



ENERGY & NATURAL RESOURCES

Taxes and Incentives for Renewable Energy

TAX



Introduction

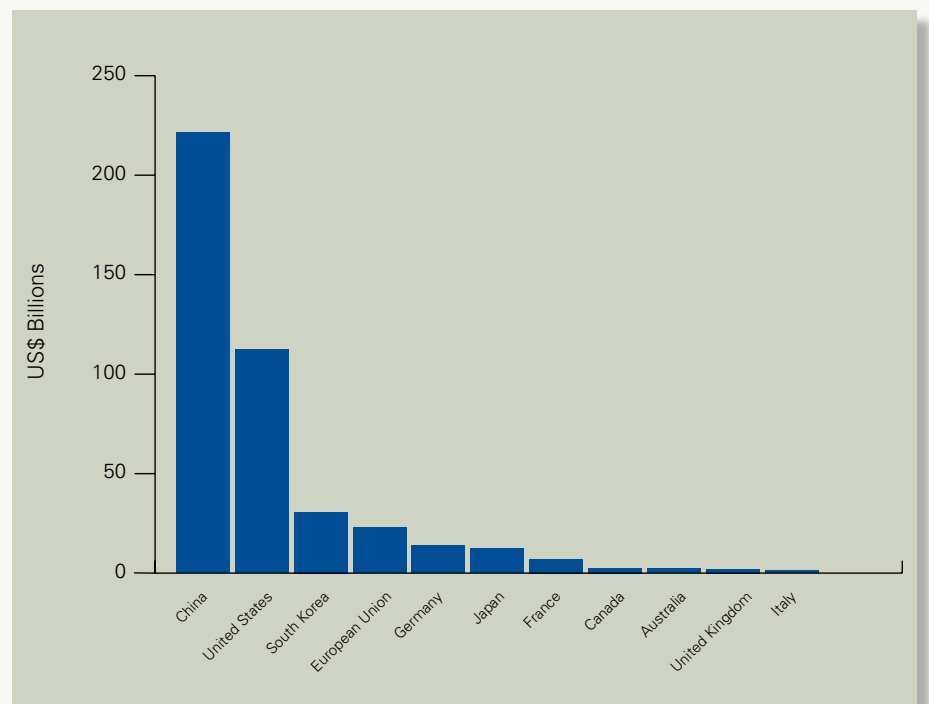
There is a fundamental attractiveness about harnessing the sun, wind, waves, rivers, tides, and heat from the earth. Power has been extracted for electricity from these natural resources for decades and offers many benefits. Sustainable power production, reduced carbon emissions, secure energy supply, cleaner air and water, and rural generation capabilities are a few of the potential attractions. However, favorable fiscal policy for the renewables sector is increasingly joining the list of altruistic reasons to engage in the renewables sector.

From a Red Economy to a Green Economy...

While bankers have been vilified as the cause of one of the largest financial disasters, the renewables sector has been seen as a white horse for many governments looking to emerge stronger. Despite economic downturn, investment continued in the renewables sector largely in part to government stimulus programs that focused on developing green economies. Around the world, governments have allocated more than USD430bn in fiscal stimulus to key climate change investment themes. China and the United States lead the way.¹

Climate change and sustainability issues continue to gain headlines, and the likelihood of costs being imposed on carbon dioxide emissions in developed countries has profoundly changed the economic outlook of renewable energy sources. Making the shift from fossil fuels to renewable energy is leading global governments, businesses, and consumers alike to examine all aspects of their environmental footprint and create strategies to become environmentally responsible and thrive in today's economic climate.

Climate Change Investment by Country



Source: HSBC Global Research Report, February 2009

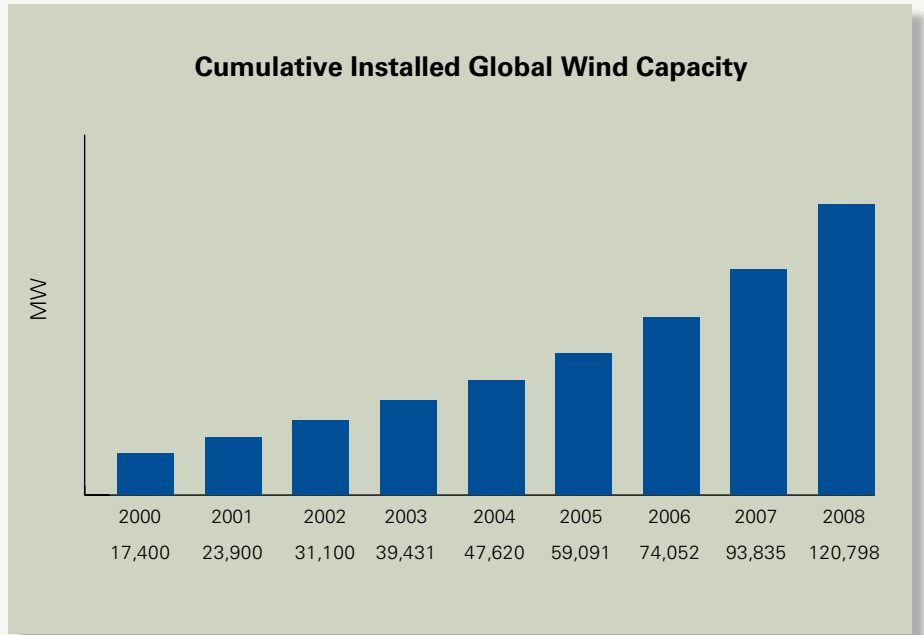
¹ HSBC Global Research Report: A Climate for Recovery, the colour of stimulus goes green, February 25, 2009. Accessed February 15, 2010 at http://globaldashboard.org/wp-content/uploads/2009/HSBC_Green_New_Deal.pdf.



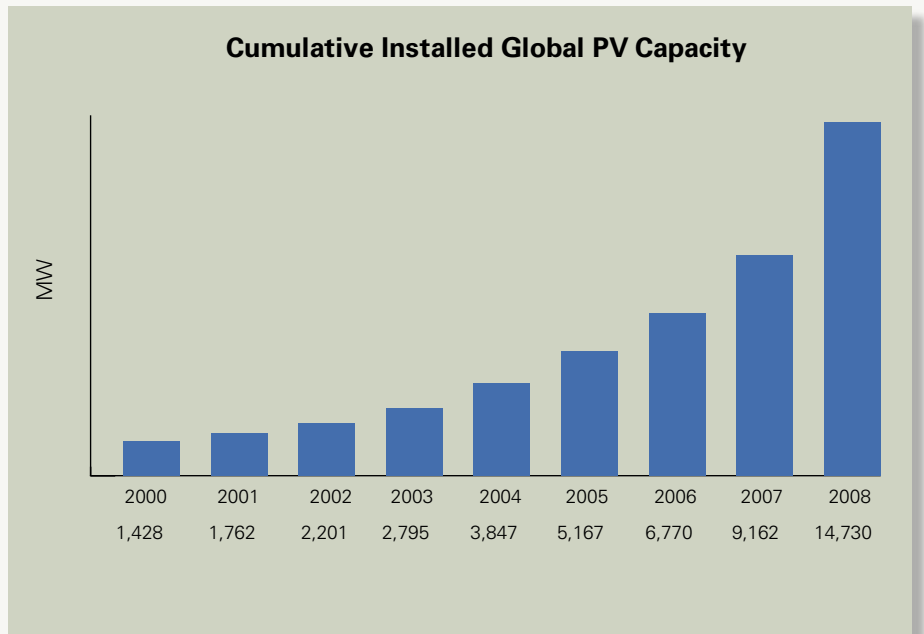
Growth in the Sector

According to the International Energy Outlook 2009 (IEO2009) projections, world marketed energy consumption is projected to increase by 44 percent from 2006 to 2030.²

Global Installed Wind Power Capacity³



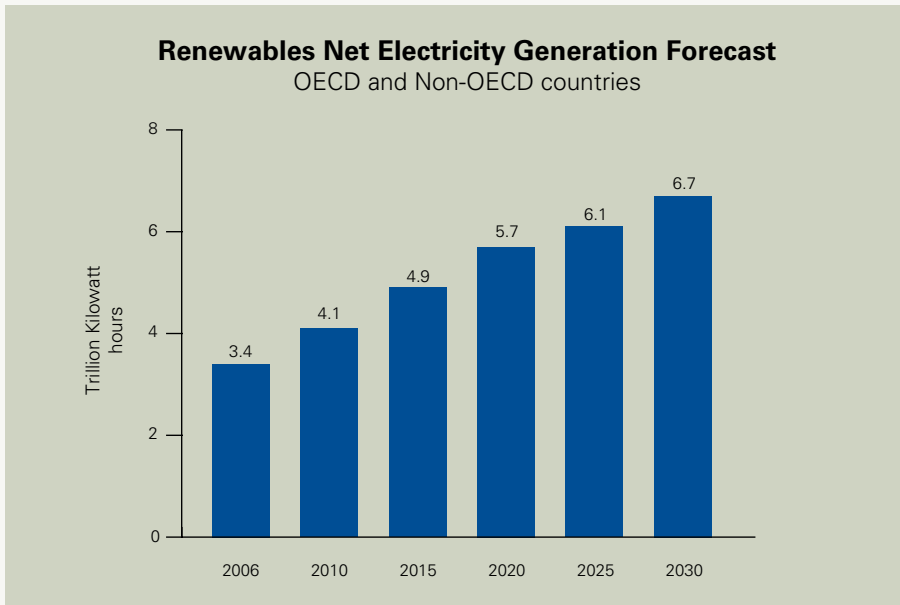
Global Installed Solar (PV) Capacity⁴



² [http://eia.doe.gov/oiarf/ieo/pdf/0484\(2009\).pdf](http://eia.doe.gov/oiarf/ieo/pdf/0484(2009).pdf).

³ Global Wind Energy Council: Global Wind Report 2008; accessed February 15, 2010 at <http://www.gwec.net/fileadmin/documents/testfolder/Global%20cumulative%20capacity%201996%202008.jpg>.

⁴ EPIA – Global Market Outlook for Photovoltaics until 2013, 2009 – A.T. Kearney analysis; accessed February 15, 2010 at <http://www.setfor2020.eu/en/media/graphs>.

Forecasted Growth in Renewable Energy⁵

At least 60 countries currently use policy to promote renewable power generation. Typically, a number of investment and operating subsidies are used together for a complete renewables support scheme. Investment subsidies are unique to operating subsidies (outlined below) that encourage the production of renewable energy. Investment subsidies provide financial assistance through grants, low-interest loans, education, or tax incentives to encourage the investment in a particular industry.

Operating Subsidies

Feed-in Tariffs (FiT)	A policy mechanism designed to encourage the adoption of renewable energy sources. It typically includes three key provisions: <ol style="list-style-type: none"> 1) Guaranteed grid access 2) Long-term contracts for the electricity produced 3) Purchase prices that are based on the cost of renewable energy generation
Premiums	Premiums are granted to operators of eligible renewable electricity plans for the electricity they feed to the grid. They are typically preferential, technology-specific amounts paid to a producer on top of the current electricity market price and are regulated by the government.
Quota Obligations	A quota obligation is a binding renewable energy target, embedded in legislation, requiring that a minimum percentage of generation sold or generation capacity installed be provided by renewable energy. Obligated utilities are required to ensure that the target is met.



⁵ Energy Information Administration, World Energy Projections Plus (2009)/International Energy Outlook 2009; accessed February 15, 2010 at [http://eia.doe.gov/oiaf/ieo/pdf/0484\(2009\).pdf](http://eia.doe.gov/oiaf/ieo/pdf/0484(2009).pdf).

In 2008, a detailed analysis by the European Commission concluded that “well-adapted feed-in tariff regimes are generally the most efficient and effective support schemes for promoting renewable electricity.”⁶ Over time, you can tell how it has become increasingly more important. The following list shows the cumulative time line of jurisdictions (countries/provinces/states) that have feed-in tariff regimes.⁷

In addition to feed-in tariffs, governments are combating climate change through the introduction of renewable portfolio standards and tradable renewable energy certificates.

Renewable Portfolio Standard (RPS)

Government policy targets for renewable energy exist in at least 66 countries worldwide (including all 27 European Union countries). There is a broad spectrum of national ambition, as targets for renewables range from 2 percent to 78 percent. India⁸ and Chile⁹ have targets of 5 percent by 2010 and 2014, respectively, while Sweden¹⁰ is raising the bar with a target of 50 percent of their energy supply coming from renewable sources and the goal of becoming the first country in the world to be free from oil by 2020¹¹.

Tradable Renewable Energy Certificates (RECs)

Tradable renewable energy certificates provide a tool for meeting renewable energy obligations among consumers and/or producers, and also a means for voluntary renewable power purchases. Each certificate represents the certified generation of one unit of renewable energy (typically one megawatt-hour).

1978	United States
1990	Germany
1991	Switzerland
1992	Italy
1993	Denmark India
1994	Spain Greece
1997	Sri Lanka
1998	Sweden
1999	Portugal Norway Slovenia
2000	—
2001	France Latvia
2002	Algeria Austria Brazil Czech Republic Indonesia Lithuania
2003	Cyprus Estonia Hungary South Korea Slovak Republic Maharashtra (India)
2004	Israel Nicaragua Prince Edward Island (Canada) Andhra Pradesh (India) Madhya Pradesh (India)
2005	Karnataka (India) Uttaranchal (India) Uttar Pradesh (India) China Turkey Ecuador Ireland
2006	Ontario (Canada) Argentina Thailand
2007	South Australia (Australia) Albania Bulgaria Croatia Macedonia Uganda
2008	Queensland (Australia) California (USA) Gujarat, Haryana (India) Punjab (India) Rajasthan (India) Tamil Nadu (India) West Bengal (India) Kenya Philippines Poland Ukraine
2009	Australian Capital Territory (Australia) South Africa

⁶ European Commission (COM), 2008. Commission Staff Working Document, Brussels, 57, 23 January 2008. Accessed January 14, 2009 at http://ec.europa.eu/energy/climate_actions/doc/2008_res_working_document_en.pdf.

⁷ REN21: Renewables Global Status Report, 2009 Update; accessed February 15, 2010 at http://www.ren21.net/pdf/RE_GSR_2009_Update.pdf.

⁸ <http://www.business-standard.com/india/news/buy-at-least-5-renewable-energy-cerc-orders-state-utilities/64975/on>.

⁹ http://www.cne.cl/cnewwww/export/sites/default/08_Normativas/02_energias/descargable_renovables/20_257_1_xDoc_1_-1x.pdf.

¹⁰ <http://www.sweden.gov.se/content/1/c6/12/00/88/d353dca5.pdf>.

¹¹ http://www.treehugger.com/files/2006/01/sweden_raises_t.php.

The following chart is a summary of the support schemes available in the 18 countries highlighted in this publication. Additional details regarding the investment and operating support schemes available in each jurisdiction are available on the following pages.

Country	Investments and/or Subsidies	Feed-in Tariff	Premium	Quota Obligation
Australia	X	X		X
Brazil	X	X		
Bulgaria	X	X		
Canada	X	X		X
China	X	X	X	X
Czech Republic	X	X	X	
France	X	X		
Germany	X	X		
Greece	X	X		
Israel	X	X		
Netherlands	X	X		
New Zealand	X	X		
Poland	X			X
Romania				X
South Africa	X	X		
Spain	X	X	X	
United Kingdom	X	X	X	X
United States	X			X



Australia

Support Schemes

Investments and Other Subsidies

The Australian government has numerous federal initiatives that have provided subsidies for renewable energy over many years. Many of these programs, in particular specific grants programs, have now closed or have been restructured into new initiatives. The following details only include current programs or initiatives.

Solar Flagships Program: As a part of the clean energy initiative, funding to support construction and demonstration of large-scale solar power stations in Australia, which may include solar thermal, photovoltaic, and energy storage technologies. The target size is 1000MW of electricity generation.

CCS Flagships Program: As a part of the clean energy initiative, funding to support construction and demonstration of large-scale integrated carbon capture and storage projects in Australia, which may include gasification, post-combustion capture, oxy-firing, transport, and storage technologies. The target is to create 1000MW of low emission fossil fuel generation.

Renewable Energy Demonstration Program (REDP): REDP is a A\$435m competitive grants program designed to accelerate the commercialization and deployment of new renewable energy technologies for power generation in Australia. The program aims to support the development of a range of renewable energy technologies across a range of geographic locations in Australia, and is designed to enhance Australia's international leadership in renewable energy technology development and to attract

private sector investment in renewable energy. Competitive grants of A\$20 to A\$100 million are awarded on 2:1 investment basis with at least A\$2 of private sector investment required for every A\$1 government investment. The REDP will run from 2008–09 to 2014–15, with the first round of grants being available to successful applicants in the 2009–10 financial year.

Photovoltaic Rebate Program: A federal government program that makes cash rebates available for householders, owners of community use buildings, display home builders, and housing estate developers who install grid-connected or stand-alone photovoltaic systems (subject to certain conditions). The rebate level is capped at A\$4,000 per residential system and A\$4,000 per school or community building system.

Australian Solar Institute (ASI): ASI is a component of the Australian government's Clean Energy Initiative¹² and has a A\$100 million allocation for the period 2008–2012. The program aims to advance and accelerate innovation in solar thermal and solar photovoltaic technologies in Australia and promote research to improve the efficiency and cost effectiveness of solar technologies. The majority of the Institute's research funding is allocated through a competitive grants program. Details of future funding rounds are expected to be announced by the Institute this year. The Institute was registered as a not-for-profit company on 10 August 2009 and is headquartered in Newcastle.

R&D Tax Concession: The major mechanism and program for fostering innovation is the R&D tax concession.

The objectives of the R&D tax concession are to provide a tax incentive, in the form of a deduction, to encourage R&D activities in Australia and make eligible companies more internationally competitive by encouraging the development of innovative products, processes, and services. In many instances, activities conducted as a part of renewable energy development may be eligible for the R&D tax concession. The R&D tax concession offers the following four options:

- A tax deduction of up to 125 percent of eligible expenditure incurred on R&D activities
- An R&D tax offset for companies with group turnover under A\$5 million and a grouped expenditure of up to A\$1 million for the year
- An R&D incremental (175 percent premium) tax concession for those companies increasing their R&D expenditure above a rolling three-year average of expenditure
- An R&D incremental (175 percent international premium) tax concession for those companies belonging to a multinational enterprise group for additional R&D expenditure on behalf of grouped foreign company above a rolling three-year average of expenditure.

A number of changes are planned to the R&D tax concession scheme to meet the recommendations made in Venturous Australia Report. These changes will be implemented from the 2010-11 financial year.

¹² Australian Government, Department of Resources, Energy and Tourism, Clean Energy Initiative: <http://www.ret.gov.au/energy/energy%20programs/cei/Pages/default.aspx>.

Operating Subsidies

Feed-in Tariff

There are no national based feed-in tariffs; however, a number of state based initiatives exist for small-scale generation.

Quota Obligation

20 percent by 2020 including biomass, geothermal, hydropower, solar PV, wind power¹³

Additional Information

The Australian government is implementing an integrated and comprehensive response to climate change. In addition to the funding initiatives described above, the government also has a number of policy levers and other programs including those described below.

The Australian Centre for Renewable Energy (ACRE): This initiative is a component of the government's A\$4.5 billion Clean Energy Initiative (CEI) that will promote the development, commercialization, and deployment of renewable energy and enabling technologies. ACRE will be a one-stop shop for Australian renewable energy businesses, consolidating a number of existing renewable energy programs. Until the legislation to establish the ACRE Board is passed by Parliament, an Interim Advisory Board will be appointed.

Mandatory Renewable Energy Target (MRET): A federal government program that introduces mandatory targets to take up renewable energy. Requires retailers to acquire and annually surrender Renewable Energy Certificates (RECs). RECs are created from renewable energy (e.g., wind, solar, hydro) or may be purchased on the market. If there is a REC shortfall, the non-tax deductible penalty is A\$40 per Mwh. The shortfall is broadly based on level of "black" electricity acquired/emitted.

The Carbon Pollution Reduction Scheme (CPRS): The Commonwealth government's proposed CPRS scheme is aiming to limit carbon pollution while minimizing the impact on business and households. There are two distinct elements: the cap on carbon pollution and the ability to trade. The cap achieves the environmental outcome of reducing carbon pollution. The ability to trade seeks to ensure that the overall 'carbon cost' of the scheme is minimized.

National Energy Efficiency Strategy: In October 2008, the Council of Australian Governments (COAG) agreed to develop a National Strategy for Energy Efficiency to accelerate energy efficiency efforts, to streamline roles and responsibilities across levels of governments, and to help households and businesses prepare for the introduction of the CPRS. The strategy aims to encourage and support innovation in energy efficiency technologies and approaches.

Australian Climate Change Regulatory Authority: In the 2009 Federal Budget A\$81.9 million was provided for the establishment of the Australian Climate Change Regulatory Authority. The Australian Climate Change Regulatory Authority will start operations as a separate entity from the time that the CPRS legislation is passed by Parliament. The Authority will oversee the operations of the CPRS.



¹³ Renewable Energy Policy Network for the 21st Century <http://www.ren21.net/mapDev/print.asp?coid=16>.

Brazil

Support Schemes

Investments and Other Subsidies

1. There is a special tax regime applicable for producers and importers¹⁴ of biodiesel.¹⁵

Producers and importers have two different programmes for social integration (PIS) and contribution for the financing of social security (COFINS) regimes that they are able to choose: (a) 6.15 percent PIS rate and 28.32 percent COFINS rate levied on gross revenues derived from biodiesel sales or (b) to pay a fixed price of PIS and COFINS by cubic meter of commercialized biodiesel—R\$31.75 (PIS) and R\$146.20 (COFINS).

In specific cases, producers that opt for the second regime may obtain certain reductions/exemption of the amounts due, depending on the supplier of raw material or input applicable to the production (e.g. acquisition from producers of castor bean and from family farmers).

The PIS and COFINS due by producers and importers are definitive, which means that the resale of biodiesel by the following players of the economic chain (e.g. wholesalers, distributors, and retailers) is not subject to PIS and COFINS.

2. Exemption of PIS and COFINS in the sales of sugarcane for the producer—under the PIS and COFINS noncumulative regime—of ethanol.
3. The producer or importer of ethanol has two different PIS and COFINS regimes that they are able to choose: (a) 1.5 percent PIS rate and 6.9 percent COFINS rate levied on gross revenue of ethanol sales or (b) to pay a fixed price of PIS and COFINS by cubic meter of commercialized ethanol—R\$8.57 (PIS) and R\$39.43 (COFINS).

Additionally, distributors have two different PIS and COFINS regimes that they are able to choose: (a) 3.75 percent PIS rate and 17.75 percent COFINS rate levied on gross revenue of ethanol sales or (b) to pay a fixed price of PIS and COFINS by cubic meter of commercialized ethanol—R\$21.43 (PIS) and R\$98.57 (COFINS).

Ethanol sales carried out by retailers are not subject to PIS and COFINS.

Ethanol sales carried out through the Future & Commodities Exchange (BMF) are not subject to PIS and COFINS.

4. Biodiesel and Ethanol sales are subject to 0 percent Imposto Sobre Produtos Industrializados (IPI) rate.

5. Possibility of exemption of Imposto Sobre Operações Relativas à Circulação de Mercadorias e Sobre Serviços de Transporte Interestadual e Intermunicipal e de Comunicação, ainda que as Operações se Iniciem no Exterior (ICMS) in the internal operations with some products destined to the biodiesel or ethanol production.

Also, there is a possibility of reduction of the ICMS calculation basis in the interstate operations on the ethanol and biodiesel production and distribution. It depends on each State legislation.

6. Ethanol sales are not subject to Contribution for Intervention in the Economic Domain (CIDE).
7. Possibility of exemption of ICMS on operations involving equipment used in the generation of wind and solar energy—applicable up to December 31, 2012.
8. Exemption of IPI on equipment used in the energy generation process.

Operating Subsidies

Feed-in Tariff¹⁶

Wind: 0.23 Real/kWh

Biomass: 0.104 Real/kWh

Hydro: 0.134 Real/kWh for <30MW installed capacity

¹⁴ Producers and importers are legal entities beneficiary of concession or authorization from the National Petroleum Agency- ANP and registered as Producer or Importer of biodiesel in the Special Register held by the Brazilian Internal Revenue Service.

¹⁵ According to the Ministry of Mines and Energy, Brazil has an ideal condition for becoming a large and important producer of biodiesel. The amount of arable land is vast, in which great part is not appropriate for food crops; however, it has the perfect soil and climate conditions for growing a variety of oilseeds. The "competitiveness" of the biodiesel stands on Law no 11.097/05 that brings a progressive percentage on the blend of biodiesel-diesel (the goal is maximum 5 percent of biodiesel in commercialized diesel – will have to be followed starting from 2010). Additionally, there is a Brazilian financial program to support the investments in biodiesel. The main objective of the program is support investments in all phases of the biodiesel production, to support the acquisition of equipments and machines among others.

¹⁶ Molly, J.P.: Economics of Wind Farms in Brazil. In: DEWI Magazin, Nr 25, August 2004 <http://www.ren21.net/mapDev/print.asp?coid=29>.

Additional Information

Brazil has a very privileged position when it comes to renewable energy. In the country, 43.9 percent of the Internal Energy Supply (OIE) is renewable, when the world's average is 14 percent and developed countries, 6 percent.¹⁷ Furthermore, the National Bank for Economic and Social Development (BNDES) has different financial programs to stimulate the production of renewable energy.

The development of the renewable energies in Brazil is increasing (i.e. today, almost half of the energy consumed in Brazil is generated by renewable sources). In 2002, Brazil's government created a program—PROINFA—to incentivize the alternative sources of electric power. This program was introduced with the objective of increasing the participation of the electric power produced by companies that explore wind, biomass, and small central hydroelectric energies and promote the diversity of Brazilian Energy Matrix (Matriz Energética Brasileira).

Taxes and Regulations (General

Definitions): ICMS is similar to a value-added tax. It is a state tax, levied on the import of products and certain transactions involving goods, intermunicipal and interstate transportation services, and communication services. The applicable rates may vary from 7 percent to 30 percent; the average is 18%.

IPI is a federal tax levied on the import and manufacturing of goods. The applicable rate depends on the product and its classification under the IPI tax rates (TIPI).

In general, PIS and COFINS are federal taxes charged on revenues, on a monthly basis, under two regimes. The applicable rates are 0.65 percent (PIS), and 3 percent (COFINS) for cumulative regime; and according to the noncumulative regime, the applicable rates are 1.65 percent (PIS) and 7.6 percent (COFINS). Under the non-cumulative regime the taxpayer may recognize PIS and COFINS credits over certain costs and expenses.

CIDE is a contribution levied on the import and sale of oil & gas related products, including ethanol. The applicable rate varies from zero to R\$230 by meter cubic.

Important Concerns: Recently, the Commission of Infrastructure Services (CI) approved a Bill of Law (PLS 311/09) that establishes the Special Regime of Taxation to incentivize the development and production of alternative sources of electric power (REINFA). This program seeks to encourage the exploration and consumption of clean energy.

The mentioned Bill of Law foresees several tax benefits such as exemptions of PIS and of COFINS, Import Tax, Tax on Industrialized Products (IPI), among others, for the beneficiary companies of the program.

It is important to emphasize that such Bill of Law is not yet in force. At the present time, it is in the Federal Senate awaiting internal procedures.

In addition to that, in the end of 2009, a wind energy auction was held. The government bought 1805MW of wind energy at a price of R\$148.39/ per MWh.

The success of this auction stimulated another auction, to be held in June 2010, regarding renewable energy.

After COP-15, Brazil formalized its commitment to reduce carbon emission from 36.1 percent to 38.9 percent until 2020, by issuing the Climate Change Law n.12.187/09. This Law also brings a provision mentioning that Brazil could grant several tax benefits in order to encourage the use of renewable energy that would be subject to the issuance of specific laws. Up to this moment, these benefits have not yet been regulated.

¹⁷ Source: Ministry of Mines and Energy, March 2010, www.mme.gov.br/mme.

Bulgaria

Support Schemes

Investments and Other Subsidies

Applicable for:

Solar, wind, small hydro power plants (HPPs) and biomass

Tax exemptions are available for biofuels only—no excise duty is charged on biofuels used for transportation and heating purposes (in case the fuel is not mixed with conventional fuels).

Operating Subsidies

Feed-in Tariff

Feed-in tariff system was introduced in 2006.

- The State Energy and Water Regulatory Committee (SEWRC) determines the feed-in tariff for sale of electricity produced by renewable energy sources (RES) annually at the end of March.
- The approved feed-in tariffs valid for the period 1 April 2010–1 April 2011 are included in SEWRC Decision No. C-018, dated 31 March 2010.

Pricing Method (Two components)

Base component: 80 percent of the average electricity price of supply companies to end users for the preceding calendar year.

Price premium: Variable supplement determined by the SEWRC depending on technology and installed capacity. The premium for the next calendar year should not be less than 95 percent of the premium for the current year.

Feed-in Tariff Rates	2010 (EUR/MWh)
Solar	
Installed capacity up to 5 kWp	405.39
Installed capacity over 5 kWp	372.36
Wind	
Installed capacity under 800 kW, with induction generator and cage rotor	76.07
Installed capacity of 800 kW or more, with up to 2,250 working hours per year	97.44
Installed capacity of 800 kW or more, with over 2,250 working hours per year	89.18
Small HPPs	
Installed capacity up to 10 MW	56.64
Biomass	
Wood-waste plants up to 5 MW	111.04
Vegetal waste plants up to 5 MW	86.27
Energy crops plants up to 5 MW	96.47

Source: KPMG Bulgaria



Additional Information

Operating incentives:

- Based on the regulations of the Renewable and Alternative Energy Sources and Biofuels Act, electricity distribution companies are obliged to purchase the electricity generated from geothermal and solar energy for 25 years, whereas from the other sources of RES, the offtake obligation is fixed at 15 years.
- End suppliers are obliged to offtake the electricity produced by RES. Failure to do so will result in a penalty amounting to between BGN 7,000 (appr. EUR 3,600) and BGN 20,000 (appr. EUR 10,225).
- In order to promote RES, the country has implemented the Bulgarian Energy Efficiency and Renewable Energy Credit Line (BEERECL). BEERECL has been established to support industrial energy efficiency and small renewable energy projects in the private sector by using funding from the Kozloduy International Fund, which was created by European Bank for Reconstruction and Development (EBRD) in May 2002.
- BEERECL provides grants of up to 20 percent of the disbursed loan principle for RES projects financed prior to 30 September 2009, and up to 15 percent grants for financing received after the latter date. However, there are some requirements for eligible projects:
 - Investments in new hydro power plants with installed capacity less than 10 MW
 - Investments in new and second-hand wind turbines with installed capacity of less than 5 MW
 - Investments in biomass with installed capacity of less than 5 MW electric output
 - Investments in biomass heat only boilers with a thermal input higher than 10 MWth are subject to EBRD approval
 - No restrictions for thermal solar, biogas, and geothermal plants
- RES projects could alternatively be financed under the EU operational programs.

Administrative procedure: The administrative procedures are complex and lengthy. Investors should obtain various certificates, permissions, and licenses issued by different authorities: such as planning permission, permission for change of the purpose of the land, positive resolution on the environment impact assessment of the project, water permit (in case of hydro power projects), construction permit, generation license, etc.

According to recent press releases, the Bulgarian government may impose a moratorium on projects for electricity production from RES due to the fact that currently there are many speculators on the market. The proposed moratorium is expected to be in force until a national development plan for RES 2020 is created, which might take up to six months or even more. Government experts are suggesting a moratorium on RES related projects that are in their initial stage and still need to change the purpose of the land they are using and need to sign preliminary agreement for grid connection with the National Electricity Company (NEK) and distribution companies. If such a moratorium is imposed, all procedures for RES projects in their initial stage are expected to be blocked.

Grid access: The current legislation provides for obligatory connection to the electricity grid.



Canada

Support Schemes

Investments and Other Subsidies

Accelerated CCA

Carbon Capture and Storage

In the 2009 federal budget, the government proposed public consultations for possible accelerated Capital Cost Allowance (CCA) for assets used in carbon capture and storage. Overall consultations are currently taking place for the 2010 Federal Budget—see more in the next section of this overview on sustainability-related points from the 2009 Budget.

Clean Energy Generation

Advantageous Capital Cost Allowance rates available for certain types of assets used for renewable energy. Class 43.2 (50 percent declining balance basis) for specified clean energy equipment acquired before 2020 and meeting higher efficiency standards. Class 43.1 (30 percent declining balance basis) for specified clean energy equipment meeting lower efficiency standards. Equipment acquired before 2020 and meeting higher efficiency standards.

Canadian Renewable and Conservation Expense (CRCE)

To promote development and conservation of sources of renewable

energy. A CRCE can include intangibles (feasibility studies, negotiation, regulatory, site approval costs, site prep and testing, etc.) expenses on projects where 50 percent or more tangible costs are included in Class 43.1 or 43.2. Fully deductible, indefinite carry-forward, flow-through shares.

Clean Energy Fund

The Government of Canada has committed that Canada's total greenhouse gas (GHG) emissions be reduced by 20 percent from 2006 levels by 2020 and that 90 percent of Canada's electricity be provided by non-emitting sources such as hydro, nuclear, clean coal, and wind power by 2020. In support of these goals: Fund of CAD\$1 billion over five years for clean energy technologies. The Clean Energy Fund provided CAD\$850 million over five years for the demonstration of promising technologies, including large-scale carbon capture and storage (CCS) projects, and renewable energy and clean energy systems demonstrations. It also provided CAD\$150 million over five years for clean energy research and development (R&D).

ecoENERGY for Renewable Power

ecoENERGY for Renewable Power was planned to invest CAD\$1.48 billion to increase Canada's supply of clean electricity from renewable sources such as wind, biomass, low-impact hydro, geothermal, solar photovoltaic, and ocean energy. It was planned to encourage the production of 14.3 terrawatt hours of new electricity from renewable energy sources, enough electricity to power about one million homes.

ecoENERGY for Renewable Power provides an incentive of one cent per kilowatt-hour for up to 10 years to eligible low-impact, renewable electricity projects constructed over four years, April 1, 2007 to March 31, 2011.

Operating Subsidies

Feed-in Tariff

State/Province level policies

Quota Obligation

State/Province level policies



China

Support Schemes

Investments and Other Subsidies

Corporate Income Tax (CIT)

1. Reduced CIT rate as 15 percent for qualified advanced and new technology enterprises. Applicable fields include solar energy, wind energy, biomaterial energy, and geothermal energy.
2. The Clean Development Mechanism (CDM) Fund is exempted from CIT on the following income: the portion of Carbon Emissions Reductions (CERs) proceed which is shared by the government; donations from international financial organizations; interest income derived from capital deposit or national bonds; and donations from domestic and foreign entities or individuals.
3. The operating enterprises of CDM projects are allowed to deduct before CIT the CERs proceeds which are shared by the government.
4. "Three years' CIT exemption followed by another three years' 50 percent reduction of CIT rate" for income derived from specified CDM projects (including hydrofluorocarbons (HFC), perfluorocarbons (PFC), and nitrous oxide (N₂O) projects), starting from the year in which the revenue from the transfer of greenhouse gas emission reductions is first received.
5. "Three years' CIT exemption followed by another three years' 50 percent reduction of CIT rate" for income derived from qualified environmental protection and energy or water conservation projects, starting 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.

6. 10 percent of the amount invested in the qualified equipment credited against CIT payable for the current year with any unutilized investment credit eligible to be carried forward for succeeding five tax years, if such equipment is qualified as special equipment of environmental protection, energy, or water conservation and production safety.
7. Only 90 percent of the revenue derived from the transaction taken into account for CIT computation purpose, if such revenue is derived from the use of specific resources associated with synergistic utilization of resources as raw materials in the production of goods.
8. Deduction of 150 percent of qualified R&D expenses incurred for CIT computation purpose.

Value-Added Tax (VAT)

1. 50 percent refund of VAT paid on sale of wind power.
2. 100 percent refund of VAT paid on sale of biodiesel oil generated by utilization of abandoned animal fat and vegetable oil.
3. VAT paid on sale of goods produced from recycled materials or waste residuals is refundable.
4. VAT is exempt on sale of self-produced goods including recycled water, qualified powdered rubber made out of obsolete tires, retrodden tires, and certain

construction materials made from waste residuals (with minimum percentage of 30 percent).

5. VAT is exempt on sewage treatment services.
6. VAT is refundable on sale of recycled resources during the period from 1 Jan 09 to 31 Dec 2010. The refund rate for 2009 and 2010 is 70 percent and 50 percent, respectively.

Operating Subsidies

Feed-in Tariff

There are no national standards for the grid access of electricity generated by renewable energy. With the Renewable Energy Law taking force in April 2010, the State Bureau of Energy will set out guidelines on the full purchase of electricity generated by new energies.

According to the Renewable Energy Law, the price of on-grid electricity generated by renewable energies shall be determined by the competent price department considering the difference in areas and the electricity generated by different types of renewable energy companies.

Premium

The National Development and Reform Commission will grant subsidies to operators of renewable energy projects to compensate their costs. Detailed subsidy plan will be reviewed on a semiannual basis.

Quota Obligation

Pursuant to the Renewable Energy Law, the State Bureau of Energy may issue guidelines requiring a minimum percentage of power generated by renewable energy sector.

Czech Republic

Support Schemes

Investments and Other Subsidies

Solar PV¹⁸

Max 5kWp, 50 percent of invest, max 7080 EUR

30 percent of project related costs (from 17700 to 3545 million EUR)

Income tax exemption for the installation year plus the following five years (income tax natural persons 15 percent, legal person 21 percent)

Biomass

- Investment subsidies for facilities
- Contribution up to CZK12,000/ha. The contribution covers brushwood removal by wood-chipping or crushing before forest renewal Regional Authorities decide on the payment of the contribution.¹⁹

Operating Subsidies

Feed-in Tariff

Feed-in Tariff and Green Bonuses

Feed-in tariffs apply to electricity supplied and metered at the delivery point between the generating plant and the respective distribution or transmission system operators.

Green bonuses apply to electricity supplied and metered at the delivery point between the generating plant and the regional system operators and supplied by the generator to an electricity trader or eligible customer.

Producers can choose if they sell electricity for purchase prices or offer it to trader for “market price” and simultaneously get extra green bonuses – paid by the operator of Distribution or Transmission System.

The “Energy Regulatory Office” determines the feed-in tariffs and the green bonuses each year in advance. The prices may not be lower than 95 percent of the value of the year before. Prices are set on the following assumptions:

- Return on investment of 15 years
- Prices are differentiated according to the renewable energy source
- Prices are differentiated by the year of commissioning

Premium

Producers can choose between having a feed-in tariff or a premium.

- Premium is paid on top of the electricity market price
- Feed-in Tariff (FIT) guaranteed for 15 years
- Premium is set annually

Feed-in Tariff and Green Bonus Rates

Type	Support (Eurocent kWh)	Type of Support	Duration
Wind	9	Feed-in Tariff	15
Hydro	3	Feed-in Tariff	15
Biomass	3 to 15	Feed-in Tariff	15
Biogas	8 to 14	Feed-in Tariff	15
Solar	47	Feed-in Tariff	15
Geothermal	16	Feed-in Tariff	15
Wind	6	Green Bonus	15
Hydro	10	Green Bonus	15
Biomass	1 to 10	Green Bonus	15
Biogas	2 to 9	Green Bonus	15
Solar	44	Green Bonus	15
Geothermal	11	Green Bonus	15

Source: KPMG Czech Republic

¹⁸ http://www.enerbias-renovables.com/imagen_art/ER_PDF/TarifasFVEuropa.pdf.

¹⁹ Ministry of Agriculture, Biomass Action Program <http://eagri.cz/public/eagri/en/agriculture/>.

Additional Information

The Act No 180/2005 on the promotion of electricity produced from renewable energy sources, which implemented the EU Directive 2001/77/EC in Czech legislation, entered into effect on 1 August 2005. Its key features are:

- The guarantee of revenue per unit of electricity produced over a 15-year period as of the date a plant is put into operation
- The possibility of choosing between two support systems: (1) minimum feed-in tariffs—all the electricity produced can be sold to the relevant distribution system operator and (2) green bonuses (premium on the market price of electricity)—electricity produced from renewable sources can be placed on the single electricity market
- The support of electricity used for internal consumption (not supplied to the grid)

State program for energy saving and the use of renewable energy sources:

Investors in renewable electricity can receive aid from the State program for energy saving and the use of renewable energy sources. Subsidies from Part A of the program (coordinated by the Ministry of Industry and Trade) involve:

Investment projects – they may cover a maximum of 40 percent of capital costs, but no more than certain amount of CZK (depends on category of the project).

Non-investment projects – they may cover a maximum of 100 percent of capital costs, but no more than certain amount of CZK (depends on category of the project)

Exempt income:

- Income from small hydro power stations (up to 1MW), wind power stations, heat pumping, solar installations, biomass and biogas facilities, and geothermal installations is tax exempt in the period in which the facilities started operations and in the following six years.
- Energy from renewable sources is generally regarded as an eco-friendly energy which is exempt from energy tax.

Administrative procedure: A specific set of application procedures is not available for the Czech Republic. General licensing procedures apply.

Grid access: Preferential connection to the grid. There is an obligation for operators of the regional grid systems and the transmission system operator to purchase all electricity from renewable sources.



France

Support Schemes

Investments and Other Subsidies

Applicable for:

Solar, wind, geothermal, biomaterial, and offshore technologies

The equipment used for the production of renewable energy acquired or constructed until January 1, 2011 can benefit from an accelerated depreciation regime over a 12-month period if certain conditions are met (article 39 AB of the French Tax Code).

Operating Incentives

Based on our experience in the sector, the usual depreciation period is around 15–20 years. The derogatory regime may lead to a temporary tax cost saving arising from the accelerated depreciation method. The equipment that can benefit from said accelerated depreciation are:

- The equipment allowing the catchments and the use of source of energy other than the liquid
- The equipment allowing the recovery of solar energy for the preheating of fluid, the preparation of water
- The equipment allowing the use of wind power or geothermal energy
- The equipment allowing the catchments and the collection of biogas

Operating Subsidies

Feed-in Tariff

Remuneration for electricity produced

Wind

Onshore wind power plant: € 0.082/kWh during 10 years and between € 0.028/kWh and € 0.082/kWh during the five succeeding years depending on the location of the wind farms

Offshore wind power plant: € 0.13/kWh during 10 years, and between € 0.03 and € 0.13/kWh during the 10 succeeding years depending on the location of the wind farms

Solar

Ground-based photovoltaic power plant:

Within the range of € 0.314/kWh to € 0.377/kWh depending on the localization of the power plant

Simplified building-integrated generating facilities: € 0.42/kWh

Building-integrated generating facilities: € 0.50/kWh

Geothermal

€ 0.12/kWh, + an energy efficiency bonus between 0 and € 0.03/kWh

Biomaterial

Between € 0.075 and € 0.09 /kWh depending on the power of the plant + an energy efficiency bonus between 0 and € 0.03/kWh

Hydro

€ 0.0607/kWh + a bonus between € 0.005/kWh and € 0.025/kWh for small power plants + a bonus between 0 and € 0.0168/kWh for electricity produced during the winter

EDF and the other electricity distributors must purchase the electricity produced by a renewable energies producer at fixed tariffs and for a minimum duration (e.g., purchase obligation for EDF during a 15-year period for onshore wind power, geothermal power, and biomaterial power and 20-year period for offshore wind power, for solar power, 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 and territories.

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 hydro and biomaterial power stations.

Additionally 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.

Grid access: The producer/owner of the new power plant has to apply for a grid connection to the public distribution system (RTE, ERDF, or a local distributing company). Some agreements have to be entered into by the owner of the power plant for the distribution of the electricity it produces:

- 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*)

Germany

Support Schemes

Investments and Other Subsidies

Applicable for:

Solar, biomaterial heating, and hydro extractor

1. New guidelines for subsidies in connection with the heating system in new buildings if based on renewable energy. The subsidy for heating systems in new buildings based on renewable energy will be 1.5 to 2 times the basic rate.

Supported by:

- BAFA (Bundesamt für Wirtschaft und Ausfuhrkontrolle)
- KfW-Bank (Kreditanstalt für Wiederaufbau)
- Governmental owned bank

2. Improvement of usage of Biomaterial

Supported by:

- BMU (Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit)
- Ministry of the environment

3. Additional Programs of the KfW-Bank

- a. Various subsidies for new private owned buildings or buildings which are brought to a new standard in renewable energy or energy savings.
- b. Support for photovoltaik plants
- c. Reduced rates of Interest on KfW loans which are used for primary protection of the environment (e.g. efficient production of energy). Can usually be accessed by SME.

- d. Modernizing buildings and reducing carbon emissions

- Reduced rates of interest
- Abatement of installment payments on loans
- Direct subsidies

4. Program to increase hydro power: reduced rates of interest on KfW loans

5. Program to increase wind power: reduced rates of interest on KfW loans

Operating Subsidies

Feed-in Tariff

Remuneration for electricity produced.

2009 through 2018 Rates

Hydro

Depending on amount of electricity produced

– up to 5 Megawatt:

7,65 ct/kWh–12,67 ct/kWh

– more than 5 Megawatt:

3,50 ct/kWh–7,29 ct/kWh

Degression 1 percent per annum (p.a.)

Biomaterial (Gas)

Depending on amount of electricity produced

7,79 ct/kWh–11,67 ct/kWh

Degression 1 percent p.a.

Additional premium available (up to 7 ct/kWh)

Other Gas (e.g. dumpsite, clarification plant)

Depending on amount of electricity produced

4,16 ct/kWh–9,00 ct/kWh

Degression 1,5 percent p.a.

Geothermal

Depending on amount of electricity produced

10,50 ct/kWh–16,00 ct/kWh

Degression 1 percent p.a.

Additional premium available (up to 4 ct/kWh)

Wind

– on shore:

Basic 5,02 ct/kWh

First five years 9,20 ct/kWh (extendable)

Degression 1 percent p.a.

– offshore:

Basic 3,50 ct/kWh

First 12 years 13 ct/kWh (extendable)

Degression 1 percent p.a.

Solar*

– on open space:

28,43 ct/kWh

–> minus 15 per cent to 24,17 ct/kWh

Degression 11 percent p.a.

– on buildings:

Depending on amount of electricity produced

29,37 ct/kWh–39,14 ct/kWh

–> minus 16 per cent to 24,67 ct/kWh

32,88 ct/kWh

Degression 9–11 percent p.a.

*effective from July 1, 2010

Additional Information

Legal: The feed-in tariffs are regulated in the Renewable Energy Act (Gesetz für den Vorrang Erneuerbarer Energien (Erneuerbare-Energien-Gesetz)) which might be changed based on the new guidelines issued by the European Union (EU RL 2009/28 EG)

Duration of feed-in tariffs: Usually 20 years

Administrative procedure:

Applications have to be filed with the Ministry of Environment or the governmental owned bank KfW.

Greece

Support Schemes

Investments and Other Subsidies

Applicable for:

All types of entities engaging in the production of energy (including those who are using renewable resources i.e., wind, solar, etc.)

According to Law 3299/2004, the following incentives are available:

Operating Subsidies

Feed-in Tariff

- 1) State cash grants that cover part of the expenses for the investment project
- 2) Leasing subsidies provided by the State that cover part of the payable installments relating to the leasing of new mechanical and other equipment

- 3) Tax relief that allows income tax exemption on non-distributed gains. The allowance is effective upon completion of the investment for the first 10 years of operation through formation of a special tax-exempt reserve
- 4) Payroll subsidies relating to employment positions created within the first three years from the completion of the investment. The subsidy is paid for a period of two years.

Price of energy (EUR/MWh)						
			Interconnected System		Noninterconnected Islands	
1. Wind energy			80,14*		91,74*	
2. Wind energy from sea and farms			97,14*		97,14*	
3. Hydraulic energy exploited in plants with an installed capacity of up to 15 MWe			80,14*		91,74*	
4. Solar energy exploited in units employing a technology other than that of photovoltaics with an installed capacity up to 5 MWe			257,14*		277,14*	
5. Solar energy exploited in units employing a technology other than that of photovoltaics with an installed capacity of over 5 MWe			237,14*		257,14*	
6. Geothermal energy, biomass, gases released from sanitary landfills and biological treatment plants, and biogases			80,74*		91,74*	
7. Miscellaneous RES			80,14*		91,74*	
8. High-efficiency cogeneration of heat and electricity			80,14*		91,74*	
9. Solar energy utilized in photovoltaic units	Year	Month	(mainland grid)		(autonomous island grids)	
			>100kW	≤100kW	>100kW	≤100kW
	2009	February	400.00	450.00	450.00	500.00
	2009	August	400.00	450.00	450.00	500.00
	2010	February	400.00	450.00	450.00	500.00
	2010	August	392.04	441.05	441.05	490.05
	2011	February	372.83	419.43	419.43	466.03
	2011	August	351.01	394.88	394.88	438.76
	2012	February	333.81	375.53	375.53	417.26
	2012	August	314.27	353.56	353.56	392.84
	2013	February	298.87	336.23	336.23	373.59
	2013	August	281.38	316.55	316.55	351.72
	2014	February	268.94	302.56	302.56	336.18
	2014	August	260.97	293.59	293.59	326.22
	For every year from 2015 onwards		1.3 x	1.4 x	1.4 x	1.5 x
	SMC = System Marginal Cost		SMCn-1	SMCn-1	SMCn-1	SMCn-1
The above tariffs may be amended by a decision of the Minister of Development						
* Concerning auto-producers, these prices apply only to plants with installed capacity up to 35 MW and for the surplus of the electricity taken up by the system or network which may be as high as 20 percent of the total produced electricity in these plants on an annual basis. Moreover, the above prices as explained below under heading "update" are adjusted by virtue of a decision of the Ministry of Development and currently a new adjustment is anticipated.						
Source: KPMG Greece, Minister of Development						

Additional Information

Operating incentives: Law 3468/2006, as amended by Law 3734/2009, implemented EU directive 2001/77 and regulates the production of electricity from renewable energy sources. Law 3734/2009 also introduced a new feed-in tariff regime (set out in the above table) for solar energy exploited in photovoltaic units.

Duration: Generally, the sale agreement is valid for 10 years and may be unilaterally extended for 10 more years under conditions. For electricity produced by photovoltaic stations, the sale agreement is valid for 20 years, whereas for electricity produced in hybrid stations, the sale agreement is valid for 20 years and may be extended under conditions.

Update: The tariffs under * are revised annually by a decision of the Minister of Development based on the weighted adjustment of the approved bills of the Public Power Corporation (PPC). In case no approval of the PPC bills is required, the tariffs under * will be adjusted by the ministerial decision at 80 percent of the consumer price index as determined by the Bank of Greece. The said adjustment is effected in a unified way and is applied to all tariffs under *.

As regards the tariffs for photovoltaic stations, these are readjusted annually by 25 percent of the consumers' price index of the previous year, as this is set by the Bank of Greece. If the tariff readjusted as above is lower than the System Marginal Cost of the previous year readjusted by 30 percent, 40 percent, and 50 percent for each category of the above table respectively, the invoicing will be based on the System Marginal Cost of the previous year, readjusted by the indexes referred to above.

Incentives' recognition: According to Law 3299/2004, certain criteria should be met in order for the aforementioned incentives to be granted, as follows:

1. The investment project should exceed the following minimum amounts

(these limits may be readjusted by decision of the Minister of Economy and Finance):

- For large enterprises, EUR 500,000.
- For medium-size enterprises, EUR 250,000
- For small enterprises, EUR 150,000
- For very small enterprises, EUR 100,000. The size of the enterprise is defined in Commission Regulation (EC) no. 70/2001 of 12 January 2001, as amended.

An exception: the tax incentive is available for investments that are over EUR 30,000 for the modernization of industrial units implemented by very small enterprises.

The subsidies received on a given five-year period cannot exceed the amount of EUR 10 million for a single company and 20 million for a group of companies (as defined by EU regulation 800/2001) for investments related to the same production activity and effected within the same region. The aforementioned regulation does not apply to certain investments related to the production of energy with the use of renewable energy resources and to investments which benefit from the tax exemption.

2. Enterprises whose investments involve amounts of more than EUR 200,000 that qualify for aid under Law 3299/2004 are required, at the latest by the date of disbursement of the first installment of the aid, to operate in the form of a legal entity or an association.
3. The percentage of the investor's own participation in investments which are included in the cash grants and/or leasing subsidies system cannot be less than 25 percent of the subsidized expenses, whereas in the investments which are included in the tax relief or the cash grant for salary expenses for the created employment, at least 25 percent of the cost should be covered

by the financial participation of the investor, either by own funds or loan, provided that no state subsidy has been obtained for this part.

4. The investment may commence after the submission of the application for aid. The initial investment cost as approved by the Greek State may be revised at a subsequent stage on condition that the revised cost will not exceed by more than 5 percent the initially approved cost. The decision approving that the investment qualifies as being subsidized in accordance with the provision of LAW 3299/2004 will set a time limit for completion of the investment, which may be increased, under certain conditions, by two years.

In order for an investment to be eligible for subsidy under the provisions of Law 3299/2004, a company should file an application together with relevant supporting documentation for the specific investment with the Ministry of Finance.

Administrative procedure: The specific licenses required depend on the installed power. Main licenses and authorizations are: (1) the production license, (2) the establishment/installation license, (3) the operation license, (4) the Approval of Environmental Terms, (5) the conclusion of connection agreement with Public Power Corporation (PPC), and (6) the conclusion of sale agreement of electric power with the Administrator (DESMIE or PPC). It should be noted that the Greek government examines the amendment of the current licensing process with the intention to simplify the whole procedure and the relevant bill is anticipated to be submitted to the Parliament soon for voting.

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.

Israel

Support Schemes

Investments and Other Subsidies

Applicable for:

Solar, wind, biomaterial, and any other non-fossil fuel energy source

An industrial plant located in Israel whose main activities consist of R&D or production in the field of renewable energy may qualify as a "Preferred Plant" according to the Law for the

Encouragement of Capital Investments and receive the accompanying tax benefits, which vary based on the location of the plant and rate of foreign investors, as detailed below.

Operating Subsidies

Feed-in Tariff

Wind:

For wind turbines commencing operations in 2010: 1.68 NIS/kWh (up to

15 KW of output), 1.31 NIS/kWh (15–50 KW of output). Tariffs for wind turbines commencing operations in 2009 will be 1.72 NIS/kWh (up to 15 KW of output) or 1.35 NIS/kWh (15–50 KW output).²⁰

Solar PV:

2.04 NIS/kWh (up to 50 KW of output) for facilities commencing operations in 2010. Feed-in tariff regarding projects starting in 2008 and 2009 will be 2.18 and 2.05 NIS/kWh, respectively.²¹

Additional Information

Tax Benefits:

Company Location	Development Area		
	A	B	Other
Period of tax exemption	10 years	6 years	2 years
Additional period of reduced corporate tax:			
Israeli company	0	1 year	5 years
Company with foreign investors	0	4 years	8 years

Source: KPMG Israel Tel Aviv

The corporate tax rates applicable during the additional benefit period are based on the rate of foreign ownership in the company, as follows:

Rate of foreign investment	Less than 49%	49%–less than 74%	74%–less than 90%	90% and Above
Rate of reduced corporate tax	25%	20%	15%	10%

An additional tax of 15 percent will be imposed on the withdrawal of dividend, in addition to the reduced corporate tax. (This rate may be reduced by a tax treaty.)

Qualifications:

In order to claim tax benefits, a "minimum qualifying investment" in production assets must be made for purposes of establishment or expansion of the plant.

The "minimum qualifying investment" is an investment in production assets that was made during a period not exceeding three tax years and ending on the last day of the "election year." The "value of the production assets" is the adjusted depreciated cost plus production assets that are not owned by the plant. The amount of the "minimum qualifying investment" will be derived from the value of the plant's production assets on the last day of the tax year preceding the tax year in which the "minimum qualifying investment" commenced, as follows:

- Establishment of the plant – approx. NIS 330,000 (as of 2010)
- Expansion of the plant – the higher of approx. NIS 330,000 or:

Value of production assets	Up to NIS 140 million	From NIS 140 million to NIS 500 million	Over NIS 500 million
Rate of qualifying investment	12%	7%	5%

Exceptions:

A plant that sells energy whose source is from renewable energy will not be eligible for the tax benefits mentioned above. An industrial plant which sells a component of equipment used in the renewable energy R&D sector may also qualify for tax benefits, subject to certain conditions.

²⁰ State of Israel Public Utilities Authority Electricity, 12 January 2010, http://www.pua.gov.il/Sip_storage/FILES/0/1570.pdf.

²¹ State of Israel Public Utilities Authority Electricity, 12 January 2010, http://www.pua.gov.il/Sip_storage/FILES/0/1570.pdf.

Netherlands

Support Schemes

Investments and Other Subsidies

Applicable for:

Solar, wind, geothermal, hydro, biomaterial, and offshore technologies

1. Additional deduction of 44 percent of the amount of the investment when investing in qualifying assets. The energy investment allowance (EIA):
 - Investments should be enclosed in the so-called “energy list” to be qualifying assets.
 - Maximum amount of investments for which EIA can be claimed per calendar year per company EUR 115,000,000.
 - Minimum cost per asset: EUR 450. Total cost of qualifying investments should at least amount to EUR 2,200 per calendar year.
 - Special provisions for investments in houses for rent.
 - Pro rata calculation in case of transparent entities.
 - No additions to the fiscal profit in case of alienation of the assets.
 - The asset in which is invested has not been in use before.
 - An asset cannot be a qualifying asset for both the EIA and the environmental investment allowance.

Applicable for:

Not directly applicable on renewable energy, although assets on which this tax incentive is applicable can be used as part of the production of energy out of renewable.

2. Additional deduction to a maximum of 60 percent of the amount of the investment when investing qualifying environmental-friendly assets. The environmental investment allowance (MIA):
 - Depending on the asset, the deduction to the fiscal profit amounts to 35, 50, or 60 percent of the cost of the investment.
 - Investments should be enclosed in the so-called “environmental list” to be qualifying assets.
 - Cost per asset, at least EUR 450. Total amount of qualifying investments should at least amount to EUR 2,200 per calendar year.
 - The asset in which is invested has not been in use before.
 - An asset cannot be a qualifying asset for both the EIA and the MIA.

Applicable for:

Not directly applicable on renewable energy, although assets on which this tax incentive is applicable can be used as part of the production of energy out of renewable.

3. Accelerated depreciation on qualifying environmental friendly assets:
 - Investments should be enclosed in the so-called “environmental list” and be appointed as qualifying assets.
 - Depreciation of up to 100 percent of the production or development costs of the qualifying asset in one year.
 - The asset which is depreciated has not been in use before.

Applicable for:

Investments in “green funds”

4. Capital invested in “green funds” (appropriated funds which invest in environmental-friendly projects) is exempt from personal income tax:
 - Private investor will not be taxed for its capital invested in “green funds.”
 - Maximum amount of invested capital to be exempt is Euro 55,145 (2010 figures).
 - Tax credit of 1.3 percent of the invested capital, also with a maximum amount of invested capital of Euro 55,145.

Operating Subsidies

Feed-in Tariff

Wind (onshore): 0.120 EUR/kWh

Wind (offshore): 0.186 EUR/kWh (2009 figures) (tender to apply for feed-in tariff for offshore wind is only open during a couple of months per year)

Solar PV: 0.430 to 0.474 EUR/kWh

Biomass: 0.114 to 0.193 EUR/kWh

Hydro: 0.072 to 0.123 EUR/kWh

- Feed-in tariff will be granted for a period of 15 (solar, hydro, wind) or 12 years (bio material and “green” gas).
- Yearly, a maximum amount of subsidy to be distributed for the Netherlands as a whole is determined.

New Zealand

Support Schemes

Investments and Other Subsidies

Applicable for:

Solar, wind, hydro, and biomaterial

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 for electricity produced

Additional Information

Operating incentives:

Wind generation is automatically dispatched; it does not need to be bid into the market, 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 sources (lowest bid price is dispatched first).



Poland

Support Schemes

Investments and Other Subsidies

Applicable for:

Solar, wind, geothermal, hydro, biomaterial, and offshore technologies

1. Renewable energy is exempt from excise tax
2. Taxpayer of agriculture tax may claim for refund of investment costs if the investment relates to renewable energy (up to 25 percent limit)
3. Subsidies and grants from the EU Structural Fund in Poland or other domestic institutions (e.g. Narodowy Fundusz Ochrony Srodowiska i Gospodarki Wodnej)

Operating Subsidies

Green Certificate System

Remuneration for electricity produced – 155,44 PLN/1MWh

Quota Obligation

2009 or 2010 Rates

10,4 percent of whole energy produced (floors relate to all kinds of renewable energy)

Additional Information

Legal basis: The Act of Energy Law dated on 10 April 1997 and the respective Decrees of the Ministry of Economy

Administrative procedure: 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, i.e. in particular has financial, organizational, and technical resources to perform the licensed activity. As a rule, the above permission is given for the fixed term but not longer than 50 years.

Grid access: Priority access over other nonrenewable electricity producers. The costs of connection to the electricity grid are determined on the basis of actual costs incurred to construct the line. Those costs may be partially refunded to the investor depending on the year and the production capacity.

Green Certificates Scheme: The electricity producers may apply for the green certificates (also “certificates of origin”) to the president of Energy Regulatory Office, if renewable energy has been produced by them, or they have to pay substitute fee calculated in line with the energy law. The green certificates are similar to securities—they are transferable and tradable on the Polish Power Exchange.

Sale: There is legal obligation for electricity distributors to acquire a certain amount of renewable energy generated on the territory of Poland. For the period of 2010–2014, the above percentage limit of renewable energy will amount to 10,4 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—for 2009, amount is 155,44 PLN/1 MWh. The renewable electricity producers have priority over other producers with regard to distribution of produced energy.



Romania

Operating Subsidies

Green Certificate System

The Green Certificate (GC) system was introduced in November 2005. All electricity suppliers are obliged to purchase a number of green certificates equal in value to the mandatory quota determined by ANRE (National Energy Regulatory Authority).

Price limits for Green Certificates established by ANRE for 2008–2014:

- Minimum value 27 EUR/MWh
- Maximum value 55 EUR/MWh

For the period 2015–2030, the minimum trading value cannot be lower than the minimum trading value applied in 2014.

Penalties for quota nonfulfillment of suppliers:

- 70 EUR for each Green Certificate not bought

Note: The GC system is not expected to change in the mid-term

Quota Obligation

Mandatory quotas for suppliers (%)

Year	Percentage
2010	8.3
2011	8.3
2012	8.3
2013	9.0
2014	10.0
2015	10.8
2016	12.0
2017	13.2
2018	14.4
2019	15.6
2020	16.8

Additional Information

Operating incentives:

- Law no. 220 of 2008 for determining the promotion system for renewable energy stipulates that suppliers are obliged to purchase the indicated proportion of electricity from renewable sources. Suppliers need to purchase a sufficient number of GCs to be able to fulfill the requested percentage of MWh of electricity to be sold to end consumers (see mandatory quotas above).
- If suppliers cannot comply with the quota obligation, they must pay penalties for the nonfulfilled proportion.
- According to Law no. 220/27.10.2008 for determining the promotion system for renewable energy (effective from 6 November 2008), each producer of renewable energy is granted:
 - One green certificate for each MWh produced in new or refurbished hydro power plants with a maximum capacity of 10 MW
 - One green certificate for 2 MWh produced in non-refurbished hydro power plants with an installed capacity of 1–10 MW
 - Two green certificates for each MWh produced in hydro power plants with a maximum capacity of 1 MW
 - Two green certificates until 2015 and one green certificate starting with 2016 for each MWh produced from wind power
 - Three green certificates for each MWh produced from biomass, biogas, biofuels, gas from the fermentation of landfill wastes, gas from the fermentation of the sediment from sewage treatment, and geothermal energy
 - Four green certificates for each MWh produced from solar sources

Administrative procedure: Necessary steps for starting up a generation based on RES, trading the RES and benefiting from the RES promotion system are:

- Building up the generation capacity
- Obtaining the generation license
- Obtaining the qualification certificate for the electricity priority production
- Registration at the Electricity Market Operator (SC OPCOM SA)
- Selling E-RES on the DAM (Day Ahead Market)
- Registration at TSO (CNTRANSELECTRICA SA) – for obtaining the GCs
- Registration at the Green Certificates Market Operator (SC OPCOM SA) – for registration in the GC Register and for participating on the GC market

Grid access: According to the new Law no. 220/2008 on RES promotion, the transportation system operators (TSOs) and distribution system operators (DSOs) are obliged to guarantee the renewable energy transport and distribution by ensuring the liability and security of the grid.

South Africa

Support Schemes

Investments and Other Subsidies

Applicable for:

Inter alia renewable energy projects and energy savings that can be expressed in kilowatt hours

1. Amounts accrued or received from the disposal of certified emission reduction certificates are exempt from normal tax and capital gains tax. These should be treated as zero-rated supplies for VAT purposes. This applies in respect of Clean Development Mechanism project registered on or before 31 December 2012
2. A notional allowance for all forms of energy efficiency savings*.

Operating Subsidies

Feed-in Tariff

*The allowance is determined in terms of a formula utilizing the lowest feed-in tariff at the beginning of the applicable tax year.

Additional Information

Exemption for certified emission reductions (CER): As a developing country, South Africa may participate in clean development mechanism (CDM) projects as determined in terms of the United Nations Framework Convention on Climate Change (UNFCCC).

CDM projects particularly focus on development in renewable energy and energy efficiency.

To qualify for the exemption, CDM projects must meet the UNFCCC CDM criteria, including UNFCCC registration. In addition, the South African Department of Energy (as the Designated National Authority) must approve the project, and issue a letter of approval.

The exemption contains a sunset clause in that it will apply in respect of the disposal of all CERs on or after 11 February 2009 if the CDM project is registered as required by the UNFCCC on or before 31 December 2012.

Allowance for energy efficiency savings: This allowance may be claimed by obtaining an energy efficiency savings certificate from an authority to be determined by the Minister of Energy. The authority is yet to be determined since this provision is still to come into force. No date has been set.

The energy saving certificate must reflect the following criteria:

- The baseline at the beginning of the tax year (this must be set out in terms of regulations that will be issued by the Minister of Energy)
- The baseline at the end of the tax year (again, as set out in terms of regulations to be issued by the Minister of Energy)
- The annual energy efficiency savings, expressed in kilowatt hours or an equivalent, including the criteria and methodology used to calculate the savings (determined in accordance with regulations to be issued by the Minister of Energy)
- Any additional information the Minister of Energy may require in terms of regulations to be issued.

The allowance must be determined in accordance with the following formula:

$$\frac{\text{Energy efficiency saving} \times \text{lowest feed-in tariff at the start of the tax year}}{2}$$

The denominator '2' may change, if in future the lowest feed-in tariff rate is lower than the current rate per kilowatt hour for electricity generated from fossil fuel.



Spain

Support Schemes

Investments and Other Subsidies

Applicable for:

Solar, geothermal, hydro, biomaterial, and offshore technologies

1. Tax-free depreciation (subject to workforce maintenance)
2. Environmental tax credits (4 percent in 2009 and 2 percent in 2010) for new tangible assets becoming operative before 1 January 2011

Operating Subsidies

Feed-in Tariff

Fixed remuneration for electricity produced

Premium

Spot price + fixed premium (fixed with an overall cap and floor by technology)

Additional Information

Operating subsidies: General regulation of the legal regime of renewables is contained in Royal Decree 661/2007. As per operating subsidies for renewable energy (except photovoltaic), they are determined by Royal Decree 661/2007 governing renewable technologies.²³ Solar photovoltaic technology incentives are governed by Royal Decree 1578/2008 and can only be entitled to feed-in tariffs. Additional incentives or certain variations are possible depending on technologies.

Duration: From 15 to 25 years and from then on depending on the technology and extraordinary reduction afterwards.

Update: Subsidies are updated annually according to the CPI²⁴ with certain reductions (-0.25 percent until 31 December 2012 and -0.50 percent afterwards).

Payment: Part of the total subsidies' amount is liquidated by the CNE (Spanish National Energy Commission) and paid by the energy distributors and the rest is liquidated and paid by the market and system operator.

Operating subsidies' recognition: Registry for subsidies' recognition: Certain documentation, which is chronologically ordered, regarding project development and guarantees shall be filed to be entitled to the subsidies.²⁵ Projects will be filed until fulfillment of the power quotas determined for each of the technologies. Once quotas are reached, the subsidies' amount is reviewed.

Administrative procedure: Main permits and authorizations are (i) electric sector authorizations, (ii) municipal permits and licenses, and (iii) environmental procedures. At an environmental level, it should be highlighted that public tenders are carried out for onshore wind and photovoltaic projects to determine locations which are environmentally friendly. As per offshore wind, national map has been approved with possible project locations.

Grid access: Priority access over other nonrenewable electricity producers. Full access is not guaranteed but depending on technical management of the grid and demand. The costs concerning the access to the grid will be paid by the energy producers. Access to the grid shall only be denied by grid operators in case of lack of capacity according to security, quality supply, and regularity criterias.

²³ It should be highlighted that during 2010, considering the degree of compliance with the Spanish Renewable Energy Plan 2005–2010 and based on the new National Action Plan within EU commitments for the period 2011–2020, incentives established in the Royal Decree 661/2007 will be reviewed.

²⁴ "Consumer price index" which is established by the Spanish National Statistics Institute (INE).

²⁵ Royal Decree-law 6/2009 and Royal Decree 1578/2008.

United Kingdom

Support Schemes

Investments and Other Subsidies

Exemptions from Climate Change Levy and Emissions Trading Scheme (see *additional information below*)

Operating Subsidies

Feed-in Tariff

Introduced in 2010 for small-scale generation (see *additional information below*)

Premium

Renewable Obligation Scheme (see *additional information below*)

Quota Obligation

Renewable Obligation Scheme (see *additional information below*)



Additional Information

Renewable Obligation (RO) regime: This requires electricity suppliers to source a specific percentage of electricity from renewable sources (9.7 percent for 2009/10). Renewable generators thereby receive Renewable Obligation Certificates (ROCs) for each MWh of electricity generated. ROCs can be traded independently of the electricity generated. The RO regime has been recently extended to 2037.

There is a banded ROC mechanism whereby different renewable electricity technologies receive differentiated support according to their technological maturity and levelized costs (see table below).

Current ROC Banding Regime		
Band	Technologies	ROC/MWh Allocation
Established 1	Landfill gas	0.25
Established 2	Sewage gas; co-firing on no energy crop (regular) biomass	0.50
Reference	Onshore wind; hydro-electric; co-firing of energy crops; EfW with combined heat and power; geopressure; other not specified	1.00
Post-demonstration	Offshore wind (see note below); dedicated regular biomass	1.50
Engineering technologies	Wave; tidal stream; advanced conversion technologies (anaerobic digestion; gasification and pyrolysis); dedicated biomass burning energy crops (with or without CHP); dedicated regular biomass with CHP; solar photovoltaic; geothermal; tidal lagoons, tidal barrages (<1GW))	2.00

Note: Offshore wind projects accredited between April 2010 and March 2014 are expected to receive 2 ROCs (announced in the Government's December 2009 Pre-Budget Report).

Climate Change Levy (CCL): Renewables Exemption: The CCL is a specific energy tax on non-domestic users of electricity in the United Kingdom. However, most electricity generated from renewables is exempt from the CCL. Renewable Levy Exemption Certificates (LECs) are issued to renewables generators for each MWh of electricity supplied. LECs transfer along with the electricity and can be used by electricity supplies to claim the CCL exemption.

New incentives for small-scale electricity/heat generation: In 2010, Feed-in Tariffs have been introduced for small-scale, low-carbon electricity generated by private/business users (maximum capacity 5 MW) providing payment of up to 41.3p per kilowatt hour generated plus a guaranteed 3p/kWh sold on to the U.K. electricity grid. A similar Renewable Heat Incentive will apply from 2011.

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

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

- Capital Allowances at 20 percent reducing balance for capital expenditure on plant and machinery (reduced to 10 percent if the asset's useful expected economic life is at least 25 years)
- Enhanced Capital Allowances (at 100 percent, for specified energy-saving plant and machinery)
- Contaminated Land Remediation tax relief: qualifying expenditure attracts an additional 50 percent tax deduction (or a 16 percent cash tax credit for loss-making businesses)

United States

Support Schemes

Investments and Other Subsidies

Production Tax Credit (PTC)

Applicable for: *Wind, geothermal, landfill gas, trash combustion, open-loop biomass, closed-loop biomass, hydropower, 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 2.2 cents per kilowatt hour for wind, closed-loop biomass, and geothermal; 1.1 cents per kilowatt hour for other renewable energy resources
- Available for facilities placed in service before January 1, 2014 (2013 for wind)
- Available for 10-year period beginning the year the facility is placed in service

Investment Tax Credit (ITC)

Applicable for: *Solar, geothermal, qualified fuel cell or micro turbine property, combined heat and power system, small wind, geothermal heat pumps, PTC eligible facilities placed in service after 2008 and before 2014 (2013 for wind)*

- Provides a credit for qualifying energy property
- 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, microturbine property, and geothermal heat pumps
- ITC generally available for eligible property placed in service on or before 12/31/2016

Grant in lieu of PTC & 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 (ARRA) enacted a new grant program which provides a cash grant in lieu of the PTC or ITC
- Permits PTC or ITC qualifying 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 2011 and submit a grant application no later than October 1, 2011
- Projects must be placed in service before their PTC or ITC credit expires: PTC before 2014 (wind 2013) and ITC before 2017

Operating Subsidies

Quota Obligation

Renewable Portfolio Standards (RPS)

- Generally places an obligation on electricity 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. The Waxman-Markey Bill, H.R. 2454, if passed, would impose a federal standard
- 29 states and the District of Columbia have an RPS:

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, Wisconsin





Conclusion

Renewable energy support schemes and operating subsidies are turning the production of renewable energy into a profitable business. In addition, governmental requirements to address climate change and reduce greenhouse gas emission will likely increase in coming years making it necessary to utilize renewable energy sources.

Far too many tax incentives for renewable energy projects exist around the world to be listed here. This publication was designed to give a high-level overview of the various types of renewable energy incentives that may be available. Oftentimes, more than one credit or incentive can be used at one time to maximize a project's profitability. In addition, different structures may help to realize credits, such as a situation where there is no upfront income to utilize a credit. KPMG's skilled renewable energy professionals can help you put together a project that strives to maximize and utilize all available credits and incentives on your next renewable energy project.

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