW on-lent through a bank
- direct loans limited to 70 percent of the total debt capital required per project and EUR700 million per project
- direct loans to finance unforeseen additional costs (a maximum of EUR100 million per project).
- Eligible to apply: all project companies investing in the German EEZ or in the 12 nautical mile zone of the North Sea and the Baltic Sea.
- Maximum funding: EUR5 billion.
- Loan-term: up to 20 years with a repayment-free start-up period of up to 3 years.
- In 2013, KfW provided a credit volume of EUR194 million. There was no commitment in 2014 due to delayed investment activities previous to the reformed EEG 2014.

### KfW Energy Efficiency Program

Incentives for commercial enterprises to invest in energy efficiency measures are granted through low interest rates and repayment bonuses and are available in two programs:

- Production Systems/Processes: for investment, modernization as well as reinvestment measures leading to energy savings of at least 10 percent (basic standard) or at least 30 percent (premium standard) compared with previous energy consumption or the typical consumption level within the sector.
  - Eligible to apply: all domestic and foreign commercial companies majority-owned by private individuals as well as enterprises under an energy contract, projects

carried out abroad by German companies, their subsidiaries or by joint ventures with major German participation.

- Outside the EU, the share provided by the German partner will be financed.
- The funding is available as a loan up to 100 percent of investment costs and usually up to EUR25 million per project. Limit may be increased if the measures are particularly worthy of promotion.
- Loan-term: 5, 10 or 20 years with up to 3 repayment-free start-up years.
- Energy-efficient construction and rehabilitation: for the construction or modernization of non-residential buildings according to the standard of a 'KfW Efficiency House.' This also applies to individual rehabilitation measures with respect to a building's shell or technical facilities.
  - Eligible to apply: domestic and foreign commercial companies that are majority-owned by private individuals, companies purchasing existing non-residential buildings and enterprises providing services for non-residential buildings under an energy contract involving third parties.
  - Maximum funding: usually EUR25 million per project, up to 100 percent of eligible investment costs as well as repayment bonuses of up to 17.5 percent.
  - Loan-term: 5, 10 or 20 years with up to 3 repayment-free start-up years.

Program incentives are complemented by the SME Energy Efficiency Advice program of the Federal Office for Economic Affairs and Export Control (BAFA), which subsidizes small and medium enterprises that identify energy savings potential and reduce costs by improved energy efficiency.

- Commitment volume in 2014: EUR3.2 billion.

### **KfW Energy Turnaround Financing Initiative**

High-volume loans are available for large-scale investment projects in Germany in the areas of energy efficiency, innovative projects in the areas of energy conservation, electricity generation, storage and transmission, as well as the use of renewable energy.

- Two promotional funds are available:
  - direct loans under a banking consortium, with KfW contributing 50 percent to the financing of the project.
  - financing package composed of a loan on-lent through a bank and a syndicated loan with participation by KfW.
- Amount of loan: usually from EUR25 million up to EUR100 million per project.
- Loan-term: up to 20 years with a repayment-free start-up period of up to 3 years.
- Eligible to apply: large commercial enterprises in and outside Germany with an annual group turnover EUR500 million to EUR4 billion.
- Commitment volume in 2014: EUR140 million.

### **BMUB Environmental Innovation Program**

The Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) funds major industrial pilot projects in environmental sectors such as climate protection and resource efficiency. KfW is responsible for the administrative and financial side of the program, while the Federal Environment Agency manages environment technology issues. Funding is available as an interest subsidy or as a loan with interest grant from the BMUB.

- Interest grants up to 30 percent of financeable costs, loans up to 70 percent. No maximum amount.
- Eligible to apply: domestic and foreign companies, SMEs receive priority funding.

- Loan-term: up to 30 years with five repayment years at the most. Generally, projects shall be operated in accordance with their designated purpose for 5 years.

### **Administrative procedures:**

Applications must be filed, via credit institution, with the governmental-owned bank KfW or, in the case of the SME Energy Efficiency Advice program, with the BAFA.

Sources: KfW, BMWi Förderdatenbank

### **Operating subsidies**

The EEG 2014 became effective on 1 August 2014. Remuneration is available for electricity produced. All tariffs and ranges in principle apply to plants commissioned as of 1 August 2014. Plants approved prior to 23 January 2014 that began operations by 31 December 2014 will still be governed by the provisions of the previous EEG 2012.

The most important objectives of the EEG 2014 include the integration of renewable energies into the electricity market by mandatory direct marketing and a focus on cost-effective technologies.

Current regulations pave the way for another revision of the EEG expected by the end of 2016. By the beginning of 2017 at the latest, financial support for all technologies shall be determined by auctions. This transformation process will be structured in light of experience gained through a pilot project testing a tender scheme for ground-mounted solar plants. The pilot tender project was initiated in February 2015.

### **Expansion Corridors**

The percentage of renewable energies is to be expanded within specific corridors:

- by 2025 renewables are to produce 40 to 45 percent of the total energy mix
- by 2035 renewables are to produce 55 and 60 percent of the total energy mix.

These targets are to be achieved by individual corridors laid down for the specific technology.

### Captive Consumption of Renewable Electricity Generation

Consumption of self-generated electricity from new plants is charged with 30 percent (until the end of 2015), 35 percent (in 2016) or 40 percent of the EEG surcharge (from 2017). Existing plants and in exceptional cases new plants (for installations without grid connection, auto-generation without electricity purchasing source as well as small plants with an installed capacity up to 10 kW) are exempted.

### Mandatory Direct Marketing

Plants are to market their power directly. Compulsory direct marketing is being introduced in stages:

- as of 1 August 2014, plants with an output of 500 kW and above
- as of 1 January 2016 for plants with an output of 250 kW
- as of 1 January 2017 for plants with an output of 100 kW or more.

### Market Premium

In addition to the revenue from directly sold electricity a market premium can be claimed. The market premium consists of a fixed statutory payment (anzulegender Wert) differentiated by technology and rated power minus a technology-specific monthly market value (Monatsmarktwert).

In order to receive the market premium, plants must be remote-controllable as of 1 January 2015, including plants already commissioned.

Fixed statutory payment for plants being commissioned as of 2016 will be reduced to zero if the value of hourly contracts at the EPEX Spot in Paris is constantly negative for at least six hours.

### Exemptions from Mandatory Direct Marketing

Exemptions from mandatory direct marketing exist for small plants and in case of so called 'default marketing':

- Operators of small plants can decide to demand the fixed statutory payment from the grid operators instead of direct marketing. Fixed statutory rate will be reduced by the saved direct marketing expenses, namely, ct 0.4/kWh or ct0.2/kWh depending on the respective energy source.
- In case of 'default marketing,' plant operators temporarily unable to market their electricity are entitled to a tariff in the amount of 80 percent of the respective fixed statutory payment.

### Technology-specific corridors and remunerations

#### Hydro

- no individual expansion corridor
- fixed statutory payment depending on nominal generation capacity of the individual plant:
  - up to 5 MW: ct6.31/kWh to ct12.52/kWh
  - more than 5 MW: ct4.28/kWh to ct5.54/kWh
  - more than 50 MW ct3.5/kWh.
- degression: 0.5 percent per annum as of 1 January 2016.

#### Biomass

- expansion corridor: annual increase of up to 100 MW (gross)
- fixed statutory payment depending on nominal generation capacity of the individual plant: ct5.85/kWh to ct13.66/ kWh (biowaste installations and small manure gas ct15.26/kWh to ct23.73/kWh).
- plants with a nominal generation capacity of more than 100 kW:
  - fixed statutory payment just for 50 percent of nominal generation capacity per annum
  - additional flexibility premium: EUR40/kW installed capacity per annum.
- breathing caps: financial support increases or decreases if growth

exceeds or falls below the targets of the expansion corridor.

- degression: according to 'breathing caps' between 0.5 and 1.27 percent per quarter as of 2016.

### Other methane gas (mine, landfill, sewage sludge gas, etc.)

- fixed statutory payment depending on nominal generation capacity of the individual plant: ct3.8/ kWh to ct8.42/ kWh
- plants with a nominal generation capacity of more than 100 kW:
  - fixed statutory payment just for 50 percent of nominal generation capacity per annum
  - additional flexibility premium: EUR40/kW installed capacity per annum.
- degression: 1.5 percent per annum as of 2016.

### Geothermal

- fixed statutory payment: ct25.20/kWh
- degression: 5 percent per annum as of 2018.

### Wind

#### Onshore

- expansion corridor: annual expansion 2.5 GW (net)
  - Repowering measures will be considered only with respect to the net increase of nominal power.
- fixed statutory payment:
  - ct4.95/kWh (basic payment)
  - increased basic payment (initial payment) of 8.9 ct/kWh for at least 5 years; possibility of extension for locations with a reference yield below 130 percent.
- breathing caps
- degression:
  - basically 0.4 percent per quarter as of 2016
  - decreases or increases in a range between zero and 1.2 percent

depending on reaching breathing caps.

## Offshore

- expansion corridor: 6.5 GW until 2020, 15 GW until 2030.
- fixed statutory payment:
  - basic payment: ct3.90/kWh
  - increased initial payment (Basic model): ct15.4/kWh during the first 12 years after commissioning (extended depending on water depth and distance from shore)
  - acceleration model: If the offshore wind farm is commissioned before 31 December 2019, the operator can select an increased initial payment of ct19.4/kWh for 8 years (extended depending on location with a payment of ct15.4/kWh for the prolonged period).
- degression:
  - for the Basic model: annually ct0.5/kWh as of 1 January 2018, ct1.0/kWh as of 1 January 2020, and ct0.5/kWh as of 1 January 2021.
  - for the Acceleration model: ct1.0/kWh as of 1 January 2018 p.a. (in 2019 degression will be suspended).
- Grid connection from the offshore switch station to the shore supported by the transmission system operator (Sec 17 par 2a EnWG).

## Solar

- Expansion corridor: annual growth of 2.5 GW (gross)
- Plants from 10 kW installed capacity must be remote-controllable.
- Plants of 800 watts to 10 kW must be equipped with adjustable performance inverters.

## In and on buildings

- depending on the amount of nominal generation capacity: ct9.23/kWh to ct13.15/kWh
- degression:

- 0.5 percent per month as of 1 September 2014.
- degression decreases or increases according to breathing caps in a range between zero and 2.8 percent on a quarterly basis.

## Ground-mounted plants in open spaces

Support of plants in open spaces was shifted from feed-in tariffs to a support involving a competitive tender process. The pilot project of tendering an average of 400 MW in three annual rounds was launched by the Federal Network Agency. Details are regulated in a separate ordinance (FFAV). In the first round, a total of 150 MW was put out for tender, with the maximum rate set at ct11.29/kWh. The highest awarded bid amounted to ct9.43/kWh, while the average successful bid was ct9.17/kWh.

- For plants operational as of 1 September 2015:
  - Plants must participate in the tender process and be awarded in order to obtain financial support in form of the market premium.
  - Contracts are awarded to the tenders with the lowest offered fixed statutory payment value until the total volume put out for tender has been reached.
  - Eligible to apply:
    - o For the year 2015, only those sites already being permitted under the EEG 2014 (certain sealed areas, land conversions, land along freeways and railway tracks) are eligible.
    - o Bids must amount to at least 100 kW and may not exceed 10 MW, multiple bids per round allowed.
    - o Bids for energy generated in the installations must be stated in ct/kWh and have to indicate the capacity of the installation in kW.
  - Duration of support: up to calendar 20 years (year of initial operation included).

- No Degression: awarded rate remains unchanged.
- For plants operational before 1 September 2015:
  - Fixed statutory payment: up to a nominal generation capacity of 10 MW ct9.23/kWh
  - Support available for plants in areas being subject to an approved land-use plan that has been:
    - o approved prior to 1 September 2003 or
    - o approved after 1 September 2003 where plants were erected either on land to be devoted to different usage (Konversionsfläche) or alongside freeways (Autobahnen) or railroad lines or
    - o a land-use plan that designated the area as commercial-industrial prior to 1 January 2010.
  - Degression: equivalent to plants erected on buildings.

## Additional information

### Duration of subsidized market

**premium:** Up to 20 years plus the year of initial operation.



# Greece

## Support Schemes

### Investments and Incentives under Investment Incentives Law 3908/2011

Article 6 of Law 4242/2014 stipulates that the final deadline for submitting applications with regards to investment projects under the provisions of Law 3908/2011 was determined to be 5 March, 2014. At this time, the competent Ministry is not accepting further applications for launching investment projects. In order for respective incentive framework to remain active for new applications, a legislative amendment is required to be introduced to the Greek Parliament.

In light of the above, various entities — including joint ventures (JVs) that qualify as synergy and networking JVs and engage in the production of energy from renewable resources such as wind and hydro — are generally eligible to apply under the provisions of Law 4242/2014 (assuming that the relevant provisions of the law are re-activated and applications' submissions are re-initiated). Entities active in the production of energy from PV systems are not eligible (NACE Code 35.11.10.09). Investments are divided into General Business Investments and Special Investment Plans.

### Incentives Available

Investment Incentives Law 3908/2011 became effective February 2011, replacing the previous incentive Law 3299/2004. However, investments made under the previous incentive Law 3299/2004 continue to be subject to the requirements of that law and are eligible for the incentives of that law. According to Law 3908/2011, the following incentives are available:

- Tax relief, which constitutes an income tax exemption on profits before taxes as determined on the basis of tax legislation. The amount of the tax relief granted becomes a tax free reserve for the equivalent amount.
- Cash grants provided by the State that cover part of the expenses of the investment project
- Leasing subsidies provided by the State that cover part of payable installments related to the leasing of new equipment. The leasing subsidies do not exceed a 7-year period. These incentives may be granted solely or in combination. However, apart from tax relief (which is available to all investments qualifying for incentives

under Law 3908/2011), cash grants and leasing subsidies may not be available to all qualifying investments.

### General Eligibility Requirements:

According to Law 3908/2011, certain criteria should be met in order for the aforementioned incentives to be granted. In general, these criteria include the following:

- The investment should be initiated after the official eligibility approval. Under certain conditions, the investment may be initiated prior to the official approval as above but in any case after the filing of the respective application.
- The minimum amount of the investment is set at EUR1 million for large enterprises, EUR500,000 for medium-size enterprises, EUR300,000 for small enterprises and EUR200,000 for very small enterprises. The above minimum amounts are reduced to 50 percent for General Business Investments.
- The enterprises must be established in Greece and have the form of either a sole trader, a commercial entity/partnership or a co-operative. Enterprises must maintain double-entry accounting books or an income and expenses book (category B of the Code of Books and Records). Also, enterprises that submit business plans exceeding EUR500,000 (instead of EUR300,000 which was provided by the prior investment scheme of Law 3299/2004) must operate in the form of a commercial entity or co-operative
- Investor's own participation of at least 25 percent is required for investments for which cash grants or tax relief is provided
- Certain requirements exist in respect to loans received that are to be used for the subsidized investment
- Special requirements may apply depending on the nature of each investment project.



## Operating Subsidies

According to the provisions of the relevant legislation (Laws 3468/2006, 3734/2009, 3851/2010, 3889/2010, 4062/2012 and 4254/2014) the following apply:

		Price of energy (EUR/MWh)	
Electricity generated by:		Electricity Price (EUR/MWh)	
		Connected System	Non-connected Islands
(1)	Wind energy generated from onshore wind farms with capacity less than or equal to 5 MW	105	85
(2)	Wind energy generated from stations with capacity of more than 5 MW	105	82
(3)	Wind energy generated from stations in non-connected islands	110	90
(4)	Hydroelectric plants with a capacity less than or equal to 1 MWe	105	85
(5)	Hydroelectric plants with a capacity from 1 MWe up to 5 MWe	105	83
(6)	Hydroelectric plants with a capacity between 5 MW and 15 MWe	100	80
(7)	Solar energy from solar thermal stations with no storage	260	200
(8)	Solar energy from solar thermal stations with a storage system which ensures at least 2 hours of operation in the nominal capacity	280	220
(9)	Geothermal energy of low temperature pursuant to par. 1f of article 2 law 3175/2003 ('A 207)	143	130
(10)	Geothermal energy of high temperature pursuant to par. 1 of article 2 law 3175/2003 ('A 207)	110	100
(11)	Biomass (or bio liquids) exploited through thermal processes (combustion, gasification, pyrolysis) from stations with installed capacity of less than or equal to 1 MW (excluding the biodegradable fraction of household waste)	198	180
(12)	Biomass (or bio liquids) exploited through thermal processes (combustion, gasification, pyrolysis) from stations with installed capacity between 1 MW and 5 MW (excluding the biodegradable fraction of household waste)	170	155
(13)	Biomass (or bio liquids) exploited through thermal processes (combustion, gasification, pyrolysis) from stations with installed capacity more than 5 MW (excluding the biodegradable fraction of household waste)	148	135
(14)	Gas release from landfills and biological cleaning installations and biogas produced by biodegradable fraction of waste and organic material/wastewater treatment and sludge recovered from plants generated from stations with capacity of less than or equal to 2 MW	131	114
(15)	Gas release from landfills and biological cleaning installations and biogas produced by biodegradable fraction of waste and organic material/wastewater treatment and sludge recovered from plants generated from stations with capacity of less than 2 MW	108	94
(16)	Biogas derived from the anaerobic digestion of biomass (energy crops, silage, green fodder agricultural crops, livestock and agro-industrial organic residues and waste edible oils and fats, expired food) and generated from stations with capacity of less than or equal to 3 MW	230	209
(17)	Biogas derived from the anaerobic digestion of biomass (energy crops, silage, green fodder agricultural crops, livestock and agro-industrial organic residues and waste edible oils and fats, expired food) and generated from stations with capacity of more than 3 MW	209	190

Price of energy (EUR/MWh)		
Electricity generated by:	Electricity Price (EUR/MWh)	
	Connected System	Non-connected Islands
(18) Other RES (including the stations for the energy exploitation of the biodegradable fraction of municipal waste, not integrated in another category, which meet the requirements of the European legislation as in force from time to time)	90	80
(19) CHP <sup>1</sup> using natural gas power less than or equal to 1 MW regarding the categories (α) "Combined cycle gas turbine with heat recovery" or (γ) "condensing steam turbine" pursuant to article 3 of Ministerial Decision Δ5-ΗΛΓ/Φ1/οικ.15641/14.07.2009 ('B 1420)	88 + GPA <sup>2</sup>	76 + GPA <sup>2</sup>
(20) CHP <sup>1</sup> using natural gas power less than or equal to 1 MW pursuant to article 3 of Ministerial Decision Δ5-ΗΛΓ/Φ1/οικ.15641/14.07.2009 ('B 1420)	92 + GPA <sup>2</sup>	80 + GPA <sup>2</sup>
(21) CHP <sup>1</sup> using natural gas power between 1 MW and 5 MW regarding the categories (α) "Combined cycle gas turbine with heat recovery" or (γ) "condensing steam turbine" pursuant to article 3 of Ministerial Decision Δ5-ΗΛΓ/Φ1/οικ.15641/14.07.2009 ('B 1420)	80 + GPA <sup>2</sup>	70 + GPA <sup>2</sup>
(22) CHP <sup>1</sup> using natural gas power between 1 MW and 5 MW and other categories pursuant to article 3 of Ministerial Decision Δ5-ΗΛΓ/Φ1/οικ.15641/14.07.2009 ('B 1420)	84 + GPA <sup>2</sup>	74 + GPA <sup>2</sup>
(23) CHP <sup>1</sup> using natural gas power between 5 MW and 10 MW regarding the categories (α) "Combined cycle gas turbine with heat recovery" or (γ) "condensing steam turbine" pursuant to article 3 of Ministerial Decision Δ5-ΗΛΓ/Φ1/οικ.15641/14.07.2009 ('B 1420)	74 + GPA <sup>2</sup>	65 + GPA <sup>2</sup>
(24) CHP <sup>1</sup> using natural gas power between 5 MW and 10 MW and other categories pursuant to article 3 of Ministerial Decision Δ5-ΗΛΓ/Φ1/οικ.15641/14.07.2009 ('B 1420)	78 + GPA <sup>2</sup>	70 + GPA <sup>2</sup>
(25) CHP <sup>1</sup> using natural gas power between 10 MW and 35 MW regarding the categories (α) "Combined cycle gas turbine with heat recovery" or (γ) "condensing steam turbine" pursuant to article 3 of Ministerial Decision Δ5-ΗΛΓ/Φ1/οικ.15641/14.07.2009 ('B 1420)	68 + GPA <sup>2</sup>	62 + GPA <sup>2</sup>
(26) CHP <sup>1</sup> using natural gas power between 10 MW and 35 MW and other categories pursuant to article 3 of Ministerial Decision Δ5-ΗΛΓ/Φ1/οικ.15641/14.07.2009 ('B 1420)	72 + GPA <sup>2</sup>	66 + GPA <sup>2</sup>
(27) CHP <sup>1</sup> using natural gas power more than 35 MW regarding the categories (α) "Combined cycle gas turbine with heat recovery" or (γ) "condensing steam turbine" pursuant to article 3 of Ministerial Decision Δ5-ΗΛΓ/Φ1/οικ.15641/14.07.2009 ('B 1420)	61 + GPA <sup>2</sup>	57 + GPA <sup>2</sup>
(28) CHP <sup>1</sup> using natural gas power more than 35 MW and other categories pursuant to article 3 of Ministerial Decision Δ5-ΗΛΓ/Φ1/οικ.15641/14.07.2009 ('B 1420)	65 + GPA <sup>2</sup>	60 + GPA <sup>2</sup>
(29) Other CHP <sup>1</sup> connected to the interconnected system	85	80
(30) Other CHP <sup>1</sup> connected to the non-interconnected system	95	90

1 CHP: Combined Heat and Power

2 GPA: Gas Price Adjustments

## Additional Information

**Operating Incentives:** Law 3468/2006 implemented the EU directive 2001/77 concerning the promotion of renewable energy sources and regulates the production of electricity from renewable energy sources in Greece, (not including the feed-in tariffs for solar energy parks for which specific feed-in tariffs have been determined by Law 3734/2009) as amended by Laws 3734/2009 3851/2010, 3889/2010 and 4254/2014.

The feed-in tariffs referred to in the previous table were introduced by Law 4254/2014.

**Duration:** In general, the sale agreement for electricity produced by stations using renewable resources and CHP (High-efficiency co-generation of electricity and heat) and combined heat and power is valid for 20 years and may be extended under certain conditions. The sale agreement for electricity produced by solar thermal stations is valid for 25 years and may be extended under conditions.

**Administrative Procedures:** The specific licenses required depend on the installed power. Main licenses and authorizations include the following:

- production license
- establishment/installation license
- operation license
- approval of environmental terms
- conclusion of connection agreement with Public Power Corporation (PPC)
- conclusion of sale agreement of electric power with the Administrator (DESMIE or PPC).

**Grid Access:** Generally, priority access to the grid is provided to renewable energy producers for connection to the mainland grid, subject to the fulfillment of all conditions and requirements provided by the Code of Grid's Administration.



# India

## Support schemes

### Investment and other subsidies

#### Foreign Direct Investment (FDI)

The growth of the clean energy sector in India has been impressive. India permits FDI up to 100 percent in the sector under the automatic route in renewable energy generation and distribution projects that are subject to the provisions of the Electricity Act of 2003. Under the Act, no prior approval of regulatory authorities is required for infusion of foreign investment, the only exception being if investment is made in a limited liability partnership (LLP).

According to Reserve Bank of India (RBI) guidelines on external commercial borrowings (ECBs), the definition of infrastructure covers sectors such as energy which in turn covers sub-sectors such as electricity generation/transmission/distribution, oil pipelines, oil/gas/liquefied natural gas (LNG) storage facilities, and gas pipelines that support gas distribution networks for cities.

With a view to strengthen the flow of resources to the infrastructure sector, RBI also permits raising ECBs for project use in special purpose vehicles (SPVs) in the infrastructure sector.

A company's ECB funding (under the automatic route/approval route) is subject to restrictions on use, tenure, etc.

#### Tax holiday under the domestic income tax law

Undertakings engaged in the generation or generation and distribution of power have been offered a 10-year tax holiday for renewable energy plants if power generation begins before 31 March 2017. However, the plants have to pay a minimum alternative tax at the rate of approximately 20.4 to 21.4 percent (based on the income), which can be offset over the next 10 years.

The former Finance Minister had released the Direct Taxes Code, 2013 (DTC 2013) for public discussion/comments which, among other things, offered alternative mechanisms for

providing tax incentive to power companies. However, the new government stated in the current budget that they do not intend to go ahead with the DTC.

#### Financing

The Indian Renewable Energy Development Agency (IREDA) has been established under the Ministry of New and Renewable Energy (MNRE) (formerly known as the Ministry for Non-Conventional Energy Sources) as a specialized financing agency to promote and finance renewable energy projects.

#### Operating subsidies

##### Feed-in tariff

##### Generation Based Incentives (GBI)

To attract foreign investors, the government has taken several initiatives such as introducing GBI schemes to promote projects under independent power producer (IPP) mode for wind and solar power.

Under MNRE's Generation Based Incentive scheme, wind power projects (which are not availing the Accelerated Depreciation benefit) are eligible for an incentive of INR0.50 per unit of power fed to the grid for a minimum period of 4 years and a maximum period of 10 years, subject to a ceiling of INR10 million per MW.

This incentive can be claimed by wind projects commissioned on or after 1 April 2012, through IREDA, and is over and above the tariff approved by the State Electricity Regulatory Commissions (SERCs).

##### Accelerated depreciation

Under the domestic income-tax law, companies involved in renewable energy such as solar and wind are provided with accelerated depreciation at 80 percent on a written down value (WDV) basis. However, windmills installed on or after 1 April 2012, but before 1 April 2014, would be eligible for depreciation at the rate of 15 percent on WDV basis.

An additional 20 percent depreciation on a WDV basis is also available on assets that are installed after 31 March 2005

by companies engaged in the business of generation or the generation and distribution of power in addition to normal depreciation.

Further, power companies have been provided with an option to claim depreciation under the straight line method. However, a company can claim either accelerated depreciation or generation-based incentives (GBIs) but not both.

#### Quota obligations

##### Renewable Purchase Obligation (RPO)

The National Action Plan on Climate Change (NAPCC) has recommended an increase in renewable energy penetration to 15 percent by 2020 at the national level.

In accordance with this goal, SERCs are required to set fixed Renewable Purchase Obligations (RPOs) for distribution companies to enable the purchase of a certain percentage of their total power requirement from renewable energy sources. Currently, state-level RPOs vary between 2 percent and 14 percent of their total energy demand. Open access and captive consumers are also required to comply with RPOs.

To align the availability of renewable energy sources with the requirement of the obligated entities to meet their RPO across states, the Renewable Energy Certificate (REC) market has been introduced, and RECs started trading in February 2011. However, the REC mechanism has not been widely adopted, and steps are being considered to review the market. We believe that going forward the enforcement of RPOs will create the volumes needed for the REC market.

#### Additional information

##### Renewable Energy in India

India's grid-connected renewable energy capacity has reached 36.5 GW as of 30 June 2015 with wind energy at 23.8 GW and solar energy at 4.1 GW (MNRE). The Indian government has announced an

ambitious plan to scale up India's solar energy capacity to 100 GW and wind energy capacity to 60 MW by 2022.

### **National Solar Mission (NSM)**

The objective of the Jawaharlal Nehru National Solar Mission (JNNSM), which was launched in 2010, is to establish India as a global leader in solar energy.

MNRE has recently revised the National Solar Mission target from 20 GW by 2022 to 100 GW by 2022. The ministry plans to focus on deploying large-scale rooftop projects to achieve a capacity of 40 GW by 2022, developing several solar parks to build further 40 GW capacity, and encouraging large-scale projects to generate the remaining 20 GW.

In Phase 2 – Batch 1 of the National Solar Mission, the Solar Energy Corporation of India (SECI) auctioned 750 MW of solar projects divided into open and domestic projects, with each kind offering 375 MW. This has prompted a strong interest, with bids from 58 developers totaling 2,170 MW, a number significantly higher than the original offer.

Besides the national program, solar programs at the state level are also driving solar growth in the country.

### **Tax and fiscal incentives**

Tax cost forms a substantial part of engineering procurement and construction (EPC) project costs, which can range from 10 percent to 20 percent of the total renewable energy project cost. Considering the special focus on renewable energy, the Central Government has offered various incentives for developing renewable energy power projects, including exemption from customs and excise duties on specific goods required for setting up these projects.

However, these exemptions are subject to the fulfillment of prescribed conditions and compliances to be undertaken by the EPC contractor or IPP.

Furthermore, some of the state governments have provided the

incentives in the form of a VAT at 5 percent, a significant reduction over the 15 percent VAT rate levied by some other states. Given the variety of tax and fiscal incentives available, one needs to quantify the tax cost and explore the structuring options before investing in the solar sector.

### **Tax planning**

For investors based overseas, an entry strategy for India is highly important. To achieve tax efficiency with regard to taxability of gains on sale of shares, many companies opt to route the investments through an intermediate entity in a tax-friendly jurisdiction. However, the provisions of General Anti Avoidance Rules to be effective from 1 April 2017 need to be kept in mind while structuring the investments.

Typically, renewable energy companies in India procure equipment and services from overseas. In this scenario, contract structuring from a tax perspective helps renewable energy companies to achieve major tax efficiency upfront. In the case of multiple parties coming together and bidding as a consortium, contract structuring is critical to avoid the risk of the consortium being taxed as an "Association of Persons" that would result in the denial of tax treaty benefits and other incentives.

In India, based on the nature of operation, different forms of entities can be established. Operating through an LLP by forming a joint venture or wholly owned subsidiary could be one of the possible options where the foreign company is looking at a long-term presence in India. However, one needs to rule out other relationships and entities before proceeding with any particular option.

In addition, the renewable energy sector is capital intensive, so investing companies need to carefully explore the options available for funding their projects and repatriating profits in a tax-efficient manner.

### **EPC contracts**

The taxation of EPC contracts offers various challenges and opportunities. The EPC contract can be either structured as a single contract or as a divisible contract. The selection of either option can cause a sizeable impact on the tax costs and working capital of the project.

The selection of schemes for the payment of indirect tax liabilities on renewable energy power plant construction offers various tax planning avenues for renewable energy power projects. Furthermore, any scheme can involve difficulties in compliance, such as a restriction on procurement of goods outside the state.

The procurement of goods and supply chain structuring play a vital role in the solar power project costs, since the tax rates are different for procurement of goods from outside India, from other states or from the same state.

Generally, the EPC contractor also undertakes the operation and maintenance of the power plant. The taxability of an operation and management (O&M) contract has been the subject of disputes in various decisions.

The exemption provided under the Customs and Excise Act is subject to various conditions and compliances. Hence, it is very important to ensure the compliance of the respective conditions because the benefits envisaged may not be available otherwise.

The proposed introduction of the Goods and Services Tax will also play a major role in estimating the cost of a renewable energy power project.

Given the variety of tax and fiscal incentives available, one needs to quantify the tax cost and explore the structuring options, before planning the capex, at the tender/bid stage and also at the time of awarding contracts, so that tax costs are optimized.

# Ireland

## Support schemes

### Investments and other subsidies

#### Corporate tax relief

Irish tax law provides tax relief for corporate equity investments in certain renewable energy projects. Commonly known as Section 486B relief, the law allows a deduction from a company's profits for its direct investment in new ordinary shares in a qualifying renewable energy project. There are a number of conditions that must be satisfied for the investment to qualify for the relief, and the relief is capped at certain levels. Examples of renewable energy projects that would qualify for the relief include those in the solar, wind, hydro and biomass categories. This relief expired on 31 December 2014 and investments made after this date will not qualify for the relief.

#### EII scheme

In 2011, the Irish government introduced the Employment and Investment Incentive (EII) scheme, designed to promote the creation of jobs and encouraging R&D activities. The EII scheme provides tax relief for eligible individuals who invest in certain qualifying small and medium sized trading companies. The relief takes the form of a deduction from an individual's taxable income in the year of investment and a further deduction after a three-year investment term has passed (subject to certain conditions being met). A number of conditions must be satisfied for an investment to qualify under the scheme. However, the legislation includes some helpful provisions designed to ensure that renewable energy projects meet the qualifying criteria.

#### R&D tax credit

A company can claim an additional tax credit of 25 percent on qualifying

expenditure incurred on R&D activities. For accounting periods prior to 1 January 2015, a credit can be claimed on incremental qualifying expenditure over the amount spent on R&D activities in the base year (that is, an accounting period ending in 2003). Companies can use a volume-based regime (a 25 percent credit for every EUR incurred) on the first EUR200,000 of qualifying expenditure for periods commencing between 1 January 2013 and 31 December 2013 and the first EUR300,000 for periods commencing between 1 January 2014 and 31 December 2014. For accounting periods beginning on or after 1 January 2015, the requirement to subcontract the base year (2003) R&D expenditure has been removed and all qualifying R&D expenditure will be eligible for the 25 percent tax credit.

Qualifying expenditure includes expenses such as salaries, overhead, materials consumed, etc. [A tax deduction is also available against the company's profits which are taxable at 12.5 percent. This can result in a 37.5 percent net subsidy for a trading entity (12.5 percent corporation tax deduction and a 25 percent R&D tax credit)]. The tax credit can be used in the first instance to shelter a group's current year corporation tax liability. It can also be carried back for offset against the company's corporation tax liability in the preceding period, or carried forward to reduce future corporation tax liabilities. Instead of carrying the credit forward, a company may elect (subject to certain conditions) to have any remaining excess credit paid as a cash refund by Revenue over 3 years.

#### Accelerated capital allowances

Companies are entitled to claim accelerated capital allowances (tax depreciation) of 100 percent for capital expenditures incurred on the purchase

of certain energy-efficient equipment or vehicles. This scheme has been extended for 3 years, to the end of 2017.

## Operating subsidies

### Quota obligation

Under an EU Directive, the Irish government has an obligation to ensure that, by 2020, 16 percent of all energy consumed in Ireland across the electricity, heat and transport sectors is from renewable sources. The Irish government has planned that the 16 percent overall target will be achieved by 40 percent of electricity consumed being from renewable sources, 12 percent of consumption in the heat sector being from renewable sources, and 10 percent of consumption in the transport sector being from renewable sources.

### Feed-in tariff

Ireland currently has two Renewable Energy Feed in Tariff (REFIT) schemes open for applications. The REFIT 2 scheme applies to onshore wind, small hydro and landfill gas. The REFIT 3 scheme applies to biomass technologies. The schemes operate by guaranteeing a minimum floor price for supplies of energy generated from renewable sources. The 2015 reference prices for the REFIT 2 and REFIT 3 schemes are as follows:

REFIT 2	
Category	Price
Onshore wind (above 5 MW)	EUR69.72/MWh
Onshore wind (equal to or less than 5 MW)	EUR72.167/MWh
Hydro (equal to or less than 5 MW)	EUR88.068/MWh
Biomass Landfill Gas	EUR85.622/MWh

REFIT 3	
Category	Price
AD CHP (units less than or equal to 500 kW)	EUR157.613/MWh
AD CHP (units of greater than 500 kW)	EUR136.598/MWh
AD (non CHP) (units less than or equal to 500 kW)	EUR115.583/MWh
AD (non CHP) (units of greater than 500 kW)	EUR105.076/MWh
Biomass CHP (units less than or equal to 1500 kW)	EUR147.106/MWh
Biomass CHP (units of greater than 1500 kW)	EUR126.091/MWh
Biomass combustion (non-CHP)	EUR99.822/MWh for using energy crops EUR89.314/MWh for all other biomass

The energy supplier is also entitled to a balancing payment for every kWh purchased from the generator. The balancing payment under REFIT 2 and REFIT 3 is fixed at EUR9.90/MWh. The full EUR9.90/MWh is payable to the supplier where the market payment is equal to or less than the reference price. If the market price exceeds the reference price but is less than the combination of the reference price plus balancing payment, the balancing payment shall be EUR9.90 less the amount by which the market payment exceeds the reference price. However, where the market payment is equal to or greater than the combination of the reference price plus balancing payment, no balancing payment is payable.

### Additional information

In addition to the above, the Irish government has committed to a 20 percent national energy savings target by 2020 which represents a reduction of approximately EUR2.4 billion in energy spend across all sectors. To support this target, the government has set itself the target of achieving a 33 percent reduction in energy use in the public sector. As a result of these energy reduction measures, substantial investments in renewable energy projects/funds are being actively encouraged, resulting in real investment opportunities in Ireland.

#### Ireland as a hub for green asset management

Global investment is booming in green and clean-tech industries that produce renewable energy, increase energy efficiency or provide sustainability solutions. Major investors include pension funds, life funds, large corporations and high net worth individuals. These investors are attracted to a variety of fund structures to diversify the risk between different green investments and different geographies.

With almost 25 years expertise and experience, Ireland has one of the most sophisticated investment management industries globally. This

includes expertise in fund servicing, administration and asset management. Fund promoters are attracted to Ireland due to its open, transparent and well regulated investment environment, its strong emphasis on investor protection, its efficient tax structure (with a 12.5 percent corporate tax rate) and its dynamic, innovative business culture.

In addition to Ireland's credentials as a leading investment funds location, the case for Ireland as a global center for green asset management is even more compelling. For many years a large number of Irish companies have successfully developed renewable and sustainable projects and related technologies on a global scale. As a result, Ireland has been able to create an unparalleled talent pool with the requisite expertise to support green investments. The combination of these two factors sets Ireland apart.

A number of green investment funds have established operations in Ireland and all indications would suggest that the scale of this activity will increase considerably in the short to medium term. A public private partnership body known as the Green IFSC (GIFSC) has been established to promote Ireland as a center of excellence for green asset management.



# Italy

## Support schemes

### Renewable energy in Italy: recent changes in legislation

In 2014, the Italian Ministry of Economic Development issued three decrees implementing the general provisions contained in Law Decree no. 145/2013 and Law Decree no. 91/2014, which provided incentives for the energy sector.

Two of the decrees concerned the solar photovoltaic industry while the third decree extended incentives to non-photovoltaic renewable energy sources.

### New feed-in tariff system

The decree of 16 October 2014 has made certain changes to the way in which feed-in tariffs are paid for energy produced by photovoltaic plants. The GSE now offers feed-in tariffs in the following way:

- through a fixed monthly premium — a bonus on top of the market price of electricity — equal to 90 percent of a plant's annual production capacity
- through a final balance paid by 30 June of the following year and based on the plant's actual production.

### Photovoltaic plants whose output is higher than 200 kW

Under the decree of 17 October 2014, which came into effect on 1 January 2015, owners of photovoltaic plants whose output is higher than 200 kW are now able to choose between three options for feed-in tariff payments. These three options, paid by the GSE, are:

- a feed-in tariff paid over 24 years from the plant's first period of production and recalculated annually from the second part of the 24-year period
- a feed-in tariff paid over 20 years, with a lower tariff in the first period and a higher one in the second period to make up the difference
- a feed-in tariff paid over 20 years, reduced by 6 percent for plants whose output is between 200 kW

and 500 kW, 7 percent for plants whose output is between 500 kW and 900 kW, and 8 percent for plants whose output is higher than 900 kW.

### Incentives for plants producing other forms of renewable energy

Under the decree of 6 November 2014, owners of certain plants that benefit from incentives provided under Law Decree no. 145/2013 can request that the incentives be extended by another 7 years. This option is available for existing plants that benefit from incentives such as green certificates and all-inclusive tariffs (a type of premium tariff).

Certain types of plants are excluded: photovoltaic plants whose incentives end on 31 December 2014, and biomass and biogas plants whose output is not higher than 1 MW and whose incentives end on 31 December 2016.

Companies wishing to take advantage of this new scheme must submit their request to the GSE.

### New opportunities for companies operating in the wind sector

Law Decree no. 91/2014 established various measures to promote development and boost production of renewable energy. In particular, the decree established an incentive for investments in new capital goods listed in one of the sub-categories of division 28 of ATECO 2007 (machinery, systems, equipment, etc.). These goods must be located and used in Italy. Division 28 is important for the energy sector because it also includes wind turbines.

The incentive, is a tax credit of 15 percent of the difference between the new investment and the average amount of investment in the same kind of capital goods over the previous 5 years (it is possible to exclude the period in which investments were highest). The facilitation affects investment made from 25 June 2014 to 30 June 2015. The tax credit has to be indicated in the tax return.

### Subsidies available under the Fifth Energy Incentive Decree

The Fifth Energy Incentive Decree, which redefined the subsidy scheme for the production of photovoltaic energy, continues to apply.

The decree established that both feed-in tariffs (for plants with a production capacity of up to 1 MW) and premium tariffs (for plants with a production capacity higher than 1 MW) would be available as follows:

- EUR20/Mwh for plants going into operation by 31 December 2013
- EUR10/Mwh for plants going into operation by 31 December 2014
- EUR5/Mwh for plants going into operation after 31 December 2014.

The decree also provided:

- an inclusive feed-in tariff for plants with a capacity of up to 1 MW. This capacity is the sum of a base feed-in tariff (determined for each energy source, type of plant and capacity class) and any premiums, such as those for high efficiency, emission reductions, etc.
- a special incentive for plants:
  - with a capacity higher than 1 MW
  - with a capacity of up to 1 MW that do not choose the all-inclusive feed-in tariff.

## Other types of subsidies

### Support for energy saving improvements

There is a rebate for energy saving improvements. The rebate is 65 percent of the cost of investments made in 2014 and 50 percent of the cost of investments made in 2015.

In particular, the rebate is available for the documented costs of:

- a) installing solar thermal panels to produce hot water for industrial or domestic use, or for swimming pools, sports facilities, nursing and care homes, schools and universities

- b) replacing winter heating systems with condensing boilers and simultaneously installing a distribution system
- c) purchasing and installing solar shading systems
- d) purchasing and installing winter heating systems that run on biomass fuels.

These rebates may not exceed EUR60,000 for costs a) and c), and EUR30,000 for costs b) and d).

### Support for energy plants in Southern Italy

The Ministry of Economic Development has allocated EUR120 million to companies in the south of Italy that invest in renewable energy plants. This is for companies of all sizes in the regions of Calabria, Campania, Apulia and Sicily.

### Additional information

#### Taxation

Companies are still subject to IRES (corporate income tax) of 27.5 percent and IRAP (a regional business income tax) of between 3.9 percent and 4.82 percent.

#### Robin Hood Tax

On 11 February 2015, the Italian Constitutional Court declared the Robin Hood Tax (RHT), a surtax on energy companies, to be unconstitutional. This decision significantly lowers their tax

burden from 34 percent to 27.5 percent. However, the court's decision does not apply retroactively.

Although companies no longer have to pay RHT from 12 February 2015, those that adopt the calendar year as their tax year must still pay RHT for 2014. These companies' RHT obligations will end upon payment of their 2014 balance.

#### Reverse charge mechanism

The 2015 Stability Law extended the application of the reverse charge method for the payment of VAT to the renewable energy sector. VAT payments now have to be made by the purchaser and not the supplier. This is the case for companies involved in the transfer of:

- greenhouse gas emission shares under the EU emissions trading system ("EU ETS System")
- certificates and similar documents relating to energy and gas within the EU ETS System
- gas and electricity to a taxable dealer (defined as a taxable entity whose core business is the resale of gas, electricity, heat or cooling energy and whose own consumption of these products is insignificant).

On 19 December 2014, the GSE announced that, from 1 January 2015, invoices issued to it for electricity and electricity certificates would be subject to the reverse charge method, as the GSE is a taxable dealer.

For the moment, the reverse charge method will only be used for transactions concluded within 4 years of the entry into force of the 2015 Stability Law.

#### Non-operating or dormant companies

The IRES rate is 38 percent for dormant companies. A company is considered dormant if:

- it reports a tax loss in its tax return for 5 consecutive years
- it is subject to minimum IRES and IRAP
- it is not eligible to claim a VAT refund.

There is a special test to determine whether a company is dormant: if the actual amounts reported in the profit and loss account are lower than the presumed amounts, the company is deemed to be dormant.

#### Depreciation

Wind and solar plants are subject to ordinary amortization/depreciation rules for tax purposes.

For solar plants, the depreciation rate is 4 percent if the asset is considered immovable property and 9 percent if the asset is considered movable property.

For wind plants considered as immovable property, the depreciation rate is 4 percent.



# Japan

## Feed-in tariff

Feed-in tariffs for renewable energy became available in Japan in July 2012. The feed-in tariff rate for solar energy is Japanese yen (JPY)31.32/kW for the period from 1 April 2015 to 30 June 2015 and JPY29.16/kW for the period from 1 July 2015 to 31 March 2016, respectively. The feed-in tariff rate for wind power energy is JPY23.76/kw from the period from 1 April 2015 to 31 March 2016. The operation period is 20 years. The feed-in tariff rate is revised annually.

In order to obtain the feed-in tariff, the applicant is required to meet the following conditions:

1. The power plant development plan is approved by the government.

2. The development plan applied for interconnection to transmission line with the electric power company.
3. The applicant is required to submit copies of land register and purchase agreement/order for equipment to the Ministry of Economy, Trade and Industry (METI) within 180 days from the next day of approval.

The METI rescinds its approval if the required documents are not submitted within the deadline or the submitted documents are not sufficient to substantiate land and equipment for solar energy.

## Green Investment Tax incentive

Green Investment Tax incentive is available for the taxpayer who obtained approval for the feed-in tariff and

acquires solar or wind power generation equipment and places in business within 1 year from the acquisition. The taxpayer can choose one incentive from the following, assuming the equipment is placed in business by 31 March 2016:

1. 30 percent special depreciation in addition to ordinary depreciation
2. 100 percent depreciation (that is, total acquisition costs expensed upfront) for wind power generation equipment
3. Tax credit (7 percent of acquisition costs, only available for small and medium sized enterprises (SMEs). An SME is a company with its paid-in capital of JPY100 million or less and is not 50 percent or more owned by a large corporation with its paid-in capital of JPY100 million.



# Mexico

As a result of the Energy Reform Act of 2014, Mexico has become more appealing to foreign investors, and the country's potential for renewable energy has not been overlooked. Mexico is one of the leading countries in terms of installed capacity of geothermal energy, and wind and solar are showing strong growth rates. The country also enjoys abundant sunshine, with solar energy potential higher than 5 kWh/m per day.

Mexico now has one of the most ambitious goals for renewable energy in the world. The Renewable Energies Exploit and Energy Transition Financing Law (Ley para el Aprovechamiento de Energías Renovables y el Financiamiento de la Transición Energética or LAERFTE) stipulates that 35 percent of the nation's electricity will come from non-fossil fuels by 2024.

## Potential Renewal Resources in Mexico by 2030

Energy Type	WW
Wind	40,268
Geothermic	40,000
Hydraulic	53,000
Solar	24,300
Biomass	83.500-119,498

\*SENER/Electrical Research Institute (IIE)

## Mexican Energy Reform 2014: relevant matters concerning clean energy and environmental protection

In accordance with the Power Industry Law — a part of the Energy Reform Act of 2014 — public and private power industry infrastructure projects must achieve sustainability for the areas that are planned to be developed. Any party interested in carrying out energy projects must submit before the Ministry of Energy an assessment of the social impact caused by the performance of such project as well as its mitigation measures in order to obtain necessary permissions or authorizations.

In this regard, the Ministry of Energy will establish during the first quarter of every year, the terms required to receive

a Clean Energy Certification. These terms may increase in the following years. It is possible to relocate this Certification, granted by the Energy Regulatory Commission to any other period, allowing for the transfer of excess or missing certificates, which will promote price stability.

## Support Schemes

### Tax Incentives

- Accelerated depreciation. Investments in machinery and equipment for the energy production derived from renewable energy will be fully depreciated in a 12-month period. This applies to solar, wind, hydraulic kinetic and potential energy, power derived from the oceans, geothermal, and from biomass or residues.
- Exempt duty. The polluting equipment and its parts will be exempt from the Import and Export General Tax.

### Other schemes

**CONACYT** – This is a program scheme created to provide resources for those companies interested in R&D investment, technology and innovation development to create new products, procedures or services. There are three types of approaches:

- Innovapyme: exclusively for small and medium-sized entities (SMEs) that carry out R&D projects individually or with universities and/or research centers.
- Innovatec: focused on large entities. It also can be carried out individually, or with universities and/or research centers.
- Proinnova: for every type of entity. The project must be proposed with at least two collaborations (universities or research centers). In some cases, there must be a balance of the designated resources among the involved parties.

**FIDE** – Private Trust, founded in 1990, based on the Federal Electricity Commission (Comisión Federal de

Electricidad or CFE) initiative, which aims to fund energy efficiency projects, electrical and thermal energy programs, cogeneration and distributed production with renewable sources for industries, businesses, services and housing. This trust has two different categories:

- **FIDE Energy Efficiency** – Its main objective is to increase the efficient application of electricity by linking projects between technological innovation and electricity consumption through the implementation of efficient technologies. The following equipment is included in this program: air conditioners, thermal insulators, remote monitoring systems, electronic ballasts, water pumps, air compressors, processing equipment, light-emitting diode (LED) lighting and transformers, among others.
- **FIDE Business Eco-credit** – This fund promotes the efficient and cost-effective use of electricity. This program applies to all production sectors in Mexico. In the current year, FIDE submitted the Distributed Generation Support Program which aims to grant incentives to domestic users, specifically a 10 percent incentive of the total cost of each system with the remaining 90 percent funded by patrimonial resources of FIDE. (As of today, this program is pending to be released, and it is convening specialized companies which are part of the distributed generation sector).

### Other Practical Tools

**FOTEASE (Fund for Energy Transition and Sustainable Exploit of Energy)** – A fund created to promote the use, development and investment in renewable energy and energy efficiency. Last year, an amount of Mexican peso (MXN)1,000,000,000 was granted by the Federal Government to support energy efficiency and renewable energy.

**One-Stop Window for Renewable Energy** – Its main purpose is to contribute to the promotion of investment in renewable energy

projects through the simplification of requirements and the administrative process. It is a mechanism created to increase the installed capacity of electricity generation through the automation of involved processes.

Preferential rate – It consists in a lower service charge for the transmission of renewable energy; the normal energy rate is 0.30 MXN/kWh and a 0.14 MXN/kWh rate will apply in the first mentioned cases.

Energy bank – This tool will allow the conservation of excess energy produced by the supplier for its future consumption or potential sale to the CFE.

Net Metering – In scale projects of 30kWp, the electricity cost for energy delivered to the national grid will be offset.

## Developing Programs

Integrated Energy Services Program – seeks to provide to the Federal Public Administration buildings (Administración Pública Federal or APF) self-supply capacity for electricity through renewable energy, thereby reducing the cost for operation and site maintenance.

Mini-hydroelectric projects – promotes the use of technologies for the exploitation of renewable energy; the use of clean technologies in the development of productive activities; and the diversification of primary energy sources that include renewables.

Program of productive activities with renewable energy in rural areas – supports rural electrification with technical and economic activities that use renewable energy.



# The Netherlands

## Support schemes

### Investment and other subsidies

The following schemes are applicable for solar, wind, geothermal, hydro, biomaterial and offshore technologies.

- An additional deduction of 41.5 percent of the amount invested in qualifying assets is available under the Energy Investment Allowance (Energie-investeringsaftrek or EIA):
  - o Investments must be included on the Energy List (Energielijst) to qualify.
  - o The maximum amount of investment for which the EIA can be claimed per calendar year per taxpayer is €118 million. Pro rata calculation applies in the case of transparent entities.
  - o The amount per qualifying investment must be more than €2,500.
  - o A granted EIA will be revoked partially or in full (added back to the fiscal profit) on alienation of the assets within a five-year period.
  - o No prior use of the asset that is the object of investment is permitted.
  - o The EIA and the Environmental Investment Allowance (see below) cannot be applied simultaneously.
  - o Certain formal conditions apply to requests for the EIA.
  - o The EIA is subject to a maximum annual budget, to be determined annually (€119 million in 2015).

*Applicability: Not directly applicable to renewable energy, although assets for which this tax incentive is applicable can be used as part of the production of energy from renewables.*

- An additional deduction is granted of up to 36 percent of the amount invested in qualifying environmentally friendly assets under the Environmental Investment Allowance (Milieu-investeringsaftrek or MIA):
  - o Depending on the asset, the amount that can be deducted from the fiscal profit is 13.5, 27,

or 36 percent of the investment costs. The maximum qualifying investment cost that is taken into account is €25 million per taxpayer per calendar year.

- o Investments must be included on the Environmental List (Milieulijst) to be qualifying assets.
- o The amount per qualifying investment must be more than €2,500.
- o A granted MIA will be revoked partially or in full (added back to the fiscal profit) on alienation of the assets within a five-year period.
- o No prior use of asset that is the object of investment is permitted.
- o The EIA and the MIA cannot be applied simultaneously.
- o Certain formal conditions apply to requests for the MIA.
- o The MIA is subject to a maximum annual budget, to be determined annually (€93 million in 2015).

*Applicability: Not directly applicable to renewable energy, although assets for which this tax incentive is applicable can be used as part of the production of energy from renewables.*

- Free depreciation/depreciation at will is granted on qualifying environmentally friendly assets (Willekeurige afschrijving milieuinvesteringen or VAMIL):
  - o Investments must be included on the Environmental List (Milieulijst) to qualify.
  - o Free depreciation of up to 75 percent of the investment costs of the qualifying asset is granted. The maximum qualifying investment costs that are taken into account amount to €25 million per taxpayer per calendar year.
  - o The total amount of qualifying investments must be more than €2,500 per application.
  - o No prior use of asset that is the object of investment is permitted.

- o Certain formal conditions apply to requests for the accelerated depreciation.
- o Free depreciation/depreciation at will is subject to a maximum annual budget, to be determined annually (€38 million in 2015).

*Applicability: Not directly applicable to renewable energy, although assets for which this tax incentive is applicable can be used as part of the production of energy from renewables.*

- Capital invested in green funds (appropriated funds invested in environmentally friendly projects or groene fondsen) is exempt from personal income tax:
  - o A private investor will not be taxed for capital invested in green funds.
  - o The maximum amount of invested capital exempted on an individual basis is €56,928.
  - o A tax credit will be granted of 0.7 percent of the invested capital, with a maximum amount of invested capital of €56,928 on an individual basis.

*Applicability: Investments in green funds.*

## Operating subsidies

### Feed-in tariff

As of 1 April 2014, the regulation for the feed-in tariff (Stimulerend Duurzame Energieproductie or SDE+) for 2014 has opened. This regulation includes the following features:

- a budget ceiling established for all types of renewable energy such as wind, geothermal, solar photovoltaic, biomass and hydro
- phased opening
- a 'free category' to enhance investments in certain technologies
- feed-in tariff granted for a certain period (5, 8, 12 or 15 years)
- a maximum subsidy amount for the Netherlands, to be determined annually (EUR3.5 billion in 2015).

# New Zealand

## Support schemes

### Investments and other subsidies

Schemes are applicable for solar, wind, hydro and biomaterial energy sources.

Historically, renewable generation projects may have qualified for free allocation of carbon credits. Current policy is that generation which results in greenhouse gas emissions will incur a carbon cost under the NZ Emissions Trading Scheme. This includes geothermal generation.

## Operating subsidies

### Feed-in tariff

Remuneration is available for electricity produced.

## Additional information

### Operating incentives

Wind generation is required to be bid into the market. However, it is automatically dispatched, and the generator receives the same pool price as other dispatched generation. Generation from all other renewable sources is treated the same as generation from carbon. The lowest bid price is dispatched first.



# Norway

## Support schemes

### Investments and other subsidies

#### Energy Fund

The state-owned corporation Enova is the driving force for an environmentally friendly energy conversion by private and public enterprises. Enova is funded through the Energy Fund that supports environmental change in the use and production of energy. The management of the Energy Fund is governed by an agreement between the Norwegian Ministry of Oil and Energy and Enova.

Enova offers financial support based on defined programs for various renewable energy and environmentally friendly projects based on an application principle. In 2014, the Energy Fund supported 1400 new projects in the private and public sectors, and supported 4500 new energy measures in residential buildings.

#### Other allowances

The Norwegian General Tax Act includes regulations regarding tax allowances known as SkatteFUNN to support R&D projects. The SkatteFUNN R&D tax incentive scheme is a government program designed to stimulate R&D in Norwegian trade and industry. Under the SkatteFUNN scheme, any type of business enterprise engaged in R&D activities may apply to the Research Council for support for their projects. R&D projects under the SkatteFUNN scheme are aimed at obtaining new knowledge or technical skills that can benefit the company in connection with the development of new or improved goods, services or means of production.

Support for R&D projects is granted in the form of a tax deduction. When determining the tax deduction under the SkatteFUNN scheme, a distinction is made between SMEs and large enterprises. SMEs may be granted a tax deduction of 20 percent of the R&D costs associated with a given R&D project. Large enterprises may be granted a deduction of 18 percent of

such project costs. From the income year 2015, the maximum funding for R&D projects using in-house R&D resources is Norwegian krone (NOK) 15 million per year. The SkatteFUNN R&D cost ceiling for R&D projects also using external pre-approved R&D resources is NOK 33 million per year. Total costs for in-house and external resources must not exceed NOK 33 million.

### Operating subsidies

#### Feed-in tariff

There are no national-based feed-in tariffs in Norway. However, there is a green certificate scheme.

#### Premium

##### Electricity – green certificates

The issuance of electricity certificates is an economic subsidy scheme that will make it more remunerative to invest in power production based on renewable energy sources such as hydro, wind, solar and bio energy. The scheme is regulated by the Green Certificates Act.

The Norwegian government has entered into an agreement with the Swedish government establishing a common electricity certificate market for electricity that will contribute to increased production of renewable energy. Moving toward 2020, Sweden and Norway will increase their power production from renewable energy sources to 26.4 TWh. Power plants that are included in the scheme receive electricity certificates that can be sold in the Norwegian-Swedish electricity certificates market. Power suppliers and certain power users are required to purchase electricity certificates for a share of the electricity they sell or use.

The following power producers may apply, subject to certain requirements, for electricity certificate approval for whole or parts of its production based on its total production:

- power plants based on renewable energy sources and built after 7 September 2009

- hydro plants generating 1 MW and built after 1 January 2004
- existing renewable power plants that permanently increase their electricity production with new construction beginning on or after 7 September 2009.

Any entity that delivers power to end consumers is obliged to purchase electricity certificates, and it is the end consumer who finances the scheme through increased costs when invoiced for usage. The electricity certificate scheme is managed by the Norwegian Water Resources and Energy Directorate.

#### Quota obligation

Starting in 2008, the Norwegian emissions trading system for greenhouse gas emissions expanded to include nearly 40 percent of the emissions related to Norway. It is also affiliated with the European system for quotas. The Norwegian system for quota obligation applies to greenhouse gas emissions in Norway and to emissions from activities on the Norwegian part of the continental shelf.

The quota system applies to emissions in connection with:

- energy production
- refining of mineral oil
- coke production
- production and processing of iron and steel including roasting and sintering of iron ore
- production of cement, lime, glass, glass fiber and ceramic products, as well as the production of paper, board and pulp from timber or other fibrous materials
- aviation activities.

Any person engaged in any of the activities mentioned above is required to surrender allowances corresponding to any emissions to which the duty to surrender

allowances applies. The Norwegian Emissions Trading Registry shall contain information on the allocation, issue, holding, transfer, surrender and cancellation of allowances. An operator will, by 30 April each year, transfer a number of allowances corresponding to the volume of emissions for which reporting is mandatory, generated by the installation in the previous calendar year to a specified settlement account in the registry.

### Additional information

**Indirect taxes:** Indirect taxes are used as a policy instrument to reduce the consumption of products that are detrimental to the environment.

**CO<sub>2</sub> tax:** Gasoline, mineral oil, gas for inland usage and petroleum activities are subject to a CO<sub>2</sub> tax. A CO<sub>2</sub> tax related to petroleum activities shall be paid per liter of oil and natural gas liquids and per standard cubic meter of gas burnt off or emitted directly to air on platforms, installations or facilities

used in connection with the extraction or transportation of petroleum on the Norwegian continental shelf. The tax is classified as a deductible operating cost associated with petroleum activities, which contributes to reducing the ordinary tax and special tax actually paid by the oil companies.

The CO<sub>2</sub> tax was reduced according to the estimated emissions trading price when the Norwegian emissions trading system was introduced.

**Nitrous Oxide (NOx) tax:** The NOx tax is calculated per kg for NOx emissions generated during the production of energy from the following energy sources:

- propulsion machinery with a total installed capacity of over 750 kW
- motors, boilers and turbines with a total installed capacity of more than 10 MW
- flares on offshore installations and on facilities on land.

Enterprises that join the Environmental Agreement on NOx are entitled to a tax exemption from the date when they joined. From the same date, the enterprise will have a payment obligation vis-à-vis the business sector's NOx Fund. According to the Participant Agreement, affiliated enterprises will develop a measure plan identifying possible NOx reducing measures within 2 years after affiliation.

The purpose of the plan is to identify profitable measures the enterprise can implement on its own accord, and to identify cost-effective NOx reducing measures whose implementation are dependent on support from the NOx Fund. As of 23 May 2014, a total of 787 enterprises, ships and rigs had joined the Environmental Agreement on NOx 2011–2017. The Norwegian government wishes to begin negotiations regarding continuation of the Environmental Agreement on NOx after 2017. This is stated in the government's new maritime strategy.



# Peru

## Support schemes

### Investments and other subsidies

Peru has not implemented subsidies, but it has implemented certain tax incentives for energy producers producing energy on renewable resources.

However, Peru has not implemented feed-in tariff schemes, premiums to renewable energy producers or renewable energy quota obligation to energy producers.

### Additional information

Peru is a country with abundant natural resources, but whether a particular resource is considered renewable is determined only by a general consensus rather than by legal definitions. This consensus appears to be changing, and some resources like water, which was once considered renewable, are no longer considered as such.

Apart from issues related to water, no clear tax policy exists that might promote investment into renewable energy. However, a number of benefits can be identified in the Peruvian taxation system.

**Geothermal resources law:** The Peruvian government grants 30-year concessions to explore and/or exploit aboveground and underground geothermal resources that are not hydrocarbon-based.

**Income tax stability:** Geothermal concessionaires will be subject to the common tax regime of income tax in force at the time of signing the concession agreement during the term of the concession. For 2015 and 2016, the income tax regime will be 28 percent, for 2017 and 2018, it will be 27 percent and from 2019 and onward, it will be 26 percent.

**Income tax assessment:** Geothermal concessionaires having more than one geothermal resource concession agreement that may also perform activities related to geothermal resources and connected activities shall individually and annually assess their

income tax liability by each contract and activity.

If one of the contracts generates tax losses that carry forward, such losses could be offset against the profits derived from another contract or geothermal related activities.

Investments applied to a geothermal resource concession agreement that may not have reached the exploitation stage can be accumulated with the same kind of investment made with another contract that may have reached the exploitation stage. These accumulated investments can be amortized either on a production basis or proportionally over a five-year period on a straight line method.

**Import of goods:** Import of goods and inputs required to exploit geothermal resources under concession are exempt from all existing or to be existed taxes provided such goods or inputs were included in the specific list approved by the Energy and Mining Ministry.

**Contribution:** Geothermal concessionaires are obliged to pay a 1 percent contribution applied to the energy average price up to the level of hydroelectric generation. Such contribution cannot exceed 1 percent of the annual sales of the concessionaire.

**Accounting:** Local accounting could be carried in foreign currency. For such purpose, concessionaires must be authorized by the Ministry of Economy.

**Investment in generating electricity through hydro-power and other Renewable Energetic Resources (RER):** Electricity generation through hydro, wind, solar, geothermal, biomass, wave or tidal powers or other RERs is subject to an annual maximum of 20 percent accelerated depreciation regime for Income Tax purposes.

Accelerated depreciation is applicable to electricity plants entering into operation as of 29 June 2008. Accelerated depreciation is applicable to machinery, equipment and building infrastructures required for the installation and

operation of electricity plants generating power through renewable resources.

Electricity generated with RERs is considered when it is first delivered into the electricity distribution network.

This benefit will be in force until 31 December 2020. However, it could be expected that further provisions would be enacted in order to extend the referred benefit.

### Early recovery of the Input VAT derived by electricity generating corporations:

Concessionaires of electricity-generating activities through RERs are entitled to the early recovery of the Input VAT paid for capital expenditures, services and building contracts directly related to the electricity generating activities, provided they do not enter into the productive stage.

**Selective Consumption Tax (Impuesto Selectivo al Consumo or ISC):** The ISC excise tax is applicable to, among other goods, fuels. As of 1 January 2008 until 1 January 2016, the Peruvian government has established a schedule for applying a specific amount as an ISC on certain fuels such as diesel 2, kerosene and others that contain harmful contaminants like sulfur.



# Philippines

## Investments and other subsidies

### Republic Act 9513 or the Renewable Energy Act of 2008

In 2009, Republic Act (RA) 9513, otherwise known as the Renewable Energy Act, was passed. The law is intended to accelerate the development and commercialization of renewable energy resources in the Philippines. It includes, among other items, the establishment of the Renewable Portfolio Standard which sets a minimum percentage of generation from renewable energy resources by power generators, distribution utilities and suppliers; the creation of a renewable energy market; and the adoption of the feed-in tariff system.

RA 9513 also provides for fiscal incentives to renewable energy (RE) developers of renewable energy facilities such as hybrid systems – in proportion to and to the extent of the RE component – for both power and non power-applications. Incentives include the following:

#### Income Tax Holiday (ITH)

Duly registered RE developers are exempt from income taxes for the first seven years of commercial operations. Additional investments are entitled to additional income tax exemptions that do not exceed three times the period of the initial availability of the ITH.

#### Ten percent corporate tax rate

A corporate tax rate of 10 percent (reduced from the regular 30 percent) on net taxable income shall be imposed on all RE developers after seven years of the ITH.

#### Ten year duty-free importation of RE machinery, equipment and materials

This incentive is available within the first 10 years of RE certification, provided that an endorsement from the Department of Energy (DOE) is obtained before importation. The machinery,

equipment, and material must be directly and actually needed and used exclusively in the RE facilities.

#### Net Operation Loss Carry-Over (NOLCO) of seven years

The RE developer's NOLCO during the first 3 years starting commercial operation may be carried over as a deduction from the gross income for the next seven consecutive taxable years immediately following the year of loss, provided it has not been previously offset and is not the result of the incentives under RA 9513.

#### Zero percent value-added tax (VAT) rate

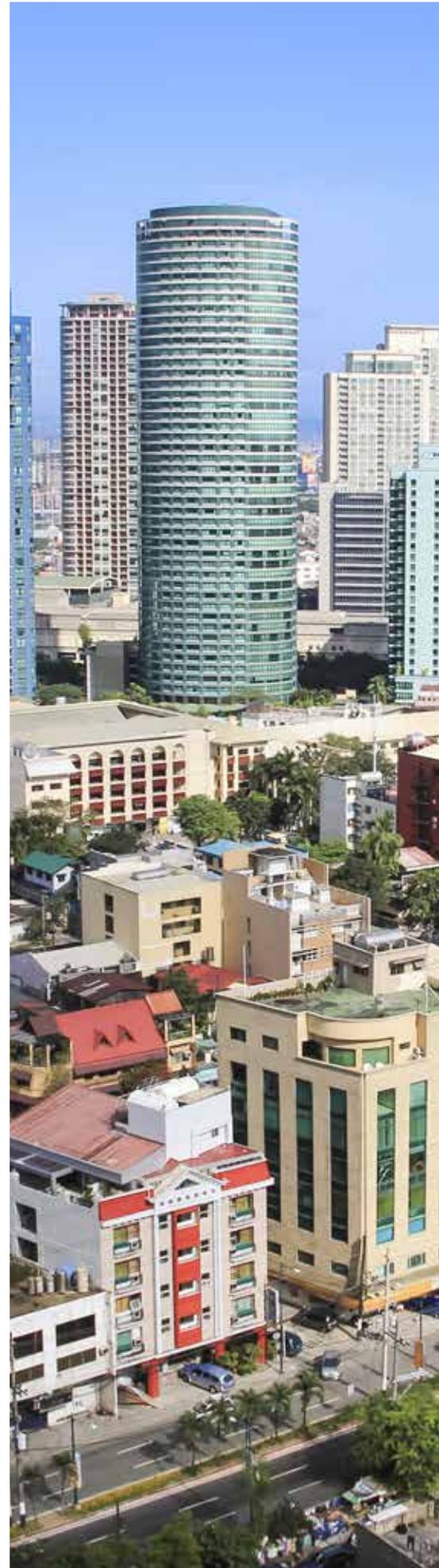
The sale of fuel or power from RE sources shall be subject to 0 percent VAT. All RE developers are entitled to zero-rated VAT on purchases of local supply of goods, properties and services needed for plant facilities. This incentive may be used throughout the whole process of exploring and developing RE sources up to its conversion to power, including those performed by subcontractors and contractors.

#### Special realty tax rates on equipment and machinery

Realty and other taxes on equipment, machinery and other improvements actually and exclusively used for RE facilities shall not exceed 1.5 percent of their original cost less accumulated normal depreciation or net book value. In an integrated resource development and generation facility, only the power plant shall be subject to real property tax.

#### Accelerated depreciation

If an RE project fails to receive an ITH before its full operation, it may apply for an accelerated depreciation in its tax books provided that the project or its expansions shall no longer be eligible for an ITH under an accelerated depreciation.





### **Cash incentive given to RE developers for missionary electrification**

RE developers shall be entitled to a cash generation-based incentive per kilowatt-hour rate generated that is equal to 50 percent of the universal charge for power needed to service missionary areas where it operates. This incentive is chargeable against the universal charge for missionary electrification.

### **Tax exemption of carbon credits**

All proceeds from the sale of carbon emission credits are exempt from all taxes.

### **Tax credit on domestic capital equipment and services**

RE operating contractor holders purchasing RE machinery, equipment, materials and parts from a domestic manufacturer shall be entitled to a tax credit that is equivalent to 100 percent of the value of the VAT and customs duties that would have been paid on the equipment, materials and parts had they been imported.

### **Exemption from the universal charge**

Power and electricity generated through the RE system for the generator's own consumption or for free distribution to off-grid areas shall be exempt from the universal charge.

### **Payment of transmission charges**

Power and electricity produced from an intermittent RE resource may opt to pay the transmission and wheeling charges, on a per kilowatt-hour basis at a cost equivalent to the average kilowatt-hour rate of all other electricity transmitted through the grid.

### **Hybrid and cogeneration systems**

Incentives and tax exemptions under RA 9513 may be claimed by registered RE developers of hybrid and cogeneration systems using both RE sources and conventional energy, but only as to the equipment and machinery utilizing RE resources.

### **Benefit of a priority dispatch**

Qualified and registered RE generating units with intermittent RE resources shall be considered "must dispatch" based on available energy and shall enjoy the benefit of priority dispatch. RE generating units with intermittent RE resources include plants using wind, solar, run-of-river hydro or ocean energy.

### **Incentives for RE commercialization**

Incentives are given to all manufacturers and suppliers of locally-produced RE equipment and components, provided they are duly accredited by the DOE.

- Tax and duty-free importation of components, parts and materials – exemption from VAT and importation tariffs and duties
- Tax credit on domestic capital components, parts and materials
- ITH and exemption – available for 7 years from day of accreditation
- Zero-rated VAT transactions with local suppliers.

### **Incentives for farmers of biomass resources**

For a period of 10 years under RA 9513, those engaged in the farming of crops and trees used as biomass resources

are entitled to duty-free importation and VAT exemption on all types of agricultural inputs, equipment and machinery.

### **Tax rebate for purchase of RE components**

Rebates for all or part of the tax paid for purchases of RE equipment for residential, industrial, or community use.

### **Operating subsidies**

#### **Feed-in tariff**

The feed-in tariff system is a scheme that involves the obligation on the part of the power industry participants to source electricity from RE generation at a guaranteed fixed price applicable for a given period of time, which shall in no case be less than 12 years.

The feed-in tariff system is mandated for wind, solar, ocean, run-of-river, hydropower and biomass energy sources.

Meanwhile, the Feed-In Tariff Allowance imposes a uniform charge on all On-Grid electricity consumers supplied with electricity through the distribution network. This ensures that the RE developers under the feed-in tariff system will be remunerated in full for the electricity they generated. In October 2014, the Energy Regulatory Commission (ERC) provisionally approved the feed-in tariff allowance of PHP0.0406/kWh effective in the January 2015 billing of all On-Grid electricity consumers.<sup>1</sup>

1. ERC Case No. 2014-109 RC dated 28 October 2014.

The current feed-in tariff rates<sup>2</sup> are as follows:

Resource/Technology	ERC-approved Feed-in Tariff Rates		
	(PHP/kWh)	(USD/kWh)	Installation Targets
Run-of-River Hydropower	5.9	0.14	250
Biomass Energy	6.63	0.15	250
Wind Power	8.53	0.19	200
Solar Power	8.69 <sup>3</sup>	0.22	50
Ocean Energy	–	–	10
<b>Total</b>			<b>760</b>

(Based on exchange rate: USD1 = PHP43)

## Additional information

- Green energy option – End-users are given the option to choose RE resources as their source of energy by enrolling under this program.
- Nationality requirement – Under the Philippine Constitution, the exploration, development and utilization of natural resources in the Philippines is an area generally reserved for Filipino citizens or domestic companies with at least 60 percent of their capital owned by Filipino citizens.
- The DOE has awarded 664 projects under the RE Law, as of April 2015.<sup>4</sup>

Resources	Awarded Projects		Potential Capacity MW		Installed Capacity MW	
	Grid-Use	Own-Use	Grid-Use	Own-Use	Grid-Use	Own-Use
Hydro Power	403	1	7,621.54	1.50	122.73	-
Ocean Energy	8	-	31.00	-	-	-
Geothermal	42	-	750.00	-	1,896.19	-
Wind	50	1	1,272.00	0.006	336.90	-
Solar	82	11	1,749.53	3.580	108.90	-
Biomass	44	22	345.00	5.80	191.80	143.18
Sub-Total	629	35	11,769.07	10.886	2,656.52	143.18
<b>Total</b>	<b>664</b>		<b>11,779.96</b>		<b>2,799.70</b>	

- In March 2015, the ERC approved the Installed Generating Capacity (IGC) per Grid and National Grid, as well as the Market Share Limitation (MSL) per Regional Grids and the National Grid for the year 2015. This aims to prevent a person or entity (solely or jointly) to operate or control more than 30 percent of the IGC of a Grid, and/or 25 percent of the National IGC.<sup>5</sup>

2. ERC Resolution No. 10, series of 2012.

3. ERC Resolution No. 06, series of 2015 changed the feed-in tariff rate for solar power from PHP9.68 to 8.69.

4. Summary of projects, renewable energy registration and accreditation,

DOE website (<https://www.doe.gov.ph/summary-of-projects/2707-summary-of-re-projects-as-of-30-april-2015>)

5. 2015 press releases, ERC website (<http://www.erc.gov.ph/ContentPage/29629>)

# Poland

## Support schemes

### Investment and other subsidies

- Support schemes are applicable for solar, wind, geothermal, hydro, biomaterial and offshore technologies.
- Renewable energy is exempt from excise tax.
- In some cases solar photovoltaic modules could be excluded from real estate tax as other constructions.
- Agriculture tax payers may claim a refund of investment costs if the investment relates to renewable energy (up to 25 percent).
- Subsidies and grants from the EU Structural Fund in Poland or other domestic institutions (for example, the National Fund of Environmental Protection and Water Management).

Currently the following sources of financing for renewable energy projects are available:

### The Stork Program – financing of distributed, renewable energy sources (RES)

- Support under the Stork Program will be given for investments involving construction or reconstruction of RES installations with capacities from the following ranges:
  - wind power plants – from 40 kWe to 3 MWe
  - photovoltaic systems – from 40 kWp to 200 kWp
  - photovoltaic systems (installed on buildings / on lands) – from 200 kWp to 1 MWp
  - energy from geothermal waters – from 5 MWt to 20MWt
  - hydropower plants – to 5 MWe
  - biomass-fired heat sources – from 300 kWt to 20MWt
  - biogas plants – from 40 kWe to 2 MWe

- production of electricity in high efficiency cogeneration biomass – from 40 kWe to 5 MWe.
- All companies may apply for support.
- The level of support, given in the form of preferential loan, is up to 85 percent of eligible cost of the project (depending on the investment type). The amount of support reaches up to Polish Zloty (PLN)40 million.
- The Stork Program will be implemented in the years 2015 – 2023, whereas concluding loan agreements is possible up to 2020 and the spending is possible up to 2023.
  - Support for a low-carbon and resource-efficient economy: Part 1) energy and electricity audits, Part 2) improvements of energy effectiveness of companies, and Part 3) e-accumulator-ecological battery for industry
- Companies investing in undertakings leading to energy savings may apply for support.
- Support under Part 1) will be given in the form of grant up to 70 percent of eligible investment costs. Support under Part 2) and Part 3) is given in the form of preferential loans. The amount of support extends from PLN300,000 to PLN50 million. The maximum level of the loan may not exceed 75 percent of eligible cost of the project.
- All three parts will be implemented in the years 2014 – 2017; the spending is possible up to 2017.

### Other incentives

Besides aid sources mentioned above, the investor may also apply for other incentives related to a broadly defined energy sector, in particular:

- grants from EU funds for the Financial Framework from 2014 to 2020 and national programs designed for, among other things, investment

and employment (such as new manufacturing plants, innovative technologies), R&D activities (such as development or improvement of products, services or technologies), other activities such as environmental protection, training sessions, and logistics

- incentives from the Polish Government (R&D projects, environmental projects, and investments of considerable importance for the Polish economy from 2011 to 2020).

Incentives obtained by the investors in Poland are subject to Polish and EU state aid rules which determine, among other things, the maximum level of support, beneficiaries and the detailed conditions of support.

## Operating subsidies

### Green certificate system/feed-in tariff

Remuneration for renewable energy produced: the average market price of PLN163.58/MWh for the last year (2014) plus the market value of green certificate (certificate of origin) granted by the Energy Regulatory Office.

### Quota obligation

Rates (2015): 14 percent of all energy produced (floors relate to all types of renewable energy). The quota is increasing in stages and will reach 15 percent in 2016 to 20 percent in 2021.

## Additional information

### Legal basis

The Act of Energy Law enacted on 10 April 1997 and the respective decrees from the Ministry of Economy, which will be subject to several amendments in 2016. Moreover it should be noted that beginning in 2016, the provisions of the new Renewable Energy Sources Act (RES Act) will enter into force.

The following is a summary of key changes.

## Green certificates scheme

Current RES law is based on the support scheme in the form of green certificates and stays in force until the end of 2035 for all operating wind farms and projects completed before implementation of the new RES law.

Electricity producers may apply to the president of Energy Regulatory Office for green certificates (also known as certificates of origin), if they have produced renewable energy or if they are required to pay substitute fees calculated in line with the energy law. The green certificates are similar to securities; they are transferable and tradable on the regulated market (for example, the Polish Power Exchange) or within the over-the-counter market. Generally, if energy producers do not achieve the minimum level of share of renewable energy (for 2015 – 14 percent), they are obliged to purchase green certificates at the market (for redemption) or has to make a compensation payment. Currently the certificate's substitution fee amounts to PLN300.03/MWh (approximately EUR70/MWh).

## Sale

Electricity distributors have a legal obligation to acquire a certain amount of renewable energy generated in Poland. For the year of 2015, the above percentage limit of renewable energy will amount to 14 percent. Otherwise, the electricity distributor is obliged to buy the missing amount of renewable energy (by means of green certificates) on the market. The prices of renewable energy have been determined based on average prices of energy in the previous year. (The amount for 2014 was PLN163.58/MWh). The renewable electricity producers have priority over other producers with regards to the distribution of produced energy.

## Administrative procedures

Business activity in the area of production of renewable energy is a

licensed activity and requires a permit granted by the president of Energy Regulatory Office. Such a permit can be sought by an entity that meets requirements specified in the Energy Law, especially the ability to provide the financial, organizational and technical resources required to perform the licensed activity. As a rule, permission is given for the fixed term but not longer than 50 years.

## Grid access

Priority access is granted over nonrenewable electricity producers. The costs of connecting to the electricity grid are determined by the actual costs incurred to construct the line. Those costs may be partially refunded to the investor, depending on the year and production capacity.

## Overview of the implemented changes to the RES supporting mechanism (based on the RES Act enacted on 20 February 2015) – binding from 2016

New RES Act (which is the implementation of the provisions of Directive 2009/28/WE into the Polish law) is based on the reverse auction system, providing support in form of a feed-in tariff for the auction winner through 2035 (and 2040 for off-shore farms), mainly in force from 1 January 2016.

## Key provisions for existing installations – modified green certificates system

The green certificates system shall be available for the installations in which the energy has been produced for the first time before 1 January 2016 and for installations which have been modernized after that date (under specific conditions described in the RES Act).

The green certificates shall be granted to the RES energy producers for 15 consecutive years from the first production of the energy confirmed by

the relevant green certificate, however, no longer than until 31 December 2035.

The certificate's substitution fee will be frozen at the current (2014 – 2015) level, that is, PLN300.03/MWh (approximately EUR70/MWh) and will not be subject to indexation in the coming years.

Option to pay substitution fee will not be available in the event when green certificate prices fall below 75 percent of the substitution fee (PLN225/MWh or approximately EUR54/MWh).

Existing biomass co-firing installations will receive half of a certificate per each MWh produced (with an overall cap on production equal to the average amount from 2011 to 2013). By 31 December 2020 the Ministry of Economy should announce a new ratio.

Hydro plants above 5 MW capacity will be excluded from the support system.

All projects under the green certificates system will have an opportunity to move to the reverse auction system (within the proposed support period).

## Key provisions for new installations – reverse auction system

The support system for RES installations producing the energy for the first time after 1 January 2016 shall be organized through a reverse auction system, giving fixed price for the energy (indexed by CPI on an annual basis) for 15 years until the end of 2035 (or the end of 2040 for offshore wind farms).

Auctions will be arranged at least once a year, separately for small (installed power under 1 MW) and large (installed power over 1 MW) installations and also separately for the new (first production after winning an auction) and previous (participating previously in the green certificate system) installations. However biomass units of over 50 MW, large multi-fuel installations as well as large hydro power plants will be excluded from auctions.

The pool of offers with the lowest prices that meet volume specification under the given auction shall qualify for the support. The annual cap for volume and value subject to the tender(s) will be determined by the government through 31 October of the preceding year. The RES support shall depend on the installed power in the relevant RES installation. The RES operators of the installations with power lower than 500 kW will be obliged to sell energy in the declared amount at the tender price (regardless of current market conditions). The other RES operators (installed power of at least 500 kW) will be entitled to the difference between average market price and the price offered in the tender (in case the market price is lower than the price offered in the auction) payable by the Renewable Energy Settlements Operator, a State-owned company responsible for settlements of reverse auctions.

In regard to the new installations, the auction mechanism entails the

introduction of separate reference prices for each type of the renewable technology (the reference prices will be set each year by the Minister of Economy, 60 days prior to the relevant auction). As for the previous installations, the reference price shall be calculated as a sum of (i) the average market price of energy in the last quarter (published by the President of URE) and (ii) the average price of the green certificates for years 2011–2013 (i.e. PLN239.83). Tenders submitted during the auction in excess of the reference price will be automatically rejected.

The winning party of the auction will have to start production of electricity within approximately two months regarding the previous installations and within 48 months regarding the new installations (for solar energy within 24 months and offshore wind farms within 72 months) under penalty of losing the RES support for 3 years.

A portion of costs of the system will be charged to end customers, via a

new RES fee added to distribution fees (approximately PLN2.51/MWh in the first year of the auction system).

The provisions of the new support system for RES introduce a limit to the state aid. The total value of support granted under these provisions taken together with any other state aid shall not exceed the difference between the value of the volume of electricity generated by the installation calculated by multiplying that volume by the reference price and the value of the same volume calculated by multiplying it by the average market price announced by the President of URE valid as of the day of the submitting of an offer in a tender.

The state aid includes: a) a difference between revenues earned from tenders and the equivalent of revenues calculated based on the average market price announced by the President of URE, b) revenues earned from certificates of origin, c) tax reliefs, and d) other investment-related aid.



# Romania

## Support schemes

### Investment and other subsidies

#### Tax incentives

In Romania, the following tax incentives may be applicable to energy produced from the following renewable sources: wind, solar, geothermal, hydraulic utilized in power plants with an installed capacity of maximum 10 MW, biomass and residues fermentation gas.

- Electricity from renewable sources is excise duties exempt.
- Accelerated depreciation for tax purposes can be used for technological equipment, tools and installations computers and related peripheral equipment.
- Buildings and land used within hydroelectric, thermoelectric and nuclear power plants, as well as buildings and land relating to transformation and connection posts, are not subject to local taxes.
- Reinvested dividends can be dividend tax exempt, provided the dividends are used for the purpose of creating new work places or developing the activities of Romanian entities.
- Incentives (for example, exemption from payments to unemployment funds or income tax) can be applicable for the companies which fulfill certain conditions imposed by the legislation in force.
- Reinvested profit starting 1 July 2014 is applicable for tax relief. This involves profit reinvested in the production and/or acquisition of technical equipment (machines, equipment and work installations) used for carrying out economic activities put into operation no later than 31 December 2016.
  - The types of equipment eligible for this tax relief are defined in subgroup 2.1 of the Catalogue regarding the classification and the normal useful life of fixed assets.

- The profit which can be reinvested represents the balance of profit (loss) account for the period, namely the accumulated accounting profit from the beginning of the year, in the year in which the investment is realized. The tax relief is granted up to the limit of corporate tax due for the period in which these investments are made.
- The corporate tax relief applies only for new fixed assets. Also, taxpayers which benefit from this incentive are required to keep the specific fixed assets for at least half of their normal economic useful life established according to the accounting applicable regulations, but no more than 5 years.
- Taxpayers who benefit from this incentive cannot apply the accelerated depreciation method for this equipment.

## Operating subsidies

### Green certificate system

The price of a green certificate has been set between the Romanian new leu (RON) equivalent of EUR29/General Certificate (GC) and EUR59/GC. Currently, the price of a green certificate is equivalent with the maximum value of EUR59/GC, since the demand of GC is higher than the offer.

### Quota obligation

The Romanian Regulatory Authority in the Field of Energy (ANRE) calculated the estimated quota of GCs acquisition for 2015 for the electricity suppliers as 0.274 GC/MWh supplied to final consumers.

## Additional information

**Legal basis:** Electricity Law 123/2012 and Law 220/2008 for approval of the support scheme for electricity from renewable sources (Law 220/2008) and the secondary relating legislation issued by ANRE.

**Administrative procedures:** The activity of production of electricity from renewable sources requires a license granted by ANRE. Such a license can be obtained by an entity by filling a request for accreditation and accompanied by a specific set of documentation.

The license is granted for a fixed term, but no longer than 25 years. In case of production of electricity from renewable sources, the maximum period during which ANRE should issue the relating license is of 30 days.

**Green certificate scheme:** In order to promote investments in renewable electricity production capacities, a Tradable Green Certificates (TGC or GC) system has been in place in Romania since 2004, coupled with a supplier quota obligation system. Under this framework, energy producers are entitled to receive a set amount of GCs according to the amount of electricity generated and delivered by them from renewable sources. The revenue from GC sales represents additional revenue for eligible renewable producers on top of electricity sales on the market.

According to Law 220/2008, the producers of electricity from renewable sources benefit from a different number of green certificates depending on the fuel used. For example:

- 0.7 GC/MWh for new hydroelectric power plants with installed capacity of maximum 10 MW
- 1 GC for each 2 MWh for hydroelectric power plants with an installed capacity of maximum 10 MW
- 0.5 GC/MWh for wind power, up to 31 December 2017 and 0.25 GC/MWh beginning 1 January 2018
- 3 GC/MWh for solar power.

The support scheme is granted for a period of 3 to 15 years, depending on the age of the plants and the installed capacity. Eligible electricity producers will be able to enter the scheme only if the commissioning/refurbishment of

the power plant are performed before 31 December 2016.

**Sale:** The annual mandatory GCs acquisition quota is established based on the quantity of renewable electricity produced and on the final electricity consumption of the previous year, without exceeding the level corresponding to the mandatory quota for the electricity produced from renewable sources.

The quantity of electricity for which the annual mandatory GCs acquisition quota is established includes the electricity purchased by electricity suppliers for their own consumption or for the sale to final consumer, the electricity used by the electricity producers for their own consumption (other than CPT), and for the supply of end consumers directly connected to the power plant.

Electricity suppliers and electricity producers previously mentioned have the obligation to acquire annually a number of GCs which is equivalent to the product between the annual mandatory GCs acquisition quota and the quantity of electricity detailed in the paragraph above, supplied annually to final consumers.

For 2015, the estimated quota of acquisition of GCs for the electricity suppliers is 0.274 GC/MWh delivered to final consumers. Any supplier that fails to fulfill this obligation must pay the equivalent value of the GC at a premium of EUR119.7702 per each non-purchased certificate.

The GCs are issued by the transmission system operator and are valid for 12 months. The trading value of a GC has been established by ANRE as between

the RON equivalent of EUR29/GC and EUR59/GC. Currently, the price of a green certificate is equivalent with the maximum value of EUR59/GC, because the demand of GC is higher than the offer.

During the period 1 July 2013 to 31 March 2017, trading is temporarily deferred for a certain number of GC for each 1MWh generated and delivered by the electric energy producers from renewables resources, accredited by ANRE up to 31 December 2013, as follows:

- 1GC for hydroelectric power plants with installed capacities of maximum 10 MW
- 1GC for wind power plants
- 2GC for solar power plants.



# South Africa

## Support schemes

### Investment and other subsidies

#### Carbon emissions incentives

##### Certified emissions reduction exemption

Section 12K of the Income Tax Act provides for a tax exemption on any amount received or accrued in respect of the disposal of any certified emission reduction (CER) derived in the furtherance of a qualifying clean development mechanism (CDM) project carried on.

To stimulate the uptake of CDM projects in South Africa, income from primary CERs, which was exempted from income tax from 2009 to 2012, will be extended to 31 December 2020, in line with the adoption of the second commitment period of the Kyoto Protocol.

The VAT Act does not provide for exemption from VAT on the disposal of a CER. It is arguable that the disposal of a CER should be viewed as a supply of services for VAT purposes and that, on exportation of a CER, this service is zero-rated for VAT purposes.

#### Energy efficiency incentives

##### Industrial policy projects additional allowance

This is an incentive in relation to industrial policy projects, including greenfield and brownfield manufacturing projects. One of the qualifications for eligible projects is the use of improved energy efficiency and cleaner production technology. Measurement and verification (M&V) of savings will be required to verify that savings are sustained over the incentive benefit period.

Under Section 12I of the Income Tax Act (Industrial Policy Projects), projects that have already received incentives or grants under other types of schemes will be excluded. Such projects need to be ring-fenced and taken out of the equation when calculating and reporting savings for the tax claim.

Section 12I provides for an additional allowance on assets (new or used), applied to a project that qualifies as an Industrial Policy Project (IPP) defined in relation to assets used in the manufacturing sector. The project must be approved by the Minister of Trade and Industry. The only projects that qualify for this allowance are greenfield projects costing more than South African rand (ZAR)50 million or brownfield projects costing more than ZAR30 million, less than ZAR50 million or 25 percent of expenditure on existing assets.

The incentive in relation to a qualifying project comprises:

- 75 percent of the cost of a new and unused manufacturing asset used in an IPP within an Industrial Development Zone (IDZ); or
- 35 percent of the cost of a new and unused manufacturing asset that is used in an IPP
- If the qualifying project constitutes a Preferred Project (as defined), the incentive comprises:
  - 100 percent of the cost of a new and unused manufacturing asset used in an IPP within an IDZ; or
  - 55 percent of the cost of a new and unused manufacturing asset used in an IPP.

The incentive (i.e. tax deduction) is limited to:

- ZAR900 million for greenfield projects with preferred status
- ZAR550 million for greenfield projects with qualifying status
- ZAR550 million for brownfield projects with preferred status
- ZAR350 million for brownfield projects with qualifying status.

##### Energy efficiency savings allowance

Section 12L allows as a deduction, in determining the taxable income of a taxpayer, an amount in respect of energy efficiency savings by the taxpayer with regard to that year

of assessment. The deduction is calculated at 95 cents per kilowatt hour (or equivalent) of energy efficiency savings. The energy efficiency savings have to be measured and confirmed by a measurement and verification (M&V) body as defined in the published regulations in relation to section 12L. No deduction is allowed if the taxpayer receives a concurrent benefit in respect of energy efficiency savings.

No person may receive the section 12L allowance in respect of energy generated from renewable sources or co-generation other than energy generated from waste heat recovery. Furthermore, a person generating energy through a captive power plant may not receive the allowance unless the kilowatt hours of energy output of that captive power plant for that year of assessment is more than 35 percent of the kilowatt hours of energy input in respect of that year of assessment.

##### Production of renewable energy allowance

Section 12B provides for an accelerated capital allowance for machinery, plant, implements, utensil and articles owned by the taxpayer or acquired by the taxpayer in terms of an installment credit agreement which was brought into use for the first time by the taxpayer for purpose of its trade.

This section applies where the assets are used for purposes such as the generation of electricity from wind power, solar energy, hydropower to produce electricity of not more than 30 megawatts and biomass comprising organic wastes, landfill gas or plant material.

The allowance is calculated as 50 percent of the cost of the assets and the direct cost of installation or erection thereof for the taxpayer in the first year, 30 percent in the second year, and 20 percent in the third year. The allowance also applies to all improvements (other than repairs) and supporting structures that would form part of the machinery, plant, implement, utensil or article.

## Research and development allowance

Aside from the section 11(a) general deduction of 100 percent, section 11D provides for an additional 50 percent deduction for revenue expenditure incurred in respect of eligible R&D activities, as well as for prototypes and pilot plants created solely for purposes of R&D that is not intended to be used for production purposes after completion of the R&D. From 1 October 2012, the additional 50 percent uplift will only apply to R&D projects for which a pre-approval application form was submitted and approved by the Department of Science and Technology.

For capital expenditure, an accelerated allowance is available of 50 percent in the first year, 30 percent in the second year, and 20 percent in the third year.

## Environmental incentives

### Environmental treatment and recycling or waste disposal asset allowance

Section 37B provides for an allowance with regard to the cost incurred in acquiring a new and unused environmental treatment and recycling asset or environmental waste disposal asset used in the context of manufacturing and which assets are required by any law for purposes of protecting the environment.

The allowance in respect of an environmental treatment and recycling asset is 40 percent of the cost of the asset in the first year and 20 percent per annum for the next 3 years. The cost of waste disposal assets can be written off on a straight line basis over 20 years (5 percent per year).

### Deductions in respect of environmental conservation and maintenance

Section 37C states that expenditures incurred by a taxpayer to conserve or maintain land in terms of a five-year biodiversity management agreement entered into in terms of the National Environmental Management: Biodiversity Act will be deemed to be expenditures incurred in the production of income and for the purposes of trade and will therefore be deductible.

Land used by the taxpayer for the production of income and for the purposes of trade (the productive land) needs to be in the immediate proximity of the land that is subject to the biodiversity management agreement for section 37C to find application. In addition, the expenditure deductible in terms of this section is not allowed to exceed the income generated by the taxpayer on the productive land.

## Special Economic Zones (SEZ) (legislation not yet in force)

### Special Economic Zones

In terms of section 12R, any qualifying companies, which are South African incorporated companies, alternatively, companies which have their place of effective management in South Africa, and which are located in a SEZ, will be entitled to apply a reduced income tax of 15 percent (as opposed to 28 percent).

The precise requirements to qualify for the reduced rate of tax referred to above have not yet been determined by the legislature. New or improved buildings in a SEZ

A qualifying company located within a SEZ may deduct from its income an allowance equal to 10 percent of the cost to the qualifying company of any new or unused building owned by the qualifying company or any new or unused improvement to a building owned by the qualifying company. The building must be used by the qualifying company and used by it in the course of trade.



# South Korea

## Support schemes

### Investments and other subsidies

In 2004, the South Korean government passed the Act on the Promotion of the Development, Use and Diffusion of New And Renewable Energy (the Act). With the goal of becoming one of the five largest producers of new and renewable energy, the government has announced that a total of South Korean won (KRW)40 trillion (EUR25.8 billion, USD34.2 billion) will be invested in renewable energy by 2015.

This investment includes KRW22.4 trillion invested by the nation's 30 largest industrial groups by 2013, KRW7 trillion of government contribution, and KRW10.6 trillion from other private sectors. South Korea has already seen substantial financial investment in renewable energy in recent years, including KRW1.8 trillion (EUR1.3 billion, USD1.8 billion) from the government in the last 2 years (2012–2013).

According to the second national energy plan announced in January 2014, the former renewable energy target, 11 percent of the total energy supply from renewable sources by 2035, has been reaffirmed.

To reach this goal, the government is implementing initiatives in four major areas:

- strategic R&D and commercialization
- promotion of industrialization and market creation
- promotion of exports of new and renewable energy products
- infrastructure development.

The total budget for renewable energy in 2015 has reached KRW7.8 trillion (EUR619.09 million, USD697.2 million) to develop technologies; support renewable energy distribution, and promote entering overseas markets. The government also supports overseas renewable energy business for small and medium-sized enterprises with a budget of KRW10 billion in 2015.

## Operating subsidies

### Feed-in tariff

- The feed-in tariff was abrogated at the end of 2011 due to the introduction of the Renewable Portfolio Standard (RPS) in 2012. (The government maintains a feed-in tariff only for existing recipients. The existing recipients may have options to either maintain their feed-in-tariff or exchange them for REC (Renewable Energy Certificate) that enables transactions under the RPS).
- To accommodate small renewable energy facilities that could not receive support by RPS, the Seoul Solar Power Plant Support Plan was announced in May 2013. The plan supports operations from the installation of solar power plants to sales for small entities under 100kW capacity established since 2012 in Seoul. According to the plan, the small entities can receive KRW50/kWh (approximately 10 percent of installation cost) for the amount generated in 2014, and KRW100/kWh for 2015. The subsidy is given for 5 years from the first year of provision.

### Premium

The R&D tax credit program is applied for renewable energy technologies. Import duties are reduced by 50 percent for all components and/or equipment used in renewable energy power plants that cannot be manufactured domestically. This import duty premium will be abrogated on 31 December 2015.

The Financial Support Program for Renewable Energy in South Korea is comprised of four main categories: R&D support, soft loans for renewable projects, feed-in tariffs and renewable energy distribution support.

The total budget of 2015 consists of KRW6.4 billion for R&D support, KRW319.2 billion for the feed-in tariff, KRW115 billion for soft loans, and KRW102.9 billion for distribution support.

## Quota obligation

- In 2012, the existing feed-in tariff was replaced by an RPS that was approved by the government assembly in March 2010.
- The RPS requires 17 state-run and private power utilities, as of 2015, with a capacity in excess of 500 MW to generate three percent of the energy production from renewable sources in 2015. This percentage will be increased in stages to 10 percent by 2024.
- In terms of the standard price per certificate, REC for solar power was KRW175,503 averagely in 2013, while REC for non-solar power was determined to be KRW 137,844. In 2014, the average price of REC for solar power was KRW113,997, and that of REC for non-solar power was KRW113,174.
- The total RPS target for 2015 is set by 12,339,927 MWh, increased from the last year's target of 11,578,809 MWh, while the RPS target for solar power rose 46 percent from 1,353,000 MWh to 1,971,000 MWh in 2015. It was announced that the total RPS target for 2015 is 12,339,927 MWh; increasing 9.3 percent from the target for 2014, while the RPS target for solar power after 2015 is 1,971,000 MWh increased by 6.8 percent from the last year target. The Renewable Fuel Standard (RFS) has been launched on 31 July 2015. The RFS requires oil refiners and oil importers and exporters to blend a certain amount of new and renewable energy fuel into their transportation fuels. The RFS target in 2015 has been affirmed as 2.5 percent with biodiesel only.

## Additional information

**One Million Green Homes Project:** As a part of the 2009 budget, the government appropriated KRW94.3 billion (USD72 million) for the One Million Green Homes Project. The intent is to build one million homes by 2020 that use

one of the following renewable energy technologies: solar thermal, solar photovoltaic, geothermal, biomass and wind energy. Each year, the government will set a new budget for the coming year. The budget in 2014 is KRW54.9 billion, and the cumulative budget for the Project reached KRW671.2 billion from 2004 to 2014.

The green homes being built are environment-friendly and use new and renewable energy resources. In addition, green homes create no carbon emissions and use less energy, water and natural resources.

**New Energy Businesses:** The government announced six new energy businesses in 2014:

- electricity demand response
- integrated energy management service

- independent microgrids
- PV rentals
- electric vehicle servicing and charging
- recycling wasted heat from thermal power plants.

The new energy businesses are expected to create a market worth KRW4.6 trillion by 2017. This is based on an investment of KRW1.83 trillion in 2015, including KRW800 billion raised in the private sector.



# Spain

## Support schemes

### Tax incentives

The following includes a brief description of certain tax incentives that have not been specifically created for the renewable energies sector. Careful tax planning is therefore required to take advantage of these tax incentives.

### Reduction of income from certain intangible assets

The net income derived from the license of the right to use or exploit or from the transfer of certain intangible assets as defined in article 23 of CIT Law, shall be included in the CIT taxable base with a 60 percent reduction, provided certain requirements are met.

### R&D Corporate Income Tax credits

R&D tax credits: The tax credit base shall consist of the amount of research and development expenses and, if applicable, investments in tangible fixed assets and intangible assets, excluding real estate and land. Tax credit rates are set at 25 percent of the expenses incurred in the tax period for this purpose. In the event that the expenses incurred in pursuing the R&D activities in the tax period exceed the average of those incurred in the 2 preceding years, the rate established in the preceding paragraph shall apply up to that average, and 42 percent to the amount by which that average is exceeded.

Additional tax credits can be applied for expenses corresponding to expenses of qualified personnel (wages) engaged exclusively in R&D activities (17 percent), and for investments in tangible fixed assets and intangible assets, excluding real estate and land, used exclusively for R&D activities.

### Tax credits for technological innovation activities:

The tax credit base shall consist of the amount of the expenses incurred in the technological innovation activities. The tax credit rate is 12 percent.

Tax credits for R&D and technological innovation activities that have not been

applied in a given fiscal year and that have not been used in that fiscal year because the tax due was insufficient may be carried forward to the following 18 tax years. If the tax due is insufficient for the application of these tax credits, a cash refund in the amount of the pending tax credits can be requested to the Spanish Tax Administration, with a discount of 20 percent of the amount of the pending tax credits (i.e. the payment in cash implies a reduction of the pending amount of the tax credit).

Tax credits for technological innovation activities applied or refunded will have a limit of 1 million Euros per year. In addition to that, R&D and technological activities tax credits applied or refunded will have a joint limit of 3 million Euros per year.

### Capital duty exemption

As a result of the modifications introduced by RD 13/2010, Spanish Transfer Tax Law foresees an exemption of the Capital Duty regarding:

- incorporation of companies
- share capital increase
- contributions of shareholders that do not constitute a share capital increase
- transfer to Spain of the office of effective management of a company not previously located in the EU.

### Tax allowances on local taxes

For certain local taxes such as construction and urban canon, tax allowances could be agreed with the corresponding local authority. The tax allowances to be agreed would depend on each local authority, and should be negotiated on a case-by-case basis.

## Taxes on Energy

### Taxes on electricity generation

These taxes are not strictly environmental taxes. Revenues that will arise from them will finance the Spanish deficit of the cost of generation and distribution of electricity.

- tax on electricity generation
- tax on spent nuclear raw and radioactive waste
- tax on spent nuclear raw and radioactive waste storage
- fee on use of continental waters to generate electricity (hydroelectricity generation).

The electrical energy attributable to the use of fuels in facilities that use any of the non-consumable renewable energies as primary energy shall not be subject to a premium-based economic regulation. This affects solar-thermal installations in particular.

## Operating subsidies

Remuneration of energy production facilities under the special regime has been revised through Royal Decree-Law 9/2013, which entered into force on Sunday 14 July 2013. Such Royal Decree-Law comprises the following main provisions:

1. The amendment of Article 30.4 of the Electricity Sector Law, which basically provides that:

- The new remuneration framework of special regime facilities (including facilities in operation) will be established by Royal Decree issued by the Council of Ministers.
- In addition to the compensation for the sale of energy valued at market price, facilities may receive a "specific remuneration consisting of a term per unit of installed capacity, to cover, where appropriate, the investment costs of a typical installation that cannot be recovered from the sale of energy and a term per operation, if applicable, to cover the difference between operating costs and revenues for the market share of such typical installation". The regulated tariff regime, for a given period and updatable according to a prefixed formula, is consequently abolished.

- In order to calculate the specific remuneration of a typical installation, it is necessary to consider, “over its regulatory life” and referring to the activity of an “*efficient and well-managed company*”:
  - standard revenues from the sale of energy generated, valued at the market price of production.
  - standard operating costs.
  - standard value of the initial investment.

Therefore, the determination of these parameters or assumptions will be critical in order to assess the remuneration for each installation. It will be necessary to wait for the approval of Royal Decree.

- The costs or investments that are made in connection with rules or acts that are not applicable throughout all of Spain (i.e. regional authorizations and registrations) will not be taken into account. Also, the costs and investments that do not respond solely to the activity of electricity production.

2. The introduction of an additional first provision, called “*reasonable return on production facilities entitled to economic premium regime*” means that as of 14 July 2013, special regime facilities shall receive a “*supplement for their investment costs based on standards by technologies*”, according to a cost formula of 10-year Treasury + 300 basis points, representing a return of 7.5 percent.

3. The above-mentioned return is “before taxes” and may be revised every 6 years.

4. The repeal of the following provisions:

- Royal Decree 661/2007, of 25 May

- Royal Decree 1578/2008 of 26 September
- Article 4 and paragraph 2 of the fifth transitional provision of Royal Decree-Law 6/2009, of 30 April.

5. To maintain compensation flows to facilities, such repealed rules shall apply temporarily, except for certain aspects, pending the approval of the Royal Decree with the new regulation. Thus, the facilities will continue receiving the current compensations under the transitional provisions commented above subject to regularization with the new methodology as of 14 July 2013.

6. Two immediate measures to reduce the costs of the electricity system are approved. The efficiency complement to facilities that were receiving it under Article 28 of Royal Decree 661/2007 is abolished, as well as the reactive power bonus of article 29 of the same regulation.

Following the approval of RDL 9/2013, the procedural steps began for all other regulatory texts. Specifically, a new Electricity Sector Law was passed (Law 24/2013, of 26 December). This new law confirmed the general principles already applied by Royal Decree-Law 9/2013.

Royal Decree 413/2014 of 6 June introduces the regulatory implementation of the principles set out in Royal Decree-Law 9/2013, regulating the current legal and economic system of facilities for renewables, co-generation and waste. This Royal Decree establishes a new remuneration system which is based on the principle of “fair return” and in standard facilities with standard costs and efficient management.

Under this new scheme, renewable electricity production facilities are

remunerated with: i) revenues from the sale of the energy valued at market price and ii) specific remuneration items which, if necessary, cover those investment and operating costs that an efficient and well-managed enterprise does not recover on the market.

The specific remuneration is calculated on the basis of standard facilities, along its whole regulatory useful life, so that it guarantees the “fair return” to standard facilities.

The activity is assumed to be carried out by an efficient and well-managed enterprise. For calculating the remuneration parameters, the new remuneration framework takes into account: i) revenues from selling energy valued at the market price, ii) necessary operating costs for developing the activity and iii) the initial investment costs of the standard facility.

The new remuneration system for these facilities generally consists of:

- revenue from market sales (EUR/MWh)
- unitary remuneration for investment (EUR/MWh)
- unitary remuneration for the operation (EUR/MWh).

The calculation of the unitary remuneration for investment and the operation is carried out on the basis of standard facilities considering standard investment and operation costs, as well as the future estimate of the market revenue for such standard facilities.

Order IET/1045/2014 of 16 June defines the values of the above new remuneration parameters.

# Sweden

## Support schemes

### Depreciation of windmills

Swedish tax law allows taxpayers to depreciate windmills for corporate income tax purposes at a rate that is much faster than the actual rate of economic loss. The maximum depreciation allowance is 30 percent of the aggregate book value at the beginning of the tax year, plus the building or acquisition costs that have been made during the year.

If a straight-line depreciation of 20 percent per annum results in a lower aggregate book value in any year, the annual depreciation allowance may be increased correspondingly. The depreciation allowance is calculated on a pool basis, with the book value of all the taxpayer's assets taken into account in order to calculate the maximum depreciation allowance.

### Operating subsidies

For each MWh produced by renewable sources (solar, geothermal, wind, wave, bio fuels or hydro) the producer receives one certificate. (Some limitations exist for hydro power generation). A distributor is obliged to buy certificates up to a certain percentage of the power distributed. In this way a market is established for selling and buying certificates.

To support the transition to more sustainable energy sources for heating and transportation, no taxes are levied on renewable fuels while energy taxes, CO<sub>2</sub> taxes and sulfur taxes are levied on fossil fuels.

There is also a fee-based system for the reduction of greenhouse gas emissions.



# Turkey

## Support schemes

### Investment and other subsidies

The General Investment Incentive Regime changed in June 2012. The new incentive regime is applicable to ENR investments, mainly by providing the following:

- VAT exemption on purchase (or import) of investment equipment
- customs duty exemption on import of investment equipment
- exemption from other funds and surcharges.

### Other subsidies

- The new Electricity Market Law 6446 became effective as of 30 March 2013. The incentives provided under this law apply to investors holding a generation license and who start operating before 31 December 2015:
  - A 50 percent discount is applied to the transmission system utilization fee for 5 years following the start of operations.

- Documents and transactions related to the power plants and concluded throughout the investment period are exempted from stamp tax and duties.

## Operating subsidies

### Feed-in tariff

The tariff and the government purchase guarantee are applied for 10 years following the start of operations of a generation power plant until 31 December 2015.

Resources:

- Hydro: USD cent (ct)7.3/kWh
- Wind: ct7.3/kWh
- Geothermal: ct10.5/kWh
- Solar: ct13.3/kWh
- Biomass (including landfill): ct13.3/kWh

### Discount on fees

The new Electricity Market Law 6446 has become effective as of 30 March 2013. Under this law, an 85 percent

discount is applied to the lease, easement and utilization right of energy transfer lines for 10 years in both investment and operating periods to the power plants that are in operation or to be in operation until 31 December 2020.

## Additional information

- If the mechanical and electromechanical equipment used in renewable energy facilities that have started operation before 31 December 2015 are manufactured in Turkey, an additional incentive of between ct0.4 and ct3.5/kWh for 5 years will be provided to such facilities, under certain conditions.
- Renewable energy-based electricity power plants with an installed capacity of maximum 1 MWe and other similar investments are allowed to operate without a generation license.



# United Kingdom

## Support schemes

### Investments and other subsidies

Exemptions are in effect from the Climate Change Levy and EU Emissions Trading Scheme.

### Operating subsidies

#### Renewables Obligation Scheme

Long term banded quota mechanism designed to support renewable electricity generation.

#### Feed-in Tariff with Contract for Difference

Tariff support payments for large-scale electricity generation from a variety of technologies.

### Feed-in tariff (small scale generation)

Tariff support payments for small-scale electricity generation from a variety of technologies.

#### Renewable Heat Incentive

Long term tariff support payments for renewable heat generation.

### Additional information

**Summer Budget 2015:** In the Summer Budget 2015 it was announced that there would be a consultation on reform of the environmental tax regime, and in particular the administrative complexity and burden facing businesses. Any changes to legislation are expected to take effect no earlier than 2016 onwards.

**Electricity Market Reform:** The Energy Act 2013 brought in major reforms to the

UK electricity market. The key market mechanisms relevant to this publication are Feed-in Tariffs with Contracts for Difference (CfDs) to give revenue certainty to investors in low-carbon generation and the Carbon Price Floor which imposes a fossil fuel tax.

The CfD for each low carbon generation technology is available from 2014/15, lasting 15 years for most technologies and is scheduled to replace the Renewable Obligation Scheme which is to be phased out for new projects by 31 March 2017.

The table below sets out the CfD strike prices for renewable technologies for 2014/15 to 2018/19 (with each year beginning on 1 April). Support will be paid based on net renewable electricity generated.

All Prices in GBP/MWh	2015/16	2016/17	2017/18	2018/19
Advanced Conversion Technologies (with or without CHP)	155	155	140	140
Anaerobic Digestion (with or without CHP)	150	150	140	140
Dedicated Biomass (with CHP)	125	125	125	125
Energy from Waste (with CHP)	80	80	80	80
Geothermal (with or without CHP)	145	145	140	140
Hydro	100	100	100	100
Landfill Gas	55	55	55	55
Sewage Gas	75	75	75	75
Onshore Wind	95	95	90	90
Offshore Wind	155	150	140	140
Biomass Conversion	105	105	105	105
Wave	305	305	305	305
Tidal Stream	305	305	305	305
Large Solar Photo-Voltaic	120	115	110	100
<b>Scottish Islands Onshore</b>	N/A	N/A	115	115

The first allocation of CfDs was conducted by way of an auction under which projects submitted a proposed price. Generally, the final strike prices agreed for the successful projects were below the headline strike prices set out above.

#### Renewables Obligation (RO) scheme:

This requires electricity suppliers to source a specific percentage of

electricity from renewable sources. Renewable generators receive Renewables Obligation Certificates (ROCs) for each MWh of electricity generated, and these ROCs can be sold independently of the electricity generated, allowing renewable generators to receive a premium to the wholesale electricity price. Where an electricity supplier has an insufficient

number of ROCs to meet an obligation, it must pay an equivalent amount of British Pound (GBP)44.33 per MWh (2015/2016 rate, GBP43.30 per MWh for 2014/15) into a buy-out fund. This fund is used to cover the administration cost of the scheme and the rest is distributed back to suppliers in proportion to the number of ROCs they produced. There is a banded ROC mechanism whereby

different renewable electricity technologies receive different levels of support according to their technological maturity and levelized costs (see table below).

Band	15/16 support (ROC/MWh)	16/17 support (ROC/MWh)
Advanced gasification/pyrolysis	1.9	1.8
Anaerobic Digestion	1.9	1.8
Co-firing (low-range)	0.5	0.5
Co-firing (mid-range) *	0.6	0.6
Co-firing (high-range) *	0.9	0.9
Co-firing (low-range) with CHP*	1**	1**
Co-firing (mid-range) with CHP*	1.1**	1.1**
Co-firing (high-range) with CHP*	1.4**	1.4**
Co-firing of regular bioliquid	0.5	0.5
Co-firing of regular bioliquid with CHP	1**	1**
Co-firing of relevant energy crops (low range)	1	1
Co-firing of relevant energy crops with CHP (low range)	1.5	1.5
Conversion (station or unit)	1	1
Conversion (station or unit) with CHP	1.5	1.5
Dedicated biomass	1.5	1.4
Dedicated biomass with CHP	1.9	1.8
Dedicated energy crops	1.9	1.8
Energy from waste with CHP	1	1
Geothermal	1.9	1.8
Geopressure	1	1
Hydro	0.7	0.7
Landfill gas – closed sites	0.2	0.2
Landfill gas heat recovery	0.1	0.1
Microgeneration	1.9	1.8
Onshore wind	0.9	0.9
Offshore wind	1.9	1.8
Sewage gas	0.5	0.5
Building mounted solar PV	1.5	1.4
Ground mounted solar PV	1.3	1.2
Standard gasification/pyrolysis	1.9	1.8
Tidal barrage	1.9	1.8
Tidal lagoon	1.9	1.8
Tidal stream***	5	5
Wave***	5	5

Source: Department of Energy and Climate Change website

\*Includes solid and gaseous biomass and energy crops

\*\*These support levels are only available in circumstances where support under the RHI is not available

\*\*\* Five ROCs subject to 30 MW cap at each generating station. Two ROCs for any additional capacity added above 30 MW cap

The government had previously confirmed that applications for the RO regime can be made for new generating capacity until 31 March 2017, thereby extending the scheme until 2037. From 2027 the Department of Energy & Climate Change (DECC) will fix the price of the ROC for the remaining 10 years of the RO at its long-term value, and buy the ROCs directly from the generators to reduce volatility in the final years of the scheme. Renewable generators may not receive a CfD and also participate in the RO regime.

However, in July 2015, the Government announced that following consultation the “grandfathering” of the ROC payments will not apply for new generating capacity from biomass conversion and biomass mid-range and high-range co-firing projects from December 2014. It also announced that it was consulting on ending the ability of new solar projects of under 5 MW total installed capacity to claim support under the RO scheme from 1 April 2016, effectively ending the RO scheme for such projects a year earlier than previously announced.

**Carbon Reduction Commitment (CRC) Energy Efficiency Scheme:** CRC is a mandatory carbon emissions reporting and charging mechanism for large public and private sector organizations in the UK.

Participants in the CRC need to measure and report their electricity and gas supplies annually, from which the carbon dioxide content is calculated. The organizations are then required to buy an amount of carbon allowances to cover their carbon emissions, either from the Government or on the secondary market. For 2015/16 an allowance for one tonne of CO<sub>2</sub> varies between GBP16.10 and GBP16.90. Allowances bought earlier in the year (based on forecast emissions) are cheaper than those bought towards the end of the period under the “comply or buy” sale mechanism.

Supplies of commodity liable to:	2015-16	2016-17
<b>Carbon Price Support Rates of CCL</b>		
Natural gas (GBP per kilowatt hour)	0.00334	0.00331
LPG (GBP per kilogram)	0.05307	0.05280
Coal and other taxable solid fossil fuels (GBP per gross gigajoule)	1.56860	1.54790
<b>CPS Rates of Fuel Duty</b>		
Gas oil; rebated bioblend; kerosene (GBP per litre)	0.04990	0.04916
Fuel oil; other heavy oil; rebated light oil (GBP per litre)	0.05730	0.05711

Source: HMRC

Various rules on exemptions exist depending on overlaps with EU ETS and Climate Change Agreements (CCAs) which provide a partial exemption for some organizations from paying CRC providing sufficient reductions in carbon footprint are achieved through interventions made by the business and the relevant industry sector.

**Climate Change Levy (CCL), Renewable Source Energy Exemption:** CCL is a specific energy tax on the supply of gas and electricity to non-domestic users in the United Kingdom. CCL applies at a rate of GBP0.00554 per kWh from 1 April 2015, increasing to GBP0.00559 per kWh from 1 April 2016.

Most electricity generated from a renewable source has been exempt from the CCL. Levy Exemption Certificates (LECs) are issued to generators of renewable source energy for each MWh of electricity produced. LECs transfer along with the electricity and can be used by electricity suppliers to support the CCL exemption and so, like ROCs, they have a value that a renewable generator can realize. This value is the CCL rate in place for electricity when the electricity is generated. HMRC require a number of conditions to be met for the exemption to apply and a LEC alone is not sufficient evidence to support exemption from CCL.

However, in July 2015, the Government announced that the exemption from CCL for renewable electricity generation would cease to be available in respect

of electricity generated on or after 1 August 2015. It is possible to continue to redeem LECs in respect of electricity generated prior to 1 August 2015 under transitional arrangements that are currently subject to consultation.

**Carbon Price Floor:** The Carbon Price Floor (CPF) applies a levy on fossil fuels used to generate electricity and so represents a cost advantage to renewable generators, who will not be subject to the CPF. Published rates from 1 April 2015 are:

**Feed-in tariffs (small scale generation):** Feed-in tariffs are available for small-scale, low-carbon electricity generated by private/business users (maximum capacity 5 MWh) providing payment of up to GBP0.1366 per kWh generated (depending on the type and size of the system used to generate renewable energy); plus a guaranteed GBP0.0485 per kWh sold on to the UK electricity grid. Typically the tariffs last for 20 years.

**Renewable Heat Incentive (RHI):** Two schemes operate to provide long term tariff support for renewable heat generation:

- Domestic RHI, which is available for domestic properties where households receive payments of between GBP0.0714 and GBP0.1951 per kWh for applications submitted between 1 July 2015 and 30 August 2015, depending on the technology generating the renewable heat. Any

public grants previously received, including the Renewable Heat Premium Payment (RHPP), will be deducted to avoid a double subsidy.

- Non-domestic RHI, which provides a subsidy, payable for 20 years, to eligible, non-domestic renewable heat generators and producers of biomethane. The tariff payments are dependent on the technology of the heat generation source and the size of the plant, with payments ranging from between GBP0.0156 per kWh and GBP0.1016 per kWh for installations with an accreditation date on or after 1 July 2015.

#### EU Emissions Trading Scheme exemption:

Renewable generators are exempted from the requirement to purchase carbon allowances in order to generate electricity, as stipulated by the EU Emissions Trading Scheme.

#### Corporation tax

##### Capital allowances

Tax relief is available on qualifying capital expenditure incurred through the capital allowances regime under one of the following categories:

- Research and Development Allowances (RDAs) – 100 percent first year allowances on qualifying research and development (R&D) expenditure that is capital in nature.
- Enhanced Capital Allowances (ECAs) – 100 percent first year allowances on assets that are energy saving and water efficient technologies. If a company is loss making, the entity can benefit from a 19 percent cash tax credit of its surrenderable loss, subject to specific restrictions. However, ECAs are explicitly not available in respect of expenditure on plant or machinery that generates electricity or heat or produces biogas or biofuel, that attracts a feed-in tariff (small scale generation) or RHI payment.

- Main rate – 18 percent reducing balance for qualifying expenditure on plant and machinery.
- Special rate – 8 percent reducing balance. Assets typically found within this category of assets include certain integral features to buildings and long-life assets (useful economic life of 25 years or more).

Capital allowances are also available where a person makes a payment to a third party (i.e. network provider, National Grid), but does not necessarily own or operate the asset. This is dealt with under a separate part of the capital allowances regime, that is, Contribution Allowances.

As a way to incentivize investment in plant and machinery, HMRC introduced the Annual Investment Allowance (AIA) which provides a 100 percent first year allowance for a certain amount of qualifying capital expenditure. The AIA was set at GBP500,000 per annum for the period from 1 April 2014 to 31 December 2015. It will be reduced to GBP200,000 as of 1 January 2016.

**Other direct tax allowances/ incentives potentially relevant to renewables generators:**

**Land remediation relief:** Where a company incurs expenditure (capital or revenue)

on remediating contaminates from sites or undertakes work on a derelict site, then an enhanced tax relief (Land Remediation Relief) of 150 percent can be claimed. If a company is loss making, the entity can benefit from a 16 percent cash tax credit of its surrenderable loss, subject to specific restrictions.

**R&D incentives:** These incentives enable companies to obtain additional benefits from their investments in R&D. An enhanced tax deduction of 230 percent is available for small and medium-sized enterprises (225 percent prior to 1 April 2015) for revenue expenditure on qualifying projects designed to achieve an advance through the resolution of scientific or technological uncertainty. Where expenditure is capital in nature, RDAs may be claimed (see above).

For loss making SMEs a tax credit of 14.5 percent can be claimed by surrendering “R&D losses.” Large companies may instead claim an R&D Expenditure Credit (RDEC) that gives a taxable payment of 11 percent capable of being accounted for in operating profit (10 percent prior to 1 April 2015).

The RDEC translates into an effective benefit of 8.8 percent after tax on qualifying revenue expenditure with the benefit available for profit and loss making companies. (Note: The old

130 percent super-deduction regime is also available to large companies until 31 March 2016.)

**Patent Box:** The Patent Box regime enables companies to apply a lower rate of corporation tax of 10 percent to profits derived from patented inventions and certain other innovations, phased in over 5 years from 1 April 2013. The company must own or exclusively license-in the patents, and must undertake qualifying development on them to be eligible for the lower tax rate. (Other forms of IP protection may also qualify.) A new regime is being introduced from 1 July 2016 with the benefits available based on the proportion of the innovation undertaken by the claimant company. The exact details of the new regime have not yet been finalized but are expected to be announced in the 2015 Autumn Statement. It is expected that there will be a limited window in which to access benefits under the existing regime, and once in the existing regime, benefits will be grandfathered until 30 June 2021.



# United States

## Support schemes

### Investment and other subsidies

#### Production Tax Credit (PTC)

Applicable for wind, geothermal, landfill gas, trash combustion, open-loop biomass, closed-loop biomass, hydropower and wave tide.

- The PTC provides a tax credit for the production of electricity from renewable sources and the sale of that electricity to an unrelated party.
- Credit amount is:
  - USD cent (ct)2.3/kWh for wind, closed-loop biomass and geothermal
  - Ct1.2/kWh for other renewable energy resources.
- Available for facilities that begin construction prior to 1 January 2015.
- Available for a 10-year period beginning the year the facility is placed in service.
- There are two methods that a taxpayer may use to establish that construction has begun:
  - A taxpayer may establish the beginning of construction when “physical work of a significant nature” is started, or
  - A taxpayer may establish the beginning of construction by meeting a safe harbor rule (as determined under Notices 2013-29, 2013-60, 2014-46 and 2015-25).
- In general:
  - Work performed by the taxpayer and work performed for the taxpayer by other persons under a binding written contract that is entered into prior to the manufacture, construction, or production of the property for use by the taxpayer in the taxpayer’s trade or business (or for the taxpayer’s production of income) is taken into account in determining whether physical work of a significant nature has begun.

- Whether a taxpayer has begun construction of a facility before 1 January 2015 will depend on the relevant facts and circumstances.
- The IRS will closely scrutinize a facility. It may determine that construction has not begun on a facility before 1 January 2015 if a taxpayer does not maintain a continuous program of construction.
- If a facility is placed in service prior to 1 January 2017, a taxpayer will be deemed to have maintained a continuous program of construction (Notice 2015-25).
- The safe harbor rule provides that construction of a facility will be considered as having begun before 1 January 2015, if:
  - the taxpayer pays or incurs – within the meaning of Reg. section 1.461-1(a)(1) and (2) – 5 percent or more of the total cost of the facility before 1 January 2015; and
  - subsequently, the taxpayer makes continuous efforts to advance towards completion of the facility (as determined under Notice 2013-29).
- If a facility is placed in service prior to 1 January 2017, a taxpayer will be deemed to have made continuous efforts to advance towards completion of the facility (Notice 2015-25).

#### Investment Tax Credit (ITC) in lieu of the PTC

Applicable for facilities that are eligible for the PTC and that begin construction before 2014.

- The ITC is available in lieu of the PTC.
- The ITC provides a credit for qualifying energy property.
- The credit amount is 30 percent of the eligible cost basis of the property.
- Eligible property is tangible personal property or other property that is integral to a PTC-eligible facility.

- The definition of ‘begin construction’ is the same for the ITC in lieu of the PTC as for the PTC.

#### Investment Tax Credit (ITC)

Applicable for solar, geothermal, qualified fuel cell or micro turbine property, combined heat and power systems, small wind and geothermal heat pumps.

- The ITC provides a credit for qualifying energy property.
- The ITC for any taxable year is the energy percentage of the basis of each energy property placed in service during the taxable year.
- Credit amount is:
  - 30 percent of eligible costs for fuel cell, solar, and small wind property
  - 10 percent of eligible costs for combined heat and power, micro turbine property and geothermal heat pumps.
- The ITC is generally available for eligible property placed in service on or before 13 December 2016.

#### Grant in lieu of PTC and ITC

Applicable for tangible personal property or other property that is an integral part of a qualified facility (as defined by the PTC and ITC rules).

- The American Recovery and Reinvestment Act of 2009 (ARRA) enacted a grant program which provides a cash grant in lieu of the PTC or ITC.
- ARRA permits PTC or ITC projects to elect a grant of up to 30 percent of costs of construction of PTC or ITC energy property in lieu of tax credits.
- Projects must begin construction before 2012 and submit a grant application no later than 30 September 2012.
- Projects must be placed in service:
  - before 2014 for PTC-eligible facilities (before 2013 for wind)
  - before 2017 for other ITC eligible projects.

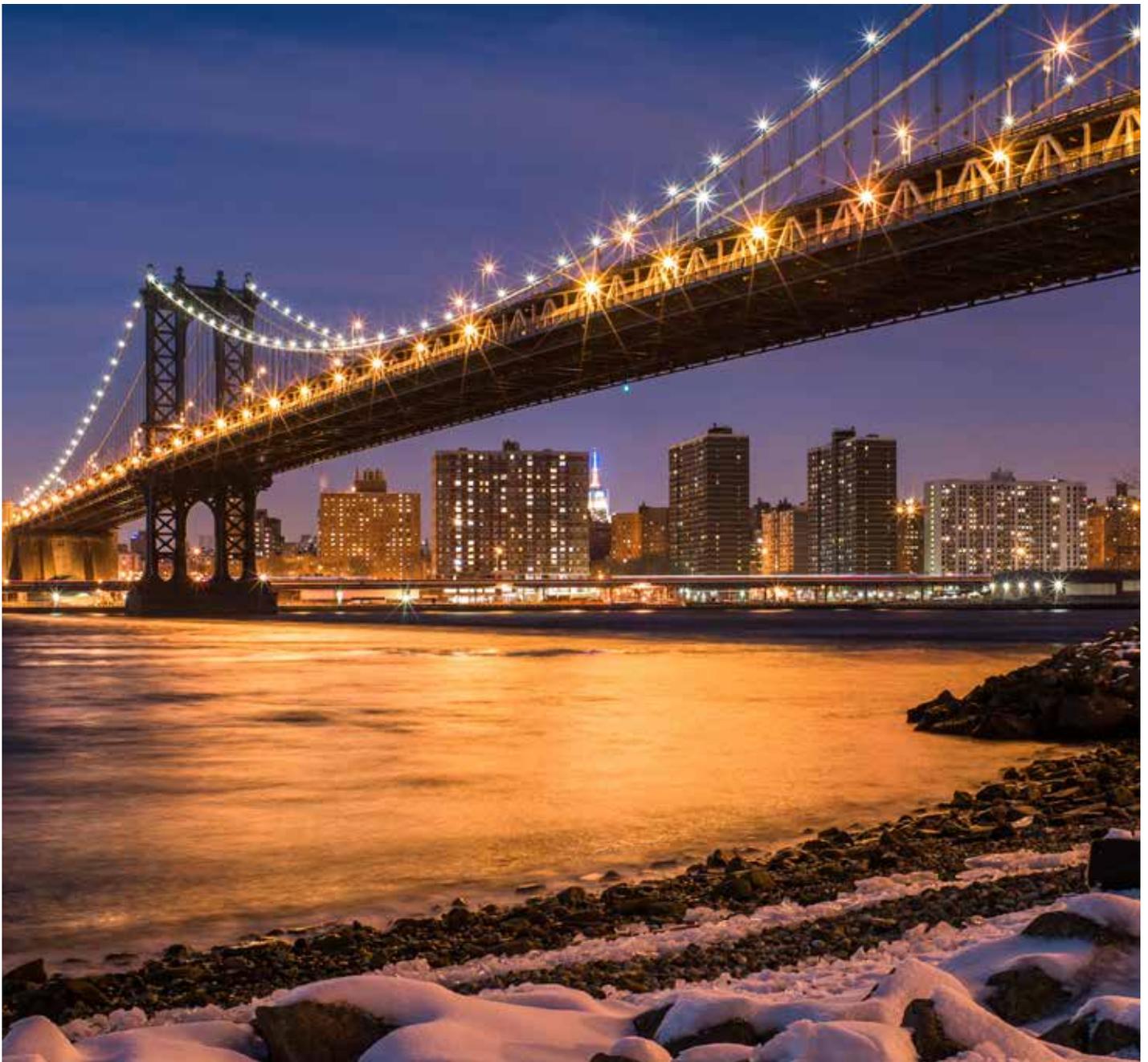
## Operating subsidies

### Quota obligation

#### Renewable Portfolio Standards (RPS)

This standard generally places an obligation on electric supply companies to produce a specified fraction of their electricity from renewable energy sources and enumerates mechanisms that are permitted to achieve compliance, such as renewable energy credits (RECs). Currently no federal

RPS legislation has been enacted. A total of 29 states and the District of Columbia have an RPS. The states include Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Illinois, Indiana, Kansas, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, Texas, Washington and Wisconsin.



# Uruguay

## Support schemes

### Investment and other subsidies

#### General Investment Regime

Investment Law 16.906 declares the national interest of the promotion and protection of domestic and foreign investment and, through Decree 2/012, establishes the following benefits for the investments carried out in the country:

- Corporate Income Tax (CIT) exemption equivalent to a percentage of the investment in fixed assets (machinery, equipment and civil works). The referred percentage varies between 20 percent and 100 percent of eligible investment and it is determined by the score the project receives for its impact in terms of:
  - employment
  - decentralization
  - exports
  - clean production
  - industrial indicators.
- Capital Tax exemption for the fixed assets included in the investment:
  - civil works: 8 years for civil works in Montevideo and 10 years in the rest of the national territory
  - machinery and equipment for the useful life.
- Fiscal credit for VATs included in civil works.
- Exemption from all taxes and duties levied on the import of machinery and equipment that is not competitive with national industry.

#### Particular Investment Regime for renewable energy

Within the frame of Law 16.906, Decree 354/009 establishes particular benefits for the generation of electricity from non-traditional renewable sources (defined as the native renewable sources such as wind, solar thermal, solar PV, geothermal, tidal and wave energy, as well as the energy produced from the use of different types of biomass).

The main benefit consists of CIT exemptions equivalent to:

- 90 percent of net fiscal income generated by the promoted activity for all fiscal years up to 31 December 2017
- 60 percent of net fiscal income generated by the promoted activity for all fiscal years from 1 January 2018 to 31 December 2020
- 40 percent of net fiscal income generated by the promoted activity for all fiscal years from 1 January 2021 to 31 December 2023.

Other benefits:

- The law declares of national interest the national production of machines and equipment necessary for the production of these renewable energies and also applies to this activity the CIT exemption described in the Particular Investment Regime for renewable energy. As a condition for the application of this exemption, at least 35 percent of their cost must correspond to Uruguayan inputs.
- Purchase of the wind turbine and its accessories are exempt from VAT.

#### Promotion of solar thermal energy

In 2009, Law 18.585 declared of national interest the investigation, fabrication, implementation and development of solar thermal energy. The law, along with Decree 451/011, established the exemption of VAT, Internal Excise Tax (IMESI), duties and custom taxes applicable to:

- National and imported (non competitive with the national industry) goods and services necessary to fabricate solar collectors in Uruguay.
- Sale of solar collectors fabricated in Uruguay.
- Import of solar collectors non-competitive with the national industry.

In 2012, the Government launched a Solar Program focused on developing

solar thermal energy for residential users. The new program provides loans, financial discounts and payment facilities for those who install solar thermal technology in their houses.

#### Quota obligation

Law 18.585 also introduced the obligation of incorporating solar thermal technology in sport clubs, hospitals, hotels and heated swimming-pools, under certain circumstances. According to this law, at least 50 percent of the energy required to heat the water should come from solar thermal energy. If this requirement is not fulfilled, the permit for the construction works is denied.

New public buildings (that is, state owned) are also obliged to incorporate this source of energy.

As from June 2012, the Ministry of Industry is entitled to request for all new industrial and agro-industrial developments to perform a technical study on the feasibility of incorporating solar thermal technology into the project.

#### Additional information

Uruguay is recognized as a country with excellent conditions for the development of renewable energy, attracting the attention of national and international investors. The government with the support of the opposition parties has set forth the goal of becoming a model country in this area. The authorities intend that, by this year, at least 50 percent of the primary energy matrix of the country will come from renewable sources.

#### Wind

Although the focus is placed on all types of renewable energy, the most popular continues to be wind power. The initial goal of reaching 300 MW of wind generation by 2015 has been passed with flying colors, since the country is already generating more than 500 MW. A new goal of 1,400 MW has been set for 2017, assuming all the awarded wind farm projects will be implemented. By that year, the Investment in this area will probably reach USD2.6 billion.

## Biomass

In 2010 the government set the goal of incorporating 200 MW from biomass sources to the primary energy matrix by 2015. Accordingly, the Uruguayan energy utility (Usinas y Trasmisiones Eléctricas or UTE) promoted one tender during 2011, in which the total amount offered by the private companies exceeded 350 MW. However, not all the

projects offered are currently coming to life and, in virtue of this, a new tender call for biomass projects is expected to be launched during 2015.

Uruguay has several natural resources that can be used as primary elements for the generation of biomass energy:

- extensive forests providing wood for energy generation
- industrial forestry residues (saw mill residues, black liquor, etc)
- rice husks
- residues from sugar cane, sweet sorghum and other cereals
- excellent conditions for elephant grass
- a guaranteed supply of biomass from livestock and agriculture.



## Solar Photovoltaic

In May 2013 the Government launched a tender call for the purchase of solar PV energy. The tender considers projects of three different ranges: i) 500 kW to 1 MW, ii) 1 MW to 5 MW, and iii) 5 MW to 50 MW.

For ranges i) and ii), the bidders had to offer a price and the total amount to be awarded could not exceed 6 MW. On the other hand, for range iii), bidders had to adhere to a pre-established price of USD91.5/MWh, and the total amount to be awarded could not exceed 200 MW.

The companies that participated in the referred tender call proposed projects for a total amount of 166 MW. Some of these projects are already generating 50 MW and others are still under construction. New tender calls are expected to be launched within the next few years.

# Top Five Countries 2014

TOP FIVE COUNTRIES	1	2	3	4	5
<b>Annual investment/net capacity additions/production in 2014</b>					
Investment in renewable power and fuels (not including hydro > 50 MW)	China	United States	Japan	United Kingdom	Germany
Investment in renewable power and fuels per unit GDP <sup>1</sup>	Burundi	Kenya	Honduras	Jordan	Uruguay
Geothermal power capacity	Kenya	Turkey	Indonesia	Philippines	Italy
Hydropower capacity	China	Brazil	Canada	Turkey	India
Solar PV capacity	China	Japan	United States	United Kingdom	Germany
CSP capacity	United States	India	–	–	–
Wind power capacity	China	Germany	United States	Brazil	India
Solar water heating capacity <sup>2</sup>	China	Turkey	Brazil	India	Germany
Biodiesel production	United States	Brazil	Germany	Indonesia	Argentina
Fuel ethanol production	United States	Brazil	China	Canada	Thailand
<b>Total capacity or generation as of end-2014</b>					
<b>POWER</b>					
Renewable power (including hydro)	China	United States	Brazil	Germany	Canada
Renewable power (not including hydro)	China	United States	Germany	Spain/Italy	Japan/India
Renewable power capacity <i>per capita</i> (among top 20, not including hydro <sup>3</sup> )	Denmark	Germany	Sweden	Spain	Portugal
Biopower generation	United States	Germany	China	Brazil	Japan
Geothermal power capacity	United States	Philippines	Indonesia	Mexico	New Zealand
Hydropower capacity <sup>4</sup>	China	Brazil	United States	Canada	Russia
Hydropower generation <sup>4</sup>	China	Brazil	Canada	United States	Russia
Concentrating solar thermal power (CSP)	Spain	United States	India	United Arab Emirates	Algeria
Solar PV capacity	Germany	China	Japan	Italy	United States
Solar PV capacity <i>per capita</i>	Germany	Italy	Belgium	Greece	Czech Republic
Wind power capacity	China	United States	Germany	Spain	India
Wind power capacity <i>per capita</i>	Denmark	Sweden	Germany	Spain	Ireland
<b>HEAT</b>					
Solar water collector capacity <sup>2</sup>	China	United States	Germany	Turkey	Brazil
Solar water heating collector capacity per capita <sup>2</sup>	Cyprus	Austria	Israel	Barbados	Greece
Geothermal heat capacity <sup>5</sup>	China	Turkey	Japan	Iceland	India
Geothermal heat capacity per capita <sup>5</sup>	Iceland	New Zealand	Hungary	Turkey	Japan

<sup>1</sup> Countries considered include only those covered by Bloomberg New Energy Finance (BNEF); GDP (at purchasers' prices) and population data for 2013 and all from World Bank. BNEF data include the following: all biomass, geothermal, and wind generation projects of more than 1 MW; all hydropower projects of between 1 and 50 MW; all solar power projects, with those less than 1 MW estimated separately and referred to as small-scale projects or small distributed capacity; all ocean energy projects; and all biofuel projects with an annual production capacity of 1 million litres or more.

<sup>2</sup> Solar water collector (heating) rankings are for 2013 and are based on capacity of water (glazed and unglazed) collectors only; including air collectors would affect the order of capacity added, placing the United States slightly ahead of Germany rather than in sixth place, and would not affect the order of top countries for total capacity or per capita.

<sup>3</sup> Per capita renewable power capacity ranking considers only those countries that place among the top 20 worldwide for total installed renewable power capacity, not including hydropower. Several other countries, including Austria, Finland, Ireland, and New Zealand, also have high per capita levels of non-hydro renewable power capacity, with Iceland likely the leader among all countries.

<sup>4</sup> Country rankings for hydropower capacity and generation differ because some countries rely on hydropower for baseload supply whereas others use it more to follow the electric load and to match peaks in demand.

<sup>5</sup> Not including heat pumps.

**Note:** Most rankings are based on absolute amounts of investment, power generation capacity or output, or biofuels production; if done on a per capita, national GDP, or other basis, the rankings would be quite different for many categories (as seen with per capita rankings for renewable power, solar PV, wind, and solar water collector capacity).

# Appendix A: REN21 2014 Renewable Global Status Report

Table 1. Renewable energy support policies

COUNTRY	Renewable energy targets	REGULATORY POLICIES							FISCAL INCENTIVES AND PUBLIC FINANCING				
		Feed-in tariff/premium payment	Electric utility quota obligation / RPS	Net metering	Biofuels obligation/mandate	Heat obligation/mandate	Tradable REC	Tendering	Capital subsidy, grant, or rebate	Investment or production tax credits	Reductions in sales, energy, CO <sub>2</sub> , VAT, or other taxes	Energy production payment	Public investment, loans, or grants
<b>HIGH INCOME COUNTRIES</b>													
Andorra		○									○		
Australia	○	●	○		●	●	○	★*	○				○
Austria	○	○			○		○		○	○			○
Bahrain	○												○
Barbados <sup>1</sup>	○		○	○						○			○
Belgium	○		●	●	○		○	○	●	○	○		
Canada	●	R*	●	●	○			○	○	○	○		○
Chile	○		○	○				★	○	★	○		○
Croatia	○	○			○								
Cyprus	○	○		○	○			○	○				
Czech Republic	○				○		○		○	○	○		R
Denmark	○	R		R	○		○	○	○	○	○		○
Estonia	○	○			○							○	○
Finland	○	○			○		○		○			○	○
France	R	R			○	○	○	○	○	○	○		○
Germany	○	R			○	○			○	○	○		○
Greece	○	R		○	○	○			○	○	○		○
Ireland	○	○			○	●	○	○					
Israel	○	○	○	○	○	○		○			○		○
Italy	○	R		○	★	○	○	○	○	R	○		○
Japan	R	R	○	○			○	○	○				○
Kuwait	○							○					
Latvia	○	○		○	○			○					
Liechtenstein		○											
Lithuania	○	○	○		○								○
Luxembourg	○	○			○				○				
Malta	○	R		○					○		○		
Netherlands	○	○		○	○		○		○	○	○	○	○
New Zealand	○								○				○
Norway	○		○		○		○	○	○		○		○
Poland	○	R	○	○	○		○	R			○		○
Portugal	○	○	○	○	○	○		○	○	○	○		○
Russia	○	R						★	○				
San Marino		○											
Singapore	★			○				○					○
Slovakia	○	○			○		○				○		
Slovenia	○	○					○	○	○	○	○		R
South Korea	○		○	○	○	○	○	○	○	○	○		○
Spain <sup>2</sup>	○			○	R	○	○		○	○		○	
Sweden	○	○	○		○		○		○	○	○		○
Switzerland	○	R				○			○		○		
Trinidad and Tobago	○									○	○		
United Arab Emirates	R*		●			●		●				●	●
United Kingdom	○	○	○		○		○		○		○	○	○
United States <sup>3</sup>	R*	R*	R*	R*	○	●	●		○	R	○	○	○
Uruguay	○	○		○	○	○		○	○		○	○	○

○ – existing national (could also include state/provincial), ● – existing state/provincial (but no national), ★ – new (\* indicates state/provincial), R – revised (\* indicates state/provincial), x – removed/expired

1 Certain Caribbean countries have adopted hybrid net metering and feed-in policies whereby residential consumers can offset power, while commercial consumers are obligated to feed 100% of the power generated into the grid. These policies are defined as net metering for the purposes of the Global Status Report.

2 Spain removed FIT support for new projects in 2012. Incentives for projects that previously had qualified for FIT support continue to be revised.

3 State-level targets in the United States include RPS policies.

**Table 2. Renewable energy support policies (continued)**

COUNTRY	Renewable energy targets	REGULATORY POLICIES							FISCAL INCENTIVES AND PUBLIC FINANCING				
		Feed-in tariff/premium payment	Electric utility quota obligation / RPS	Net metering	Biofuels obligation/mandate	Heat obligation/mandate	Tradable REC	Tendering	Capital subsidy, grant, or rebate	Investment or production tax credits	Reductions in sales, energy, CO <sub>2</sub> , VAT, or other taxes	Energy production payment	Public investment, loans, or grants
<b>UPPER-MIDDLE INCOME COUNTRIES</b>													
Albania	○	○	○		○		○	○		○	○	○	○
Algeria	R	R						○	○				★
Angola					○								○
Argentina	○	○		○	R			★	○	○	○	○	○
Azerbaijan	○												○
Belarus	○	○	○								○		○
Belize	○							○					
Bosnia and Herzegovina	○	○						○	○				
Botswana	○								○		○		
Brazil	○			○	R	●		★		○	○		○
Bulgaria	○	R			○								○
China	R	R	○		○	○		○	○	○	○	○	○
Colombia	○			★	○					★	R		★
Costa Rica	○	R		★	○			○			○		
Dominican Republic	○	○		○				○	○	○	○		○
Ecuador	○	○			○			○			○		○
Fiji	○									○	○		
Grenada	○			○							○		
Hungary	○	○			○				○		○		○
Iran	○	○								○		○	○
Jamaica	○			○	○			○		○	○		
Jordan	○	○		○	○	○		★			○		○
Kazakhstan	○	★					○		○				
Lebanon	○			○							○		○
Libya	○										○		
Macedonia, Republic of	○	○											
Malaysia	○				○						○		○
Maldives	○	○						○					
Marshall Islands	○										○		
Mauritius	○							○	○		○		○
Mexico	○			○				○		○			○
Montenegro	○	○											
Namibia	○					○							
Palau	○		○										
Panama	○	○		○	○			○		○	○	○	
Peru	○	○	○		○			○			○		○
Romania	○		○		○		○						R
Serbia	○	○							○				
Seychelles	○			★					○	○	○		○
South Africa	R		○		○	○		★	R		R		○
St. Lucia	R			○							○		
St. Vincent and the Grenadines <sup>1</sup>	○			○									
Thailand	○	R			○						○	○	○
Tunisia	○			○					○		○		R
Turkey	R	○			○				○				○

○ – existing national (could also include state/provincial), ● – existing state/provincial (but no national), ★ – new (\* indicates state/provincial), R – revised (\* indicates state/provincial), x – removed/expired

Note: Countries are organised according to annual gross national income (GNI) per capita levels as follows: “high” is USD 12,746 or more, “upper-middle” is USD 4,125 to USD 12,745, “lower-middle” is USD 1,046 to USD 4,125, and “low” is USD 1,045 or less. Per capita income levels and group classifications from World Bank, “Country and Lending Groups,” accessed March 2015. Only enacted policies are included in the table; however, for some policies shown, implementing regulations may not yet be developed or effective, leading to lack of implementation or impacts. Policies known to be discontinued have been omitted. Many feed-in policies are limited in scope of technology.

Source: See Endnote 1 for this section.

**Table 3. Renewable energy support policies**

COUNTRY	Renewable energy targets	REGULATORY POLICIES							FISCAL INCENTIVES AND PUBLIC FINANCING				
		Feed-in tariff/premium payment	Electric utility quota obligation / RPS	Net metering	Biofuels obligation/mandate	Heat obligation/mandate	Tradable REC	Tendering	Capital subsidy, grant, or rebate	Investment or production tax credits	Reductions in sales, energy, CO <sub>2</sub> , VAT, or other taxes	Energy production payment	Public investment, loans, or grants
<b>LOWER-MIDDLE INCOME COUNTRIES</b>													
Armenia	○	○											
Cabo Verde	○			○				○		○		○	
Cameroon													
Côte d'Ivoire	○							○				○	
Egypt	○	★		○				○	○			○	
El Salvador								○		○		○	○
Ghana	○	○	○		○		○	○		○		○	○
Guatemala	○			○	○			○		○		○	
Guyana	○											○	
Honduras	○	○		★				○		○		○	
India	○	○	○	●	○	●	○	★	○	○	★	○	○
Indonesia	○	○	○		○			○	○	○		○	○
Kyrgyz Republic	○		○							○		○	
Lesotho				○				○		○		○	○
Micronesia, Federated States of	○			●									
Moldova	○	○											○
Mongolia	○	○						○					
Morocco	○			○				○					○
Nicaragua	○	○										○	
Nigeria	○	○			○				○			○	○
Pakistan	○	○		○	○		○		●		★		○
Palestinian Territories <sup>4</sup>	○	○		○								○	
Paraguay					○							○	
Philippines	○	○	○	○	○			○	○	○		○	○
Senegal	○	○	○	○	○			○				○	
Sri Lanka	○	○	○	○	○					○		○	○
Sudan	○				○								
Syria	○	○		○				○		○			
Ukraine	○	○		○	○				○		X		○
Uzbekistan								○					
Vanuatu	○											○	
Vietnam	○	○			○		○		○	○		○	
Zambia									○			○	○
<b>LOWER INCOME COUNTRIES</b>													
Bangladesh	○							○	○			○	○
Burkina Faso								○		○		○	○
Ethiopia	○				○							○	○
Gambia	★											○	
Guinea	○											○	
Haiti	○												○
Kenya	○	○				○		○			R	○	○
Liberia	○											○	
Madagascar	○											○	
Malawi	○											○	○
Mali	○				○							○	○
Mozambique	○				○							○	○
Myanmar	○											○	
Nepal	○	○					○	○	○	○		○	○
Niger	○											○	
Rwanda	○	○						★		○		○	○
Tajikistan	○	○										○	○
Tanzania	○	R							○			○	○
Togo	○											○	
Uganda	○	○						★	○			○	○
Zimbabwe	○				○							○	○

○ – existing national (could also include state/provincial), ● – existing state/provincial (but no national), ★ – new (\* indicates state/provincial), R – revised (\* indicates state/provincial), x – removed/expired

4 The area of the Palestinian Territories is included in the World Bank country classification as “West Bank and Gaza.” They have been placed in the table using the 2009 “Occupied Palestinian Territory” GNI per capita provided by the United Nations (USD 1,483)



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