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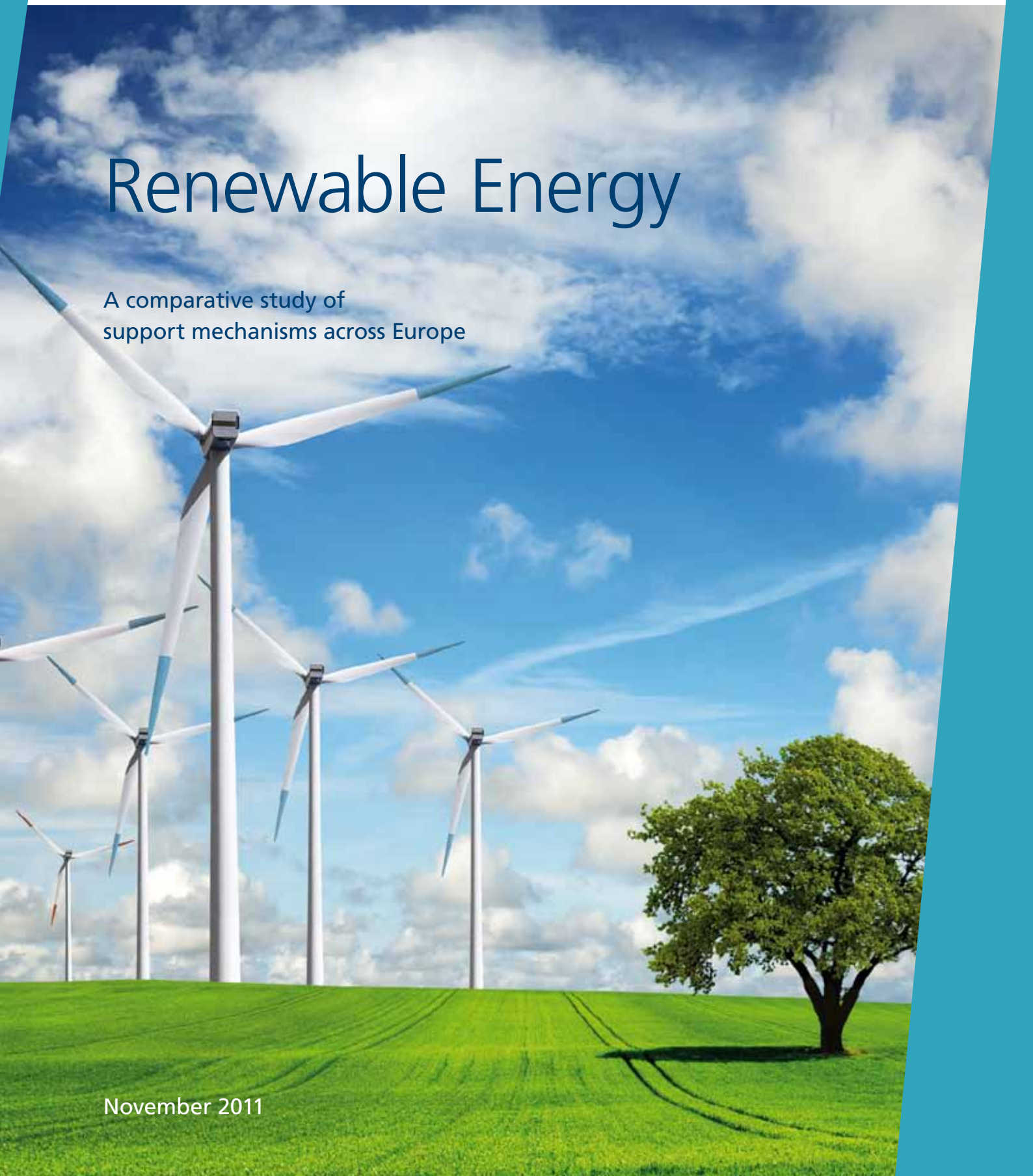
Renewable Energy

A comparative study of
support mechanisms across Europe



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Content

Introduction

Renewable energy continues to revolutionise the electricity landscape of Europe. While this is in part due to concerns over global warming, public expectations, a desire to encourage indigenous industries and enhance security of power supplies, the overwhelming drivers behind this transformative period for the electricity sector have been the arrangements national governments have put in place to encourage and direct the development of renewable energy projects and technologies.

This publication is the latest in CMS's market leading comparative studies, and with each new edition the complexity of the arrangements in each of the jurisdictions seems only to increase. There are financial subsidies in the form of feed-in-tariffs, green-bonuses, and green certificates and also many 'non-financial' support arrangements such as priority grid access, mandatory off-take, building codes and tax reliefs. With each country seeking to employ its own approach adapted to its circumstances and aspirations, and address its own unique issues, it is important to recognise the often subtle differences in both detail and effect between the various support arrangements. Knowledge of one country's or one technology's renewable energy support mechanisms has become a less useful guide to the proliferation of support mechanisms in other jurisdictions or for other technologies. This guide seeks to give readers an 'at a glance' ability to understand the frameworks that have been implemented across Europe.

The main policy driver at the European Union level remains EU Directive 2009/28/EC which is founded on a mandatory target of 20% of Europe's energy (i.e. not only electricity) coming from renewable sources by 2020. Each Member State must fulfil an individual target tailored to the pre-existing penetration of renewable energy in that jurisdiction and other factors such as availability of domestic renewable energy resources.

The resulting increase in investment in renewable projects has been significant in most countries. If the momentum is to be maintained, the renewable energy industry now needs to grapple with the no less thorny issues of security of supply and affordability. The former plays out in a complex series of interactions between the types and levels of renewables on the system against other industry players, the mix of other technologies, price signals in wholesale markets for investment and ensuring capacity is made available, consenting, land use and regulatory obstacles, and new technological innovations that may help to smooth intermittency concerns. The latter principally requires the costs of investments to come down, at least in relative terms, as the promise of significant scale benefits are realised. One of the longer term objectives of the industry could, therefore, be to seek to make the support mechanisms described in this publication increasingly less relevant in investment decisions.

Albania

Background

The Albanian Energy legislation is in the process of being reformed and harmonized with the EU legislation in the context of the Stabilisation and Association Agreement the Government of Albania (GoA) and the European Union entered into in April 2009. GoA policies are aimed at motivating foreign investors to further and better exploit the renewable energy market. In order to do so, GoA is planning to establish a one-stop-shop agency with regard to all authorizations and permits pertaining to the power sector, except for concessions which are granted through competitive tender procedures.

The Albanian Energy sector is currently being privatized and GoA is determined to solve the country's energy problems by giving concession to the construction and operation of small, medium, and big hydro-power plants on all its major rivers. As a matter of fact, Albania has an enormous hydropower potential. It is estimated that the annual combined water flow of the rivers is approximately 40 billion cubic meters resulting in 16 to 18 TWh/year of installed energy. So far, Albania has exploited just one third of its total potential.

The Ministry of Economy Trade and Energy (METE) supervises the Albanian energy sector through the Energy Regulatory Entity (ERE), which is the authority in charge of granting operators with the pertaining licenses to exploit and operate the local energy market. ERE is also responsible for determining the energy tariffs applicable to operators and consumers. Currently, the Albanian Power Corporation Sh.A. (KESH), a public owned company, is the most important power generator in Albania vertically integrated with Transmission System Operator Sh.A. (TSO) which is the company responsible for the integrated operations of the transmission system. TSO maintains, develops, and manages the energy transition by non-local systems through the Albanian grid. On March 2009 through a competitive tender procedure, CEZ Group acquired 76% of the shares of Distribution System Operator Sh.A., (DSO).

Over the last few years, by competitive tenders based on solicited or unsolicited proposals, GoA awarded important European energy companies with the concessionary rights to construct, operate and maintain hydropower plants. Main samples are: the concession awarded in 2009 to EVN and STATKRAFT consortium for the construction, operation and maintenance of three hydropower plants on Devolli River; the concession awarded to the Austrian company VERBUND for the development of Ashta hydropower plant on Drini River; as well as the permit granted to ENEL S.p.A., to develop a thermo power plant along with the construction of an interconnection line between Italy and Albania.

Mechanism 1 - Green Certificate and Guarantee of Origin

WHAT IS IT?

Law no. 10196 introduces important amendments and additions to Energy Sector Law no. 9072/2003 (Energy Law), regarding Green Certificates and the Guarantee of Origin.

On May 10, 2006, Italy and Albania signed the agreement setting forth the rules and modalities to import the energy produced by renewable sources and therefore to issue and reciprocally recognised Green Certificates (Agreement).

Presently, both countries are renegotiating the agreement due to certain changes in the Italian Financial Law issued in 2008 and the D.M. 18.12.2008 which amended the system of Green Certificates issuance in Italy.

The Energy Law provides that the green certificate is the official document having limited time value and can be materially transferred or sold separately from the energy produced it certifies. It acknowledges the energy production generated from renewable sources or combined production method. In addition to that, the certificate provides evidence of the date and place of production as well as production site and its ownership.

According to the Agreement, parties can make reference to the exchange system of the renewable energy produced in their respective countries. This system is based on the mechanism of mutual recognition (article 3 of the Agreement) of the guarantees of origin (a certificate disclosing the quantity of energy produced through renewable sources and the plant production capacity. This certificate is issued by GSE in Italy and ERE in Albania at the producers' request), with subsequent release of green certificates subject to the pre-certification of the plant as a renewable source.

In particular it is necessary that:

— a valid title is issued by ERE which states the fulfillment of the qualification procedures and the acknowledgement of the plants as qualified generation ones;
— ERE's issues the guarantee of origin; and
— a producer request is filed to GSE to have the plant certified as renewable source, the guarantee of origin, a valid title, and the agreement entered into with the local authority for the sale of the energy produced by the Albanian plant.

If the application is approved within 30 (thirty) days from the submission date, the energy so produced in Albania can be sold within the country and GSE can release the green certificate pursuant to article 6 of the Agreement. The application will be rejected if, within the above timeframe, GSE has not reply to the above mentioned request.

Mechanism 2 – Incentive to renewable energy production

WHAT IS IT?

Pursuant to section 39 of Energy Law, GoA encourages production of renewable energy through a system of incentives.

HOW DOES IT WORK?

An independent producer (a non-public producer connected directly with the transmission system) with an installed capacity in excess of 50 MW which use non-renewable sources is bound to produce and/or inject in the transmission grid system a quantity of renewable energy at least equal to and not lower than 3% of the energy produced in the year before from power plants using renewable sources and certified by ERE with Green Certificates.

This compulsory quantity of energy produced by renewable sources shall progressively increase from 2010 to 2012 by 0.75% per year.

The obligation to produce and/or inject into the transmission grid system a specific quantity of renewable energy is considered as fulfilled even when the independent producers of non-renewable energy purchase such quantity from different producers of renewable energy provided that ERE and the corresponded foreign agencies where the renewable energy, is imported, reciprocally recognise the certification of the energy produced from renewable sources.

Mechanism 3 – Feed in tariff to hydropower producers of 10 MW

WHAT IS IT?

GoA encourages the construction of renewable energy plants providing privileged treatment for hydropower producers with an installed capacity up to 10 MW.

HOW DOES IT WORK?

Energy Sector Law no. 9072 (Energy Law) provides for ERE to indicate a unique price (the feed-in tariff) for the electricity produced by those hydropower plants with an installed capacity up to 10 MW. In such case, producers benefit from a prioritised treatment by TSO when dispatching the generated electricity.

KESH, based on the tariffs suggested by ERE, will enter into long term agreements with power producers to purchase the entire power production.

Currently, only a few hydropower plants meet the law requirements (an installed power of up to 10 MW) and therefore benefit from such privileged treatment which specifically excludes the hydropower plants with higher installed power capacity.

Mechanism 4 – Obligation to sell the energy to public supplier

WHAT IS IT?

Pursuant to section 34/1 of the Energy Law, GoA may impose energy producers to sell the energy to public suppliers in order to meet the internal energy demand.

HOW DOES IT WORK?

In order to meet the internal energy demand, GoA, by means of concession contracts or decision, grants the concessioner with the right to construct a new power plant binding it to sell a certain amount of the energy so produced to the public suppliers at ERE tariffs.

Mechanism 5 – Obligations of TSO and DSO

WHAT IS IT?

Energy Law guarantees the new energy producers the ability to access and interconnect to the national grid.

HOW DOES IT WORK?

TSO and DSO are respectively obliged to guarantee that new energy producers will have full access and interconnection to the national grid. New energy producers enter into interconnection agreements with TSO and DSO to transmit and distribute the energy produced into the national grid. The Interconnection agreements set out the tariffs and profits of the parties involved.

Mechanism 6 – Concessions in the energy sector

WHAT IS IT?

GoA encourages private investors to participate in hydropower PPP projects through transparent and fair concession procedures (BOT or ROT).

HOW DOES IT WORK?

Concession Law no. 9663 defines the principles applicable to private investors. This law specifically includes the energy sector and provides for at least 35 year of concession right. Concessionary rights to exploit and operate energy projects are subject to competitive tender procedures launched by METE. Such projects may result from either solicited or unsolicited proposals. Should the unsolicited proposal be approved, a bonus up to 10% of the evaluation points will be awarded to the proponent. The tender procedure takes place in two different phases, the first one of which is the Invitation for Prequalification

Applications and the second one is the Invitation to Tender. At the end of the process, METE issues the Winning Bidder Notification in favour of the Bidder whose Bid has received the highest final score and will start to negotiate the concession contract soon after.

FUTURE OPPORTUNITIES - VJOSA HYDROPOWER PROJECT

GoA expects to shortly launch the tender for the construction and operation of hydropower plants along Vjosa River.

The Vjosa project is of high importance for the country since it is expected to substantially improve the energy supply and better respond to the increasing internal demand of energy. It is estimated that the Vjosa hydropower project will require the construction of 8 to 10 hydropower plants of approximately 400 MW overall.

The value of the project is expected to be approximately 1 billion Euros.

Austria

Background

In Austria, renewable energy sources contributed 29% of the total energy consumption in 2008. According to the Directive 2009/28/EC on the promotion of the use of energy from renewable sources, amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, this share should rise up to 34% in 2020. The main driver for the growing contribution of renewable energy is the enhanced use of biomass due to strong incentives such as targets set out by regulations, a long-term focus on research and development policies, as well as subsidies.

Mechanism 1 – The Green Electricity Act (Ökostromgesetz)

WHAT IS IT ?

The Austrian Green Electricity Act (which entered into force on 1 January 2003) was amended in 2009. The Austrian Green Electricity Act has established a nationwide tariff support for renewable ("green") energy. Its main goals are:

- to raise the proportion of electricity produced by in installations from renewable energy sources to such an extent as to achieve the national target of 78.1% by 2010;
- to promote renewable energy sources and achieve market maturity for new technologies;
- to ensure investment protection for existing and future plants; and
- to support the establishment of new plants and the extension of existing plants producing green energy in order to ensure that in 2015 an overall 15% of the electricity supply to end-consumers from the public networks is generated from green electricity plants.

HOW DOES IT WORK ?

The Green Electricity Act obliges the so-called "Green Electricity Settlement Centre" (Ökostromabwicklungsstelle) to purchase green electricity from eligible generators at fixed feed-in tariff prices (Einspeisevergütung). The Green Electricity Settlement Centre attributes the purchased electricity to the electricity traders, who are obliged by law to buy the attributed electricity at a fixed transfer price (Verrechnungspreis). The difference between the feed-in tariff for electricity and the fixed transfer price is raised by a metering fee expressed as a lump sum per metering point which consumers have to pay per metering point (Zählpunktpauschale). The amount of the fee depends on the grid level to which the consumer is connected but is independent of his actual consumption. The fee is fixed by law and amounts to EUR 15,000 per annum for connection to the high voltage net levels 1-4, EUR 3,300 to level 5, EUR 300 to level 6 and EUR 15 to level 7. The differentiation was introduced in order to arrive at a tenable distribution of the burden between households on the one side and industrial consumers on the other side.

The levy is fixed at a level to allow about 38% of the overall financing to be covered by the levy.

WHO GETS THE BENEFIT ?

Operators of plants producing energy from renewable energy sources, such as non-fossil energy sources (wind, sun, geothermal energy, tidal energy, hydro power, biomass, waste, landfill gas and biogas), including animal meal, spent lye or sewage sludge.

Mechanism 2 – The Austrian Act on Emissions Allowance Trading (Emissionszertifikategesetz - EZG)

The Austrian Act on Emissions Allowance Trading (EZG) was introduced by the government in 2004, implementing Directive 2003/87/EC and establishing a scheme for green house gas emission allowance trading within the Community and amending Council Directive 96/61/EC. The Austrian Act on Emissions Allowance Trading has been recently amended. The main goal of the act is the establishment of greenhouse gas emission trading scheme to provide a cost-effective reduction of greenhouse gas emissions. Companies that emit greenhouse gases receive a limited number of emissions allowances from the competent authority (in Austria the Federal Ministry of Agriculture, Forestry, Environment and Water Management). If a company emits more greenhouse gas emissions than it has been allocated allowances, it may purchase allowances from other companies. Allowances are traded via traders (e.g. banks), at an exchange or directly between companies.

Mechanism 3 – Climate and Energy Fund (Klima- und Energiefondsgesetz)

The climate and energy fund is endowed with EUR 147,375m for the year 2011. It was established with the aim of contributing to the cost-efficient attainment of the energy goals of the Austrian government by supporting initiatives in the areas of climate protection and sustainable energy supply. The support will be concentrated in three main areas:

— research and development of sustainable environmental technologies and climate research;
— the promotion of projects in the area of public and commercial transport; and
— the promotion of sustainable energy technologies.

Belgium

Background

Belgium is a Federal State, in which the Regions (Flemish Region, Walloon Region and Brussels-Capital Region) are in charge of the protection of the environment and, accordingly, of the promotion of renewable energy sources. However, the Federal State has implemented its own scheme, due to the fact that it remains competent in respect of matters relating to the energy produced in – and from – the North Sea. Furthermore, the Federal State is still responsible for the main taxes in Belgium. At the end of 2011, the last Belgian 'North Sea' concession will be awarded.

Mechanism 1 – Tradable Green Certificates (TGCs)

In response to the promotion of renewable energy sources, each Region and the Federal State has developed a Green Certificate Mechanism. This mechanism is built on the following principles: the regional or federal regulation authority issues a certain amount of TGCs to "green producers", based on the quantity of electricity produced from Renewable Energy Sources (RES). It is to be pointed out that, in Brussels and Wallonia, the issuing of TGCs is conditional on the saving of a certain quantity of CO2 in comparison with the CO2 emissions for conventional production in a modern benchmark facility. The regional legislations have fixed annual quotas applicable to suppliers (e.g. in Wallonia, 10% in 2010).

This means that each supplier must send the Regulator the number of green certificates that corresponds to the number of MWh supplied to its end clients, multiplied by the quota. If the supplier does not adhere to the quota, it receives a penalty for each missing TGC.

Suppliers have then to purchase enough TGCs from green producers in order to avoid the penalty; this creates the market for green certificates. The market price of TGC is therefore less than that of the penalty in order to sustain the security of investments, regional (and federal) legislations have provided that TSO and/or DSOs must purchase TGCs at a fixed price, generally depending on the energy source.

The support mechanism (issuing of TGC and/or purchase obligation at a fixed price) is valid for a certain period of time, depending on the Region and on the renewable energy source; and the price of TGCs is passed on the consumers. However, industrial consumers benefit from certain exemptions.

Due to the transposition of the "Third package", all these regional legislations must be amended. The price of the tradable green certificates will be reduced by these three new regional legislations in progress.

Mechanism 2 – Installation premiums

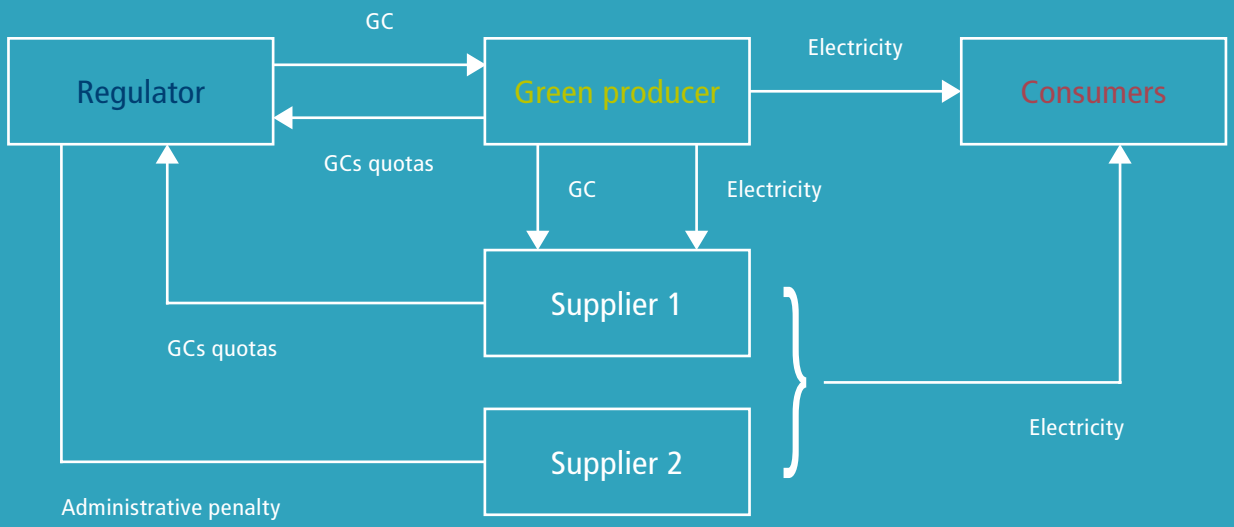
There are a large number of installation premiums provided in Belgium in order to promote the production of electricity from RES. Those premiums differ from one to another according to different criteria:

— the public authority who grants it (region, commune);
— the renewable energy source (solar, wind); and
— the nature of the producer (firm or particular).

Mechanism 3 – Offshore wind

The Federal State has created a specific support mechanism for the production of electricity from off-shore wind farms:

— within the mechanism of TGC's, the TSO has an obligation to purchase green certificates issued to the producer at the amount of 107EUR/MWh for the first 216MW generated and 90EUR/MWh for the remainder of generated MW; this obligation applies for a duration of 20 years;
— for each concession, the cable connecting the wind farm to the transmission grid is financed by the TSO, to a maximum amount of EUR 25 million for the installation of a minimum of 216MW;
— the legislation provides for a mechanism which guarantees that investments granted by the holder of the concession will be passed to the end consumer, even if the project is abandoned or interrupted (for a reason other than the fault or the gross negligence of the holder of the concession).



Mechanism 4 – Part exemption to the "Federal contribution"

A federal contribution is owed by the end consumers in order to finance the public service obligations and the costs related to the functioning of the Federal Regulation Authority. This contribution is paid to the supplier who returns it to the commission or regulation.

This contribution is in particularly intended to finance (totally or partially):

— the "denuclearisation" of some nuclear sites;
— the functioning costs of the Federal Regulator;
— the guidance and the social aid for the supply of energy to the most deprived inhabitants; and
— the federal policy for reduction of greenhouse gases, etc. The proportion of electricity from RES supplied to consumers is exempt from the duty related to the costs of the denuclearisation and for the federal policy for the reduction of greenhouse gases.

Mechanism 5 – Tax exemptions

The tax legislation provides for several exemptions for RES installations, e.g.:

— 6% VAT (instead of 21%) for the installation of PV Panels or wind turbines;
— tax reduction for all investments in energy savings or RES; and
— exemption to the "real estate prepayment" (précompte immobilier) on the installation of PV panels.

There are currently no support schemes for carbon capture and storage or gas from renewable energy sources in Belgium.

Bosnia and Herzegovina

Background

The complexity of the legal structure of Bosnia and Herzegovina directly impacts its legislation as well as the policies towards renewable energy sources.

BiH consists of two separate and distinct administrative entities: the Federation of Bosnia and Herzegovina (FBiH) and the Republic of Srpska (RS), as well as the Brcko District which belongs to both of the above entities. The entities and the Brcko District have their own governmental structures as well as legislation, regulations and policies. This means that RES, as well as any other area, may be subject to legislatory provisions at entity level i.e. FBiH or RS or Brcko District. In preparing this comparative study we have taken into account relevant legislation at all levels in order to provide a comprehensive overview of the situation in BiH.

Whilst Bosnia and Herzegovina has undertaken numerous international legal obligations relating to the development, promotion and increased use of renewable energy sources also noticeable improvement has been made vis-a-vis energy efficiency and RES in 2011. In FBiH, the Regulation on Utilization of Renewable Energy Sources and Cogeneration (Uredba o korištenju obnovljivih izvora energije i kogeneracije) was adopted by the Government of FBiH in 2010 and became effective on 1 May 2011, whilst in RS a final draft of the Rulebook on Incentives for Generation of Electricity from Renewable Sources and in Efficient Cogeneration (Pravilnik o podsticaju proizvodnje elektricne energije iz obnovljivih izvora i u efikasnoj kogeneraciji) has still been prepared by the Regulatory Commissions for Electric Energy of RS.

Furthermore, BiH continues its declaratory support for use of RES through, for example, a decision to join the International Renewable Energy Agency (IRENA) in 2009. This study looks at the RES promotion mechanisms at both State and entity levels.

The use of renewable energy sources in BiH and its potential

In BiH, most attention is given to wind and water as renewable energy sources. The share of RES in production of electricity in BiH is 45% and at the level of FBiH it is 35%. This is mostly due to extensively used hydroelectric (HE) power plants although there is growing development in the area of small HE power plants with preparations for around 200 small HE power plants with a total strength of 177.44MW.

The legislative backdrop enabling exploitation of water power resources are concessions which allow a right to all natural and legal persons to use natural resources or other public goods for the purposes of improving the country's infrastructure. Even though demand for acquiring concessions has been constantly increasing, the extremely complicated and long-lasting bureaucratic procedure of having the subject concession approved is slowing down the process of utilizing these sources of energy to its utmost extent.

Mechanism 1 — State level

In accordance with the Rulebook on Connecting to the Electric Grid from 2008, the State Regulatory Commission for Electric Energy (DERK) encourages production of energy from RES by prescribing a 50% of the fixed charge for the connection.

However, this is minimized by the fact that energy production companies that utilize hydro-energy can only use this advantage if their installed energy power does not exceed 10MW.

Moreover, BiH has also signed a legally binding Energy Community Treaty on 25 October 2005 which created a gas and electricity market without internal frontiers and which calls for implementation of so-called acquis communautaire on energy, environment, competition and renewable electricity sources, showing a determination to focus on RES.

Mechanism 2 — Entity level

As already mentioned above, the main legal act relating to RES is the FBiH Regulation on Utilization of Renewable Energy Sources and Cogeneration (Official Gazette of FBiH no. 36/2010 and 11/2011) which was adopted by the Government of FBiH in 2010 and became effective on 1 May 2011. In RS, the Regulatory Commissions for Electric Energy of RS is still preparing a final draft of the Rulebook on Incentives for Generation of Electricity from Renewable Sources and in Efficient Cogeneration which is expected to be adopted in June or July 2011. The aforementioned FBiH Regulation / RS draft Rulebook prescribe, amongst others,

the types of incentives for generation of electricity by using renewable energy sources and in efficient cogeneration as well as the criteria, terms and conditions and procedures for exercising rights to incentives.

The incentives for generation of electricity from renewable energy sources under the FBiH Regulation / RS draft Rulebook currently include (i) benefits while connecting to the electric grid (RS), (ii) advantages in access to the electric grid (dispatching), (iii) right to the obliged redemption of electricity (FBiH: 12 years; RS: 15 years), (iv) right to the feed-in-tariff and (v) right to the premium for consumption for its own needs or sale at the market (RS).

According to the FBiH Regulation, the right to the abovementioned incentives may be exercised by a generator of electricity who has concluded a redemption agreement with the FBiH Operator for Renewable Energy Sources and Cogeneration, except for electricity generated in large hydro power plants with the capacity over 10 MW and electricity generated by independent generators of electricity for the open sale on market.

Under the RS draft Rulebook, the right to the abovementioned incentives may be exercised by a generator of electricity if:

- it generates electricity by using renewable energy sources in a cost-effective way and in compliance with protection of environment in generation facilities as follows;
  - hydro power plant, the capacity of 10 MW inclusive;
  - facility using solid biomass, the capacity of 10 MW inclusive;
  - facility using agricultural biogas, the capacity of 1 MW inclusive;
  - wind plant;
  - solar plant with the photo-voltaic cells;
- it generates electricity in efficient cogeneration facility, the capacity of 30 MW inclusive; and
- the installed capacities, namely generation of electricity in generation facilities which use renewable energy sources of efficient cogeneration which the right to the incentives is granted for, do not exceed the amounts for incentives as determined by the Regulation.

Furthermore, the Law on Electric Energy of FBiH states one of its goals is the encouragement of domestic and foreign investments in RES, while the same law of RS ensures the production of electricity form RES. Both laws state that facilities that produce electricity from RES can be considered "qualified producers" in accordance with the regulations of the Regulatory Commissions for Electric Energy (the Commission). Moreover, the Law on Electric Energy of RS stipulates incentives for companies producing energy from RES including waste all towards the purpose of achieving the goal of energy production from RES in accordance with the measurements of environmental protection and efficiency.

One of the mechanisms that was intended to improve the situation is the Law on Fund for the Protection of the Environment of FBiH. This determined that the purpose of the Fund was to gather and distribute the financial assets for the protection of the environment on the territory of FBiH, and would particularly be used, inter alia, for financing of the preparations for the production, implementation and development of program documents and similar activities in the field of conservation, sustainable use, protection and improvement of environment and the use of RES. However, reports demonstrate that this Fund has not been extensively used in the area of promoting and increasing use of RES in energy production.

Future prospects

Due to the absence of a strategy plan and program for the development of the energy sector of BiH, the Government of FBiH has established an expert group with a task of producing such a strategy plan for FBiH. The document, produced by the expert group ("Strategic Plan and Program for the Development of Energy Sector of FBiH") foresees the activities to be undertaken for the next 30 years. It has made a number of recommendations to the Ministry of Energy, Mining and Industry relating to RES including, inter alia, the adoption of special legislation relating to RES and the development of systems of incentives and subsidies by 2010. Some of these recommendations have been realized by adoption of the abovementioned Regulation on Utilization of Renewable Energy Sources and Cogeneration. The Government of RS also prepared a similar strategy which became manifest in preparing a draft of the abovementioned Rulebook on Incentives for Generation of Electricity from Renewable Sources and in Efficient Cogeneration.

As far as PPP projects are concerned, the legislative framework has been introduced at different speeds. In the FBiH, a draft PPP law has been forwarded to the Government of FBiH by the Federal Ministry of Transport and Communication. The Parliament of FBiH is expected to consider the draft in 2011.

In RS however, the Law on PPP was adopted by the Parliament of RS on 11 June 2009 and became effective on 10 July 2009, whilst in Brcko District the Law on PPP was adopted by the Parliament of Brcko District on 10 February 2010 and became effective on 27 February 2011. Both Laws are fully in compliance with the relevant EU Directives and allow for a special form of long-term cooperation agreements whereby the public and private sectors can join resources, capital and professional knowledge in order to satisfy a public need. Given the significant potential for RES in BiH, we hope that PPP will be used as a method to realize this potential.

Bulgaria

Background

Bulgaria has a national target to achieve a 16 % share of the electricity produced from renewable energy sources in the gross electricity consumption by 2020. According to the latest draft of the National Action Plan to 2010 for Energy from Renewable Sources, the actual targets are set forth as follows: hydroelectric power plants – 3288 MW, photovoltaic power plants - 330 MW; wind - 1440 MW; biomass - 158 MW. The Action Plan is still pending final approval.

The new Bulgarian Energy Strategy to 2020 (the "Energy Strategy") was brought into force on 1 June 2011. According to the Ministry of Economy, Energy and Tourism the renewable energy targets are achievable largely through clean and low-emission energy derived from nuclear and renewable energy sources.

Mechanism 1 – The Renewables Act

The Renewable Energy Sources Act (the "Renewables Act", published in the State Gazette, issue 35, dated 3 May 2011, immediately entered into force) is the new main legislative act setting out support mechanisms for renewable energy sources in Bulgaria. It revoked and changed significantly many of the provisions of the Renewable and Alternative Energy Sources and Biofuels Act, published in the State Gazette, issue 49/19 June 2007. The Renewables Act implements the provisions of EU Directive 2009/28/EO, as well as the amendment and the revocation of EU Directives 2001/77/EC and 2003/30/EC.

The new Renewables Act introduces certain obligations for renewable energy producers as a balance for the connection obligation on the grid operators (for example, an obligation of the investor to have the project completed within a certain timeframe or to invest in balancing power stations), as well as a restriction on the maximum capacity of renewables that may be allowed for connection to the transmission and distribution grids, and a new cost sharing mechanism.

Mechanisms to promote renewables under the Renewables Act currently include a mandatory off-take at preferential prices of the electricity produced from renewable energy sources and a right to priority connection to the grid.

MANDATORY OFF-TAKE AND FEED-IN TARIFF LONG TERM POWER PURCHASE AGREEMENTS

The public utility wholesaler (the "National Electricity Company EAD" or "NEK") and the electricity distribution companies (the "EDCs") are obliged to off-take all electricity generated from renewable sources that is guaranteed by a certificate of origin. The guarantees of origin shall be issued, transferred and cancelled by the Sustainable Energy Development Agency ("the SEDA"). Previously these functions were performed by the State Energy and Waters Regulatory Commission ("SEWRC"). The guarantees of origin shall be issued to producers of green energy. The guarantee of origin is of a standard size of 1 MWh and shall be valid for a period of 12 months after the production of the renewable energy for which it is issued. The issuance, transfer and cancellation of the guarantees of origin shall be performed only electronically. The Renewables Act also provides that the guarantees of origin issued in other EU member states are generally acknowledged in Bulgaria.

The Renewables Act introduces some significant changes to the previously existing terms and conditions for applicable FIT provided by the previous law. The principle of mandatory off-take of electricity produced from renewable sources on the basis of long-term power purchase agreements ("PPA") is maintained. The entities obliged to purchase the electricity are the public supplier (the "National Electricity Company") and the end suppliers of electricity.

A major change is that the FIT for new projects shall be fixed for the entire term of the PPA with the exception of the biomass where there is an indexation based on the expenses for the energy sources, transportation and labour. SEWRC determines the FIT levels annually; the new prices shall be applicable to new projects only. Once an off-take price is determined for a project on the basis of an effective FIT, this price shall be applicable to such project for the entire mandatory off-take period.

The Renewables Act does not specify a formula as to how the FIT shall be calculated. It only specifies the general criteria, which should be considered by the Regulator when determining the FIT. The principles with which the revised draft FIT will be set are: the type of renewable source; the type of technology; the installed capacity; as well as the investment expenses; the rate of return of the investment; the structure of the capital of the investment; the productivity of the installation with respect to the type of

the installation and the technology used; the expenses related to the environmental costs, etc.

As of 1 July 2011 there is a new FIT in force. As a comparison to the previous FIT, the new one shows a significant decrease in the off-take price for solar energy projects with capacity of over 200 kWp, while a preference is given to roof-top projects with capacity of up to 1,000 kWp. The new FIT is also stimulating the production of biomass energy.

FIT to projects in different development stage

For the already generating projects, the FIT will be the one that is effective upon the Renewables Act coming into force, as approved on 1 April 2011. The PPAs that these projects enjoy will survive the change of the law and the off-take term shall not be changed in accordance with the new law.

The new projects, as well as those projects enjoying final grid connection agreements and preliminary grid connection agreements will have their FIT fixed at the level applicable at the time of the completion of the construction of the power plant, duly certified. When constructing the project in stages, a flexible approach in determining the FIT is applicable.

The projects with preliminary grid connection agreements shall comply with the following three conditions within one month from the announcement of the FIT:
— payment of the advance payment/guarantee;
— provision of evidence of real rights;
— provision of a copy of the detailed zoning plan or design visa (grid connection facilities are excluded from this requirement).

If the above conditions for the preliminary agreements are not met within the term, the preliminary agreements shall be automatically terminated. The term of such preliminary agreement shall be no longer than one year from the date the Renewables Act came into force, but in any case no longer than the term provided in the preliminary agreement itself.

The projects which have obtained final grid connection agreements before the Renewables Act coming into force, will follow the previous procedure, if the producer has either paid the grid connection fee or has undertaken the obligation to construct the grid connection facilities himself.

The terms of the mandatory off-take of electricity to be produced from new projects or projects in development are decreased, as follows:
— from 25 to 20 years – for solar, geothermal and energy produced from biomass;
— from 15 to 12 years – for wind energy; and
— the off-take period for hydro and other renewable energy remains 15 years.

Producers of renewable energy who are operating and have effective PPAs at the date the Renewables Act comes into force, shall maintain their current terms (i.e. 25 years for solar power plants, 15 years for wind parks, etc.).

PRIORITY ACCESS TO THE GRID

Grid operators must provide for minimal grid connection at the closest possible point of the transmission or the distribution network. The cost for interconnection from the production facility to the border of its property is borne by the producer. The cost for interconnection of the production facility from the border of the property to the grid is borne by the grid operator. The producer is only responsible for the direct cost of the connection. Any cost for the reconstruction and extension of the transmission and distribution network are borne by the grid operator and shall not be included in the cost for grid interconnection.

The unconditional obligation of grid operators (transmission system operator and distribution system operators) to connect the renewable energy projects to the grid, will no longer be applicable. The Renewables Act provides that the SEWRC shall announce annually, by 30 June, on the basis of information provided by the grid operators, the maximum capacity of the existing grid for connection of new facilities for production of electricity from renewable sources for the next one-year period. The said information shall be published on the website of the SEWRC. Before this the grid connection companies shall summarize the available capacities by 28 February and by 30 April provide to the SEWRC and the Ministry of Economy, Energy and Tourism the information. This mechanism shall be applied from 1 January 2012.

The developers should file applications for connection to the grid to the respective grid operator within the one-year period. The grid operator shall estimate the admissibility of the relevant application. Basically, the principle "first come, first served" shall be applied. This means that the grid operator shall consider the applications for the new

projects following their order of filing. Therefore, once the maximum available capacity is reached any further applications exceeding the capacity for the respective year shall be rejected.

The Renewables Act provides that a National Information System for the potential, production and consumption of energy from renewable sources in the Republic of Bulgaria shall be established, maintained and updated by SEDA.

A fixed down payment for connection to the grid is also applicable, payable at signing of the preliminary grid connection agreement.

The Renewables Act provides that the term of the preliminary grid connection agreements cannot be longer than one year and within this term the producer shall file an application for execution of the final grid connection agreement. The term of the final grid connection agreements shall not exceed the term for entering into exploitation of the power plant and cannot be longer than two years when the commissioning of the power plant is stipulated to be done in one stage. When the commissioning of the power plant is planned to be done in stages, the term for the first stage shall not exceed two years from the execution of the grid connection agreement.

Mechanism 2 – Investment support and PPP

Bulgarian investment promotion regime aims to support investments in specific and innovative industries, including renewable energy projects.

The support mechanisms include:
- development of schemes to support production and consumption of renewable energy, gas from renewable energy sources, biofuels and renewable energy in transport of liquid fuels from biomass;
- development of support schemes for the production and consumption of biomass;
- development of joint support schemes with other EU members states;
- financing of activities and projects for generation of energy from renewable sources and for the use of renewable energy in the final energy consumption from the Energy Efficiency and Renewable Energy Fund (EEREF), etc.; and
- contracts with guaranteed results under the Energy Efficiency Law relating to the use of renewable energy.

Public-Private Partnership (PPP) is also a generally available option despite lack of specific legislation. Various municipalities have adopted local PPP Ordinances and provide support of renewable energy projects.

Mechanism 3 – Various sources of funding and grants; EU accession funds

Sources of funding include the EBRD's Energy Efficiency and Renewable Energy Credit Line extended to seven local banks for on-lending to private sector companies for industrial energy efficiency and small scale renewable energy projects, supported by the Kozloduy International Decommissioning and Support Fund grant funding.

Pursuant to the Bulgarian Energy Efficiency Act, the Bulgarian Energy Efficiency Fund shall finance the implementation of energy efficiency improvement activities and measures, with the exception of those financed from the state budget.

Funding is also available from EU energy funds such as "Intelligent Energy – Europe" and framework programmes for scientific research and presentations. EU accession funds are also available for mini-hydro power plants and small-scale projects.

Kyoto mechanisms, especially Joint Implementation (JI), are also available. In recent years, Bulgaria completed such JI projects with leading technology providers from Austria, Denmark, Japan and others.

Croatia

Background

Since 2002 Croatia has become an EU member candidate and has ratified the Energy Community Treaty, Kyoto Protocol and the UN Framework Convention on Climate Change. New times have required a new energy strategy, and Croatia's Energy Strategy was adopted in October 2009. It includes guidelines for a period until 2020. One of the main principles remains supporting investments in the renewable energy sector. This should reduce the import of electrical energy and Croatian dependency on an unstable world energy market.

The Croatian Government set a goal to be achieved by 2020, threshold of 20% of overall consumed electricity to be generated from renewable energy sources (RES) and cogeneration. This is an ambitious goal compared to the latest official data which shows that the ratio of electricity generated from RES was around 1.2% in 2010.

Moreover, it is planned that the ratio of electricity produced from RES, which includes big hydro plants, should remain at a ratio of 35% of the overall produced electricity. This represents a serious challenge for Croatia considering that

— many big hydro plants are soon to reach an end of their life span or require additional investments/ refurbishments; and
— many power plants using fossil fuels are planned to reach end of their life span by 2020 (around 1100 MW of installed power).

Taking into consideration that in the period of 2001-2010 there was less than 15MW of newly installed capacities in RES annually, it is clear that in order to achieve the mentioned goal private investments will have to have the leading role.

The renewable sector in Croatia has therefore been marked by a hastened forming of the legislative framework so as to ensure a more effective implementation of RES.

The current situation shows that the most of private investments into RES are concentrated on wind farm projects. As wind farms have a specific manner of work, there are certain additional grid connection requirements which applying. Currently, only 360 MW of wind farms can be connected to the power grid – it is planned that this limitation is increased to 1,300 MW. Currently, wind farms with an overall design of around 70 MW are installed and operating.

An additional particularity is the regulation affecting solar plants. These are incentivised only until they jointly reach 1 MW of installed power. However, as many investors plan the development of bigger solar plants – these small ones are not of their interest, and currently, less than 10% of this limit has been reached. This should be rectified by the new RES law and by-laws which are envisaged to be implemented during 2011 as a part of EU legislation harmonisation process.

For this purpose – the investors in photo voltaic projects shall be enabled to benefit from four tariffs for building integrated photo voltaic projects differentiated according to the size of the plant, and from one for non-integrated photo voltaic of up to 5MW. There will also be novelties such as in biomass: a segmented tariff according to the size of a plant, and a tariff for RDF will be implemented.

Mechanism 1 – The Renewables Obligation (RO)

WHAT IS IT?

The Croatian Government encourages production of renewable energy through a system of incentives.

HOW DOES IT WORK?

Each producer of electricity from RES and/or cogeneration may apply for eligible producer status. Eligible producer status means that all generated electricity shall be sold to the Croatian Market Operator (HROTE) for a fixed price - Feed-in-Tariff. The Feed-in-Tariff is guaranteed for a 12 year term and is fixed – only subject to annual harmonisation with consumer price index.

Consumers pay an additional charge for a Feed-in-Tariff ("Charge") to their electrical suppliers. The Charge is included in the consumers' monthly electricity bill. HROTE collects the Charge from the suppliers and distributes them amongst eligible producers as the Feed-in-Tariff.

Recently the Charge has been decreased from 0.0271 to 0.005HRK/kWh. The decrease was due to the fact that investments into RES were not at the planned rate. Therefore, money for the incentives was collected but there was nowhere to invest it.

WHO GETS THE BENEFIT?

Producers of energy from RES and co-generation may acquire eligible producer status and, as such, will receive the Feed-in-Tariff for the delivered energy. (The amount of the Feed-in-Tariff is guaranteed for the period of 12 years.) This term commences after the producer has obtained eligible producer status and executed relevant agreements with HROTE. The Feed-in-Tariff is harmonised once a year with the CPI for the previous year. The Feed-in-Tariffs differentiate, depending on the type of the facility and its power.

Mechanism 2 – Heat

Generally, generation of heat from RES has the same status as production of electricity from RES. However, the system of Feed-in-Tariffs shall not apply to the producers of heat from RES and co-generation until secondary legislation is adopted.

Today regulations which would govern mechanisms for collection of the incentives by eligible producers of heat energy from RES and/or co-generation are still missing. The Ministry of the Economy, Labour and Entrepreneurship has been provided with funding and is currently in the process of drafting these by-laws. These have been in the process of being drafted for quite some time now however there is no final result yet.

Mechanism 3 – Biofuel

The Act on Biofuels for transport came into force in May 2009. It envisages Feed-in-Tariffs for producers who produce, sell and deliver biofuels within the Croatian territory. Only recently, the Government adopted required by-laws which stipulate manner of incentivising production and distribution of biofuels.

Mechanism 4 – Investment Aid and PPP

The Croatian investment promotion regime aims to support investments in specific and innovative industries, including renewable energy projects. The Croatian Trade and Investment Promotion Agency may provide help to investors seeking investment aid from the Ministry of Economy, Labour and Entrepreneurship.

There is a variety of mechanisms envisaged by the Investment Promotion Act to support an eligible investment, such as:

- reduction of the profit tax rate to a rate between 10% and 0% (as opposed to ordinary profit tax rate of 20%);
- customs incentives;
- aid to cover eligible costs of the new job creation;
- aid to cover eligible costs of training linked to an investment;
- incentive measures for the establishment and development of:
  - technology and innovation centres,
  - strategic business support services; and
- incentive measures for large investment projects, such as monetary support amounting up to 5% of realistic justified costs of investment in fixed assets.

Croatia has adopted the necessary legal framework for Public-Private Partnership (PPP). However, due to lack of practice in this area, these projects may be burdensome and time consuming.

Czech Republic

Background

The Czech Republic has committed itself to produce 8% of the total gross national electricity consumption from renewable energy resources in 2010. A binding target of 13% by 2020 is proposed for the Czech Republic. The share of electricity generation from renewable sources reached 8% (as of 31 December 2010) and the indicative target for 2010 amounting to 8% was met.

Mechanism 1 – the Act on Promotion of Use of Renewable Sources

Act No. 180/2005 Coll., on Promotion of Use of Renewable Sources (the "Act") and the implementing legislation to the Act support the following renewable energy sources utilised in the Czech Republic: wind energy (except for wind power plants located over an area of 1km2 with a total installed capacity exceeding 20MW); solar energy; geothermal energy; water energy; soil energy; wind energy; biomass energy; landfill gas energy; energy of sewage treatment plant gas; and energy of biogases.

The Parliament is currently discussing a draft Act on the Supported Energy Sources which should replace the current Act on Promotion of Use of Renewable Sources. It is expected that the new law will be enacted in the course of 2011. The new law (as currently drafted) should significantly affect and control further expansion of renewable energy sources in the Czech Republic and is closely interconnected with proposed National Action Plan on Renewable Energy Sources ("NAP") setting levels for the installed capacity of renewable energy sources eligible for promotion.

The NAP proposed by the Czech government for instance does not calculate with further expansion of solar or water energy and is currently being discussed by the European Commission.

Bearing in mind the protection of the environment and issues surrounding climate change, the main purpose of the Act is to:

— promote the use of renewable energy sources;
— ensure a constant increase in the consumption of renewable sources as a primary energy source; and
— create conditions to ensure that 8% of the Czech Republic's electricity is produced from renewable sources by 2010 and that this share increases after 2010.

The way in which electricity produced from renewable sources is promoted varies depending on the type of renewable source and the capacity of the production plant.

The Act provides two key measures:

— renewable electricity producers will have a right of preferential connection to national transmission and regional distribution systems (the "Grid"); and
— renewable electricity producers can choose between two promotion pricing schemes.

ACCESS TO THE GRID

The Grid operator is obliged, within the area stipulated in its licence, to preferentially connect a renewable electricity plant to the Grid for the purpose of transmitting or distributing electricity from renewable sources, provided that the producer requests the connection and that the technical conditions for connection and electricity transport are satisfied. There are three distribution system operators (CEZ Distribuce, a.s., E.ON Distribuce, a.s., and PREdistribuce, a.s.) and one transmission system operator (CEPS a.s.) in the Czech Republic.

Despite the legal requirements to connect new renewable projects, at the time of writing the Grid operators continue in their practice of refusing to grant Grid reservations to new projects (claiming that the safe operation of the Grid could be in danger).

PROMOTION PRICING SCHEMES

The Act introduced two alternative promotion pricing schemes: Feed-in Tariffs and Green Bonuses which are the economic instruments supporting the development of renewable power plants.

Renewable electricity producers can choose between the two promotion pricing schemes: (i) to offer electricity from renewable sources for purchase by the relevant Grid operator who is obliged to buy all the produced electricity at set minimal prices and conditions (the "Feed-in Tariff"); or (ii) to sell electricity from renewable sources on the electricity market, in which case they will be entitled to a 'green bonus' (a fixed amount paid on top of the market price) from the relevant Grid operator (the "Green Bonus").

The Energy Regulatory Office will determine the Feed-in Tariff and the Green Bonus for the subsequent calendar year in its annual Price Decision issued by the end of November of the previous year. The amount available under the appropriate pricing scheme will depend upon the calendar year in which the plant was put into operation.

Thus the year of commissioning is crucial for renewable energy projects (commissioning means the day on which the producer started, in accordance with the decision on the award of a licence for the generation of electricity, to produce electricity and supply it to the Grid with the support of one of the pricing schemes).

The Feed-in Tariffs are computed to ensure a 15-year return on the investment in the renewable power plant, on the condition that certain technical and economic parameters are complied with: the costs of an installed unit of capacity; efficient use; the period of use of primary energy contents in the renewable source; and further information which can be found in the appropriate implementing regulation. At the same time, the Feed-in Tariff must not decrease by more than 5% year on year (if the return on the investment is below 11 years, the Feed-in Tariff may be decreased year on year by more than 5%). The Feed-in Tariff for the solar energy was decreased by more than 50% for the facilities put into operation in 2011.

Producers must choose between the entitlement to the Feed-in Tariff or the Green Bonus. They are not entitled to both. However, the producer may switch between the Feed-in Tariff and the Green Bonuses once a year with effect as of 1 January of the following year. The request for the change must be delivered to the Grid operator in a prescribed form no later than 30 November of the year preceding the year the change should take effect.

Concerning new photovoltaic projects, as of 1 March 2011 only the solar power plants (panels) located on the rooftops or walls with the output amounting to 30 kW are eligible for the promotion.

The energy generated by the solar power plants put into operation in 2009 and 2010 with an output of over 30 kW, which are not placed on rooftops or walls, are subject to a solar tax (26% of the Feed-in Tariff and 28% of the Green Bonus) in the years 2011, 2012 and 2013. The law that introduced the solar tax is being reviewed by the Constitutional Court and its decision is to be expected in the next few months. Several international arbitration processes have been initiated by foreign investors against the Czech Republic with respect to the solar tax.

Mechanism 2 – Tax Incentives

The exemption from income taxation on income from the generation of electricity from renewable energy sources was abolished on 31 December 2010. Starting 1 January 2011 the income from the generation of electricity from renewable energy sources is subject to income taxation including the income from facilities put into operation prior to 2011. As of 1 January 2011 the more favourable tax depreciation for the renewable energy facilities is no longer possible.

There are also specific real estate tax exemptions for renewable energy sources. Unfortunately, the law operates with the term "structures used exclusively for the purposes of improving the environment" which is again different to both definitions used in income tax legislation and in the Act. In principle, small hydro-electric power plants with an output of up to 1MW, wind-powered electricity generating stations, biogas plants, biomass plants, facilities utilising geothermal energy and solar power plants would qualify for the exemption.

Furthermore, renewable energy sources are exempted from so-called "energy tax". In principle, those renewable energy plants mentioned in the real estate tax exemptions would also qualify, with the exception that there is no power limit to the output of hydro-electric power plants.

Mechanism 3 – Subsidies

ECO-ENERGY

Eco-energy is part of the European Union Operational Programme for Business and Innovation 2007-2013, which supports seven areas of business process. Eco-energy covers the efficient use of energy: it is aimed primarily at small and medium enterprises and households which seek to reduce their use of primary resources by focusing on renewable and/or secondary resources. The programme is administrated by CzechInvest, the Investment and Business Development Agency. Possible eligible expenditures include purchases of land; building of facilities; engineering works; and building documentation costs. Eligible projects are always set out in so-called "calls". The last call supported water, biomass and secondary sources of energy and it was possible to file the petition for the subsidy till 30 September 2010. The new call has not been announced yet.

GREEN INVESTMENT SCHEME PROGRAMME

The objective of the programme of saving energy and renewable energy sources from the revenues from the sale of emission credits — Green Investment Scheme programme (GIS programme) is to support selected measures implemented in residential buildings by individuals and other entities owning residential buildings, e.g., support for new family houses which satisfy the requirements of passive energy standards and apartment buildings; insulation of their shell; replacement of coal, lignite and fuel-oil boilers; and electricity heating by low-emission biomass boilers or heat pumps. The programme is administered by the State Environmental Fund and funds of up to EUR 1 billion can be drawn from 1 April 2009 until 31 December 2012. It is not possible to file the petition for the subsidy as the programme is interrupted and filed petitions are being processed.

OTHER SUBSIDIES

Depending on the nature of renewable energy production, producers might be entitled to other subsidies. These are the programmes that focus, for example, on energy crops, biomass and biogas power plants or small-scale solar energy projects, and are primarily administered by the Ministry of the Environment.

France

Background

Pursuant to the programming law dated 3 August 2009 (Article 2 of Programming Law n° 2009-967 of 3 August 2009 known as "Grenelle 1"), the share of electricity produced from renewable energy sources should represent 23% of electricity consumption by 2020.

France has centred its renewable energy sources approach on feed-in tariffs on the one hand, and a tendering procedure on the other.

Mechanism 1 – Renewable Wind Energy Areas

In order to aggregate wind farms and to avoid their dispersion, the creation of wind power development areas was decided in 2005 (Article 37 of Law n° 2005-781 of 13 July 2005). This new legal framework system enables wind farms to benefit from the power purchase obligation for the projects located in areas set up by local authorities. The municipalities submit a request for permission to create wind power development areas ("Zones de développement éolien") to the concerned department "Préfet" (local State authority), who then consult the neighbouring municipalities prior to any decision. Their adoption is subject to three conditions: wind potential; grid connection possibilities; and landscape protection (listing buildings and protected locations).

The law dated 3 August 2009 created regional plans to organise wind farm development zones. In addition, the law known as "Grenelle 2" (Law n° 2010-788 of 12 July 2010) prohibited the development of areas out of the territorial areas defined by regional plans for wind farms.

Mechanism 2 – Power Purchase Obligation and Feed-in Tariffs

The power purchase obligation is the main incentive element of the French government is energy policy. "Electricité de France" and Non Nationalized Distributors (Article 23 of Law n°46-628 of 8 April 1946) are bound to buy the energy produced from renewable energy sources at a fixed price, provided production installations are connected to power grids and that the producers fulfil various conditions.

Firstly, power production is limited to 12 MW per site (Decree n°2000-1196 of 6 December 2000, modified 4 September 2007; and Decree n° 2001-410 of 10 May 2001, modified 4 march 2009), except for wind energy located in the wind power development areas. In the latter case wind farms located in wind power development areas may not exceed or be lower than installed power defined by the local authorities.

Feed-in tariffs apply to renewable energy sources, and are calculated to improve private investments. Thus, total prices are equivalent to normal remuneration of funds invested by the producer. Furthermore each producer is assured that what is produced will be sold at a fixed price.

Feed-in tariffs are defined by a statutory order from the Minister of Economy, Industry and employment for each technology.

Currently, tariffs have been introduced for wind energy (orders of 17 November 2008 and 23 December 2008), small hydro, photovoltaic energy (order of 10 July 2006), biomass and biogas, and electricity from Combined Heat and Power (CHP) and waste incineration.

Feed-in-tariffs for photovoltaic energy were modified by a Ministerial Order dated 31 August 2010 setting the feed-in tariffs for electricity produced by solar installations. Pursuant to this Ministerial Order, state-regulated Feed-in Tariffs for PV projects have decreased by 12%. This decrease applied to all categories of PV electricity producers, except for small residential producers. However, Decree n°2010-1510 dated 9 December 2010 suspended the purchase of electricity produced by installations using solar energy and imposed a three month moratorium on new solar projects that qualify for current power purchase Feed-in Tariffs. Two Ministerial Orders dated 4 March 2011 determine a new tariff framework for photovoltaic energy. One of these Ministerial Order repeals the previous Ministerial Order dated 31 August 2010 while the other organizes the purchase obligation. Feed-in Tariffs are now about 20 % below those prevailing before the moratorium of 9 December 2010 and apply only to projects in which power is less than 100 kW.

Mechanism 3 – Tax incentives

The French government also introduced tax incentive measures in favour of renewable energy, such as:
— tax credits of up to 36%;
— 5.5% of VAT rate for residential energy equipment using renewable energy sources; and
— tax credits of up to 36%for biomass heating plants.

Mechanism 4 – Pluriannual Generation Investment Programme

The Minister in charge of Energy has the obligation to make available, every two years, an assessment of the national requirements in new electricity generation capacities, called "Pluriannual Investment Programme" (PPI), in order to ensure that electricity supply will at any time match the demand. The last PPI takes into account the national target for Renewable Energy Sources determined by the European Directive no 2009/28/EC. The PPI's main target is not only to set the overall capacity, but also to identify the best energy mix, and therefore the right investments in electricity production, both from energy supply security and environmental standpoints. So, the PPI dated 15 December 2009 lays down specific objectives for the development of each energy source and production method, up to year 2020.

A first order of 7 March 2003 has been replaced by the order of 7 July 2006 which fix development objectives for renewable energies until 2015.

Mechanism 5 – Tender process

The French government may also launch calls for tender, which should then be organised by the Regulator (CRE: Energy Regulation Commission). This system has existed since 2000 and allows the Minister in charge of energy policy to react if the PPI's goals have not been achieved.

Many calls for tender have already been launched since 2003 as regards different energy sources (biomass, biogas, onshore and offshore wind turbines).

PV plants beyond 100 kW of installed capacity do not benefit from feed-in-tariffs any more. Such projects will be funded through regular tender processes, within capped global quantities. According to a document made available by the Government, the first call for tender should be published during Summer 2011.

The French government recently announced that it will launch in May 2011 a tender for 10 billion Euros of offshore wind farms with a total capacity of 3000 megawatts (MW), stretching along the French coast. The tender for the construction of around 600 wind turbines is the first to be announced as part of the government's plans to increase French offshore wind energy capacity to 6000MW by 2020.

Mechanism 6 – Transposition of the RED

France will be late in the transposition of Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC: pursuant to Article 2 of Law no 2011-12 dated 5 January 2011, the French Government has been empowered to implement the Directive 2009/28/EC by an Order within 18 months.

Germany

Mechanism 1 – Renewable Energy Sources Act (Erneuerbare-Energien-Gesetz – EEG)

The backbone of the German renewable energy support mechanism is the EEG. The EEG supports the production of electricity from wind and water power, solar radiation, biomass and sewage gas combustion, as well as geothermic energy. The EEG guarantees each plant operator a fixed feed-in tariff for electricity generated from these renewable energy sources. The feed-in tariff depends (among other things) on the type and capacity of the installation and the year of its commissioning. Owing to the EEG, which celebrated its 10th anniversary in 2010, electricity produced from renewable energy sources contributed to approx. 17% of electricity consumption in Germany in 2010. The EEG is thoroughly revised every four years and may be revised in certain aspects (e.g. feed-in tariff for photovoltaic energy) in between. The next revision, adopted by German parliament in June 2011, will become effective in 2012.

Guaranteed feed-in tariff

The locally responsible transmission system operator is under a legal obligation to pay to the plant operator the guaranteed feed-in tariff for a period of, in general, 20 calendar years (and for the year the plant was put into operation). The fee depends on the feed-in tariff that is applicable in the year of commissioning and, in most cases, remains fixed during the 20 years that follow commissioning. The later a plant is put into operation the lower the fee that is paid to the operator (so-called "degression"). The EEG differentiates between different sources of renewable energy. Different feed-in tariffs and degression rates apply to each renewable energy source. The EEG provides in 2011 for the following feed-in tariffs.

The remuneration for electricity generated by offshore wind energy turbines amounts to Eurocent 13/kWh (plus Eurocent 2/kWh for each turbine that is commissioned before 1 January 2016) (from 2012 on: Eurocent 15/kWh as consolidated feed-in tariff) and is paid for a period of 12 years starting from the date of commissioning. This period may be extended by 0.5 months for each full nautical mile beyond 12 nautical miles seawards and by 1.7 months for each full metre of water depth exceeding 20 metres in order to further incentivise the erection of wind

photovoltaic energy:	21.11 - 28.74 Eurocent/kWh (2011)	In 2012 reduction of current feed-in tariff of 21.11 - 28.74 Eurocent/kWh depending on volume of PV installations in 2011 (possible reduction range from 1.5% to 24%)
biomass energy:	7.63 - 11.44 Eurocent/kWh (plus different bonuses) (2011)	6.00 – 14.30 Eurocent/kWh (plus different bonuses) (2012)
geothermy:	10.29 - 22.68 Eurocent/kWh (2011)	25.00 – 30.00 Eurocent/kWh (2012)
landfill gas:	4.04 - 10.73 Eurocent/kWh (2011)	5.89 – 6.79 Eurocent/kWh (2012)
offshore wind energy:	3.50 - 15.00 Eurocent/kWh (2011)	3.50 – 19.00 Eurocent/kWh (2012)
onshore wind energy:	4.92 - 10.00 Eurocent/kWh (2011)	4.87 – 9,41 Eurocent/kWh (2012)
water energy:	3.43 - 12.67 Eurocent/kWh (2011)	3.40 – 12.70 Eurocent/kWh (2012)

farms far offshore and in deep waters. In order to improve the bankability of offshore projects, owners will from 2012 on be entitled to opt alternatively to the before mentioned for an increased feed-in tariff of Eurocent 19/kWh during a reduced guaranteed period of 8 years (so-called "Stauchungsmodell"). In such cases, after these 8 years, a feed-in tariff of 15 Eurocents will be paid only for the additional period resulting from the wind farm's distance to the 12 nautical miles line respectively from water depth as mentioned above.

The feed-in tariff for photovoltaic energy has been reduced significantly in the past. Future reductions in the feed-in tariff for photovoltaic energy will depend on the volume of new installations. The feed-in tariff for 2012 will decrease by 1.5 to 24% depending on the volume of new installations in 2011.

Grid connection

According to Sections 5, 8 and 16 EEG, a transmission system operator who is located closest to a renewable energy plant is obliged to connect the plant to the grid, purchase all electricity produced by the plant and pay the guaranteed feed-in tariff. The plant operator generally bears the costs related to the connection and has to pay, as the case may be, an annual fee for the operation of the connection facilities to the transmission system operator. Due to the high costs of connecting an offshore wind farm to the grid, an exception applies to such wind farms. According to Section 17 para. 2a of the German Energy Industry Act (Energiewirtschaftsgesetz – EnWG), the responsible transmission system operator is obliged to build and operate the cable from the transformer station of the offshore wind farm to the technically and economically best connection point of the next transmission or distribution grid. As a consequence, the grid connection regime for offshore wind farms differs significantly from the regime for onshore wind farms and other renewable energy plants. A plant operator who applies for the grid connection of an offshore wind farm has to follow an iterative process with the responsible transmission system operator. In particular, specific requirements have to be fulfilled in order to obtain the confirmation from the transmission system operator that the grid connection will be supplied within a certain period of time.

Mechanism 2 – Renewable Energy Heat Act (Erneuerbare-Energien-Wärmegesetz – EEWärmeG)

The EEWärmeG supports the expansion of renewable energy in heat production with the target of 14% of its total production of heat, hot water, cooling, and process heat from renewable energy, such as solar radiation, biomass, geothermic energy or waste heat, by 2020. The EEWärmeG introduces a general obligation on all owners of new buildings to cover a certain amount of their heat energy demand from renewable energy sources. Alternatively, it allows owners to take other measures to decrease their energy consumption, e.g. the installation of highly effective insulation. The federal States are entitled to extend these obligations to existing buildings. In addition, the Federal Government provides financial aid for the use of renewable energy sources technology. According to the EEWärmeG, the Federal Government will allocate up to Euro 500m annually for the support of renewable energy sources in heat production. Finally, the EEWärmeG facilitates the development of district heating networks. Pursuant to the EEWärmeG, local authorities are entitled to impose an obligation to use district heating in order to protect the climate and natural resources.

Mechanism 3: Combined Heat and Power Act (Kraft-Wärme-Kopplungsgesetz – KWKG)

The KWKG guarantees each combined heat and power plant operator a fixed amount per kilowatt-hour for the produced electricity which is paid in addition to the market price. The feed-in tariff depends (among other things) on the type and capacity of the installation and the year of its commissioning. Thereby, the development of new technologies and smaller plants shall be promoted. Under the KWKG, just like under the EEG, a locally responsible transmission system operator is obliged to connect the plant to the grid, purchase all electricity produced by the combined heat and power plant, and pay the guaranteed amount. The fees are usually guaranteed for a period of 30,000 hours of operation at full power. A combination with the fees of the EEG is not possible. Furthermore, the Federal Government provides financial aid for the development and installation of combined heat and power plants in new built or energetic renovated private and public buildings.

Hungary

Background

Enhanced utilisation of renewable energy sources is one of the chief concerns of the governmental energy policy, as stated in the government energy strategy and adjoining action paper. At present, electricity generated from renewable sources amounts to approximately 5% of total consumption, which already exceeds the 3.6% commitment made towards the EU to be fulfilled by 2010 pursuant to the EU Directive on the promotion of electricity produced from renewable energy sources and the Accession Treaty of Hungary. The long-term goal of Hungary is to achieve a 13% share of renewable energy sources in the final energy demand by 2020.

A completely new electricity regulation entered into force in Hungary on 1 January 2008, which further liberalised the electricity sector and set forth a novel regime for supporting renewable electricity generation.

Mechanism 1 – Mandatory off-take and regulated feed-in tariffs

The new electricity regulation further enhanced the regime of mandatory off-take to support investment in the field of renewable electricity generation. Pursuant to the regime, substantial part of the electricity generated from renewable sources must be taken off by the Hungarian State-owned Transmission System Operator (TSO) (Mavir) at calculable, regulated prices. Traders, including universal service providers, power generating companies and electricity importers, must purchase from the TSO electricity generated from renewable energy sources according to a fixed percentage of their total electricity turnover/ consumption. The off-take prices are defined according to the type of renewable source, whether the licence entitling selling electricity under the mandatory off-take regime was issued before or after the effective date of the new regulation and the time of generation (i.e. peak, off-peak and deep valley periods). The off-take prices are amended each year in accordance with the Consumer Price Index as measured by the Hungarian Statistical Office. The renewable sources currently subject to the regime are wind, solar and geothermal energy, electricity generated by cogeneration or from biomass or biogas, and water energy, although severe restrictions may apply depending on the source used and the size of the plant.

Even though off-take prices are stipulated by law, the actual entitlement for a plant to sell electricity in the mandatory off-take regime is awarded by the Hungarian Energy Office (HEO), a body supervised by the Minister of Transport, Telecommunication and Energy. In such licence the HEO defines the annual amount of electricity subject to the mandatory off-take and the time period under which it is subject to the mandatory off-take. Pursuant to the applicable law, the HEO mainly takes into account the business plan of the generator and the return on investment. Therefore any other subsidy (state or EU funds, surplus of emissions allowances generated by the project, if relevant, discount from connection fee, etc.) must be notified to the HEO, which shall adjust the amount and timeframe accordingly. Entitlement for participation in the mandatory off-take regime in the case of newly established wind energy projects is somewhat different (see below).

The regime of mandatory off-take is not carved into stone. Under the Electricity Act the Government is entitled to implement a so-called "green and cogenerated certificate system" in the future instead of the current mandatory off-take regime. Under the green certificate system, renewable electricity would be sold at market prices, but in order to finance the additional costs of renewables and to ensure that the desired amount is indeed generated, all consumers (or producers) would be obliged to purchase a certain number of green certificates according to their overall consumption (production). Thus, these would be more market-based instruments. However, no green certificate system has been introduced so far.

It must be noted that due to inefficient support measures, problems of cross-financing between related industries and increasing sensitivity in the society for energy bills, some reform of the above mentioned support system seems inevitable and is already on the political agenda. It is most likely that co-generation of heat and electricity will be excluded from the scope of the mandatory off-take system, which anyhow served in practice as a support measure to district heating and had little to do with the use of renewable resources. The exact shape of the new support system is not yet known.

Wind Energy

According to unconfirmed expert opinions and industry experts, Hungary has a potential of over 1,000MW of wind energy, nevertheless only about 330MW have been licensed so far by the HEO, most of which is already operational or in the advanced phase of development. The already licensed wind farms are fully participating in the mandatory off-take regime.

Due to dispatchability constraints of the Hungarian grid the implementation of further wind generation facilities is not liberalized, but investors must win entitlement on an open tender procedure. Although in 2010 such an open tender was indeed published for the establishment of wind energy facilities with an aggregate foreseen capacity of 410 MW, the tender was later cancelled in its very advanced phase to the disappointment of possible investors. The publication of a new tender is much awaited in the Hungarian wind industry. Nevertheless no date is yet revealed, and it seems fairly unlikely that a new tender invitation would be published before the general review of the mandatory off-take system, as mentioned above, occurs.

Biomass, Geothermal and Solar Energy

Hungary has a great potential both for biomass and geothermal energy, although these sources are not exploited to the utmost possible level.

The energy produced from biomass plants represents the largest share of electricity produced from renewable energy sources. Biomass power plants may be subject to the mandatory off-take regime, provided they meet certain efficiency requirements.

Geothermal energy is unfortunately little used so far, although Hungary is rich in easily accessible thermal waters. However, an increasing number of small or medium scale heat-pump projects are implemented year-by-year, mostly for district heating purposes and supplying public buildings.

Utilisation of solar energy is currently immature in Hungary, and no big-scale solar farm project has been implemented to-date. However, household/small-scale use of solar panels is on the rise due to governmental support for energy efficiency investments of households and public buildings. Within the mandatory off-take regime the feed-in tariffs of solar electricity are not higher than those of the wind generated electricity.

Mechanism 2 – State subsidies and EU funds

EU funds and governmental sources are available for the implementation of small and big-scale renewable projects through the Operative Programme for Environment and Energy, managed by the National Development Agency.

In compliance with its obligations, Hungary has also implemented Directives 87/2003 and 101/2004 on EU emission trading. Pursuant to these Directives, Joint Implementation (JI) of renewable energy projects is possible under the Hungarian legal framework, and some projects have already taken advantage of emission reduction within the JI framework.

Italy

Mechanism 1 – The Green Certificates (GCs)

WHY HAS IT BEEN INTRODUCED?

The EU directive 2009/28 CE on the promotion of electricity produced from renewable energy sources (RES) has set the target for Italy to generate 17% of electricity from renewable sources by 2020.

WHAT IS IT?

In order to encourage the development of renewable energy, electricity suppliers and electricity importers shall supply or import a percentage equal to 2% (increased every year by 0.35%) of the supplied or imported energy that is to be produced from renewable energy sources. Each Green Certificate proves that as much as 1MWh has been produced from a renewable source. The Green Certificate shall then be bought by the Gestore Servizi Energetici (GSE), a State company set up for the purpose of providing incentives to suppliers producing renewable energy.

HOW DOES IT WORK?

Until 31 December 2012 any plant producing renewable energy will be entitled to a GC for every MWh produced for as long as eight years. The GCs shall then be sold to the GSE, which will buy them back at a price set every year by the GSE itself, according to the relevant government guidelines (in 2011 the price is equal to EUR 87,38/MWh). The new Legislative Decree No. 28/2011 sets out a progressive reduction of the GCs through until final cancellation, which is expected in 2015.

Mechanism 2 – The Energy Account

WHY HAS IT BEEN INTRODUCED?

An alternative way of providing incentives is also available to producers of photovoltaic renewable energy only. The reason for these peculiar rules applying to photovoltaic energy is, of course, the geographic position of Italy, which makes this particular legislation appropriate.

WHAT IS IT?

Originally introduced in 2005, the so-called "Energy Account" has been significally amended from time to time. Decree No. 387/2003 and the relevant implementing rules provide for a mechanism through which the producers of a photovoltaic plant – in addition to the proceeds deriving from the sale of the energy produced from a photovoltaic plant to the GSE and to third parties (i.e. electricity grid local administrators), may benefit, under certain conditions, from the so called "Feed in Tariffs" (FITs). Such FITs are incentives paid by the GSE, for up to 20 years, to the producers of photovoltaic electricity. It has been calculated that the average price for building a photovoltaic plant is likely to be paid off by the combined effect of energy sold and the Incentive Fare in a period as long as ten years in the North regions and seven years in the South.

By Ministerial Decree of 5 May 2011 a new regime has been approved (also called the "Fourth Energy Account") which is applicable to those photovoltaic plants which will commence operations after 31 May 2011 and within 31 December 2016.

The new regulatory system sets out a distinction between "small photovoltaic plants" (those installed

— on buildings, with a nominal power not exceeding 1000 kW;
— on roof tops, or ground mounted, with a nominal power of up to 200 kW operating in the regime of net metering scheme;
— on roof tops of public buildings irrespective of their nominal power) and "large photovoltaic plants" (all other PV plants).

An ad hoc "Register" for large photovoltaic plants to be established by the GSE with a ranking list, as a condition to access the incentives has been introduced.

ARE THERE ANY LIMITATIONS?

The new Decree of 5 May 2011 introduces the concept of

— "annual cost thresholds", which is a cap determined by the Italian Government in order to control the costs deriving from the award of feed in tariffs by the GSE; and
— "power capacity targets", which is the power capacity that is foreseen to be installed on a six month basis timeframe, until the end of 2016.

On the basis of such "annual cost thresholds" and "power capacity targets", large plants will be awarded relevant feed in tariffs until such thresholds/targets will be reached.

Mechanism 3 – Simplified purchase arrangements with small RES operators

WHY HAS IT BEEN INTRODUCED?

The GSE offers simplified purchase arrangements with small RES operators and net metering. Under the simplified arrangements, producers may sell electricity injected into the grid to the GSE as an alternative to bilateral contracts or direct trading in the power exchange (Borsa Elettrica). The electricity price that GSE pays to producers is set every hour in the power exchange, in the market zones where their plants are located.

WHAT IS IT?

The following plants are eligible for the simplified arrangements:

— plants with a nominal apparent power of less than 10MVA: RES plants or hybrid plants for the portion of electricity generated from renewable sources;
— plants of any power using the following renewable sources: wind, solar, geothermal, waves, tides, hydro (run-of-river only);
— plants with a nominal apparent power of less than 10MVA: non-RES plants or hybrid plants for the portion of electricity generated from non-renewable sources; and
— plants having a nominal apparent power greater than or equal to 10MVA: plants using renewable sources other than wind, solar, geothermal, waves, tides and hydro (run-of-river only), provided that they are owned by self-producers.

Mechanism 4 – Net metering (scambio sul posto)

WHY HAS IT BEEN INTRODUCED?

The net metering scheme has been recently introduced under Italian law and its new regulation has applied since 1 January 2009. Under the net metering scheme, producers/users may inject into the grid electricity generated but not consumed immediately and then withdraw it from the grid to cover their consumption.

WHAT IS IT?

Producers/users receive an economic contribution from the GSE that adds to the value (at market prices) of electricity fed into the grid.

Generally, the net metering scheme is more profitable for producers/users if the yearly value of electricity injected into the grid is equal to or higher than the energy charges incurred for electricity withdrawn from the grid. Moreover, for all electricity traded under the scheme, the GSE will refund all charges incurred for using the grid to producers/users.

ARE THERE ANY LIMITATIONS?

The net metering scheme applies from 1 January 2009 to those applicants who have at their disposal plants producing from 20kW up to 200kW of energy from renewable sources.

The Netherlands

Background

The National Renewable Energy Action Plan of the Netherlands of June 2010, describes how the Netherlands intends to achieve its target for 2020 pursuant to the Renewable Energy Directive (2009/28/EC). This is further elaborated on in the 2011 Energy Report that sets out Dutch energy policy for the next years and addresses the transition to sustainable energy production.

For the Netherlands, the national targets are
— to increase the share of renewable energy up to 14% by 2020;
— to reduce greenhouse gas emission by 20% compared to 1990 levels; and
— to achieve a rate of energy efficiency improvement of 2% per year.

Mechanism 1 – Incentive scheme for sustainable energy production (Stimulering Duurzame Energieproductie or SDE+)

According to the government coalition agreement, concluded on 30 September 2010, the production of renewable energy in the Netherlands must become competitive. It was therefore decided to discontinue the incentive scheme for sustainable energy, referred to as the 'SDE scheme', per 1 January 2011 and to introduce an amended incentive scheme. This new scheme, that is referred to as the 'SDE+ scheme', has taken effect on 1 July 2011.

The SDE+ scheme is a feed-in premium subsidy scheme that provides grants to investors for projects involving several categories of sustainable energy production, such as onshore wind, biomass, waste incineration, landfill gas or biogas from waste water- or sewage purification installations and hydropower (as well as heat, as of 2012). The SDE+ scheme will each year open in four phases. In each phase the maximum subsidy amount gradually increases. Within a phase each technology has its own subsidy amount.

The SDE+ scheme aims to be more cost-effective than its predecessor and will be financed by means of a surcharge on energy bills and conceivably partly by a tax on coal and gas, creating a direct relationship between energy consumption and investments in making the energy supply more sustainable. Subsidies that have already been awarded under the preceding subsidy schemes (such as the SDE scheme and the Environmental Quality of Electricity Generation scheme (the so-called MEP scheme) will continue to be funded from general resources.

Mechanism 2 – Green Deal

In accordance with the coalition agreement of 30 September 2010, the Dutch government envisages to enter into a 'Green Deal' with society emphasizing on energy saving and local sustainable energy generation. Through a comprehensive consultation in the spring of 2011, the Dutch government has identified suitable social initiatives. The first initiatives in respect of this Green Deal are expected to be launched this summer.

Mechanism 3 – Energy Investment Allowance (EIA)

As of 1997, the Energy Investment Allowance (Energie-investeringsaftrek, EIA) gives a financial advantage to parties that invest in energy-efficient technologies and sustainable energy generation. An annual energy list determines which types of equipment qualify for this programme. Qualifying investments can be offset against corporate income tax liability. In 2011, companies may deduct 41.5% of their annual investment costs for energy-saving. The available budget for 2011 is EUR 151 million.

Mechanism 4 – Renewable Energy Directive (RED)

On 9 April 2011 the Act implementing the Renewable Energy Directive (2009/28/EC) in relation to liquid biomass and biofuels, the Fuel Quality Directive (2009/30/EC) and the Clean Vehicles Directive (2009/33/EC) has entered into force. The Act implements the directives by amending the Environmental Management Act (Wet Milieubeheer), the Economic Offences Act (Wet op de economische delicten) and the Electricity Act 1998 (Elektriciteitswet 1998).

The Environmental Management Act is amended to include, among others, a provision that provides for the adoption of secondary legislation that

— stipulates sustainability criteria for biofuels; and
— prescribes rules in relation to the information that should be submitted in order to prove that these sustainability criteria are met.

Furthermore, this Act is amended to provide for a special register for fuel suppliers to register information about supplied biofuels. The Dutch Emissions Authority is assigned the task of controlling this register and the administrative enforcement of the biofuels obligations.

The provisions of this Act in respect of the sustainability criteria, the information obligations and the registration of biofuels apply with retroactive effect as of 1 January 2011.

As indicated, the sustainability criteria for biofuels and the information obligations are provided in secondary legislation: the Decree renewable energy transport (Besluit hernieuwbare energie vervoer) and the Ministerial regulation renewable energy transport (Regeling hernieuwbare energie vervoer). This legislation also applies with retroactive effect as of 1 January 2011.

Mechanism 5 – Priority access to the grid

On 30 November 2010 the Dutch Senate passed the legislative proposal of the 'Act priority access for renewable electricity' (Wet voorrang voor duurzaam). Pursuant to this Act, grid operators must give priority access to renewable electricity in case of a shortage of transmission capacity. Under this Act the costs for congestion management are, as yet, borne by the end users. This is however still subject of discussion and may change in the future. The Act and underlying implementing rules are expected to enter into force on 1 September 2011.

Mechanism 6 – Crisis measures

The Crisis and Recovery Act (Crisis- en Herstelwet) came into force on 31 March 2010. The Act includes provisions for speeding up infrastructure projects, as well as projects concerning sustainability, energy, and innovation. The possibility of speeding up projects - by means of faster decision-making and reduced legal risks - is intended to ensure additional investment and employment, which will help combat the economic crisis in the short term, and to promote the long-term recovery of the country's economic structure.

Mechanism 7 – Heat

Almost a third of Dutch energy consumption involves heat, including heat supplied by renewable sources. On 10 February 2009 the Dutch Senate passed the legislative proposal of the Heat Act (Warmtewet). This Act regulates the supply of heat to private and business customers and introduces price regulation and a licensing system. The Act has, however, not yet entered into force because the envisaged price regulation proved to be too complicated. It was subsequently decided to amend the Act. The draft amendments as well as related secondary legislation have been sent to Parliament in July 2011. The revised Act is expected to enter into effect in 2012.

Poland

Background

The Polish Energy Law implemented the RES Directive, which introduced the mechanisms supporting renewable energy generators, on 1 October 2005. Despite the lapse of the 5 December 2010 deadline for its transposition by the Member States set forth in the Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (the Second RES Directive), the Second RES Directive has not been implemented yet. Works on a separate new Act on Renewable Energy Sources, which is to regulate all aspects of operation of renewable generators, including a revised support system, are being conducted since last year. No date for the publication of the first draft of the new Act has been announced, and it is unlikely that this legislation will come into force before the end of 2012. Based on the assumptions published by the Polish government in the spring of 2011, the new support system will remain based on the certificates of origin (described below), rather than feed-in tariffs, but the value of the certificates will differ depending on the specific technology used by the given generator, so as to provide stronger support for the less profitable technologies, such as photovoltaics. Also, the value of certificates obtained by each project will decrease in time.

The basic principles of the currently applicable Polish renewable energy support system are described below.

Mechanism 1 – Obligation to purchase renewable energy

Suppliers of last resort (LRS, i.e. companies delivering electricity to household customers who do not exercise their third-party access rights) are obliged to purchase all electricity offered to them and generated from renewable energy sources and supplied to the electricity grid within the area of operation of the relevant LRS.

The purchase is effected at the statutory price equal to the average price of electricity prevailing in Poland in the preceding calendar year, announced annually by the Regulator (the purchase price in 2010 was PLN 195.32/ MWh, approx. EUR 48.8/ MWh).

All entities trading in heat are obliged to purchase thermal energy offered to them which is generated from a renewable source located in Poland up to a maximum volume corresponding to the total demand of the relevant entity's customers who are connected to same heat transmission system as the renewable energy source in question. Thermal energy prices are set in tariffs subject to the approval by the Regulator.

Mechanism 2 – Certificates of origin

The Polish Energy Law obliges all suppliers of electricity to end customers to annually redeem documents certifying generation of electricity from a renewable source (so-called "green certificates") in respect of the volume of electricity representing a prescribed portion of the aggregate annual sales to the end customers of the relevant supplier.

The volumes of electricity to be covered by green certificates in each calendar year are set out in secondary legislation to the Energy Law. Redemption of green certificates also exempts suppliers of electricity to end customers from the excise tax in relation to the volume of electricity covered by the redeemed certificates (PLN 20/MWh, approx. EUR 5).

According to the Ordinance on obligation to purchase electric energy from unconventional and renewable sources dated 14 August 2008, the volume of electricity to be covered by green certificates should increase from 7% of the aggregate volume of electricity sold by the relevant supplier to its end customers in 2008, to 12.9% of such volume in 2017. Suppliers may also meet their obligation by paying a "substitution fee" for the volume of electricity not covered by green certificates (PLN 274.92/MWh, approx. EUR 68.7/MWh). However, payment of the substitution fee does not exempt suppliers of electricity to end customers from the excise tax in relation to the volume of electricity covered by that payment.

Consequently, the legislation (indirectly) sets the maximum price (cap) of green certificates (substitution fee + excise tax). No minimum price is guaranteed by the law. For as long as the LRS are required to apply regulated tariffs, pricing of green certificates is also influenced by the Regulator, who determines the maximum price acceptable as a "justified cost" in tariffs of LRS.

Mechanism 3 – Connection to the grid

Electricity grid operators have a statutory obligation to connect all applicants to their grids, subject to such connection being economically and technically viable. The fee charged for such interconnection is normally determined on the basis of the actual interconnection cost. In respect of renewable facilities of an installed electric capacity below 5MW, the grid connection fee amounts to 50% of the above cost.

Mechanism 4 – Excise exemption

Electricity generated from renewable sources is exempt from excise tax (the general rule is that in Poland excise is payable by the entity selling energy to an end user).

Other renewable energy support mechanisms:

- within the area of its operations, an electricity grid operator is obliged to give priority to transmission of energy produced from renewable sources, subject only to maintaining the reliability and security of the national power system;
- entities generating electric energy from renewable sources with a total capacity not exceeding 5MW are exempt from:
  - fees relating to entries in the register of certificates of origin;
  - stamp duty for the issuance of certificates of origin;
  - stamp duty for the issuance of a licence to generate electric energy from the relevant source;
- operators of renewable energy sources with a total capacity not exceeding 5MW are exempt from the otherwise applicable annual licence fees;
- costs of co-financing investments related to the development of renewable energy sources are defined by the law as a category of "justified costs" subject to pass through in gaseous fuels, electricity and heat tariffs;
- electricity generated from wind powered sources is subject to specific balancing principles (balancing on hourly rather than daily basis); and
- operators of renewable energy sources, who have developed such sources on their own agricultural land, may deduct 25% of the incurred investment costs from their agricultural property tax.

Romania

Background

The current support mechanism for renewable energy in Romania is the combined compulsory quotas with trading of green certificates ("GCs"). Electricity generators using renewable sources receive one GC per MWh regardless of the source, and energy suppliers have the obligation to acquire such certificates according to a mandatory quota established by the Government.

The above mentioned support mechanism has significantly amended in 2008 (the main amendment being the variable number of GCs depending on the source) when Law no. 220/2008 regarding the support mechanisms for the generation of energy from renewable sources ("Law 220") was enacted. Law 220 was published in the Official Gazette in 2008 and amended twice, but has not been implemented given the absence of state aid clearance from the European Commission Directorate General for Competition.

On 13 July 2011 the European Commission finally gave clearance to the new support mechanism under Law 220. The clearance was granted in light of certain amendments to the current text of Law 220. The support mechanisms described below reflect the latest amendments proposed to Law 220 which are pending Government approval.

We would note that these amendments, although agreed by the European Commission, are not yet published in the Official Gazette of Romania and changes may occur in the final version. In addition, a number of regulations have to be enacted in order to allow the implementation of the new support mechanism.

Mechanism 1 – Compulsory quotas and Green Certificates (GCs)

Romania adopted the promotion mechanism of compulsory quotas combined with trading of GCs. The energy, regardless of the sources, is sold at the market price. The price is established based on offer and market demand and agreed by the generators and suppliers/traders by Power Purchase Agreements.

In addition to the market price, each generator of electricity from renewable sources (other than hydro power plants whose installed capacity exceeds 10MWh) qualified accordingly by the National Energy Regulatory Authority ("ANRE") receives from Transelectrica, for the energy produced and delivered into the grid:

- three GCs for each MWh produced by new hydropower plants, two GCs for each MWh produced by refurbished hydropower plants and one GC for each 2 MWh produced by hydropower plants that are neither new nor refurbished;
- two GCs until 2017 and one GC starting in 2018 for each MWh produced by wind farms;
- two GCs for each MWh produced from geothermal sources, biomass (however, three GCs will be granted for each MWh produced from biomass resulted from crops that are especially cultivated for bio-fuels and biomass), biogas and bio-liquids and one GC for each MWh produced from waste fermentation and mud fermentation gas; Generators using biomass, bio-liquids and biogas will be granted GCs only on the basis of a valid certificate of origin assessing the origin of the renewable sources. Such certificates of origin shall be issued by certified entities in accordance with amethodology that is to be approved by Government Decision. For the energy produced by high-efficiency co-generation systems using renewable sources mentioned in this paragraph, one additional GC shall be granted. We would note, however, that the generator has the option to choose between the high efficiency co-generation bonus and the support mechanism for energy from renewable sources;
- six GCs for each MW produced by solar power plants.

During the tests for commissioning, all energy facilities, regardless of the source used, shall be granted one GC per each MWh.

The GCs are valid for three years, which means that they can be reported if not sold in the year in which they were granted. However, there are ongoing discussions to reduce this term to 16 months.

The energy suppliers and generators are under obligation to acquire, every year, a number of GCs equal to the value of the mandatory quota (i.e. 10% for 2011, reaching 20% in 2020) multiplied by the total number of MWh

- acquired by the suppliers for their own consumption and for re-sale to end consumers;
- used by the generators for their own consumption, other than the technological consumption; and
- delivered by the generators to the end-consumers connected to their generation capacities by direct line.

The GCs received by the generators of electricity from renewable sources can be traded separately from the quantity of electricity they represent on the GCs market (which is separate from the electricity market) or on the centralized GCs market organized by OPCOM.

Until 2025, the minimum price per GC is EUR 27 and the maximum price is EUR 55 calculated in RON at the average exchange rate established by the National Bank of Romania for the last month of the previous year. Starting this year, the GC's prices are annually indexed by ANRE according to the average inflation index calculated for the EU Euro area for the preceding year, as officially stated by Eurostat. For 2011, ANRE established that the minimum price per GC shall be EUR 27.567/GC (RON 118.33/GC) and the maximum price shall be EUR 56.155/GC (RON 241.04/GC). From 2025, the price of the GC shall be freely established on the GC market, but shall not be lower than the applicable price for the year 2025 (as annually indexed).

In case of non-compliance with the compulsory quota, a penalty of EUR 110 per each non-acquired GC shall be paid to Transelectrica (the transportation and system operator), calculated at the average exchange rate established by the National Bank of Romania for the last month of the previous year. This penalty shall also be indexed by ANRE according to the same indexation formula as for the GC's prices. For 2011, the penalty for each non-acquired GC is EUR 112.3 (RON 482.09).

The term for application of the new support mechanism is:
- fifteen years for generation capacities using new equipment;
- ten years for refurbished hydropower plants and three years for non- refurbished power plants having an installed capacity of maximum 10 MW; and
- seven years for the generation capacities using second hand equipment if installed in isolated areas or if commissioned before the entering into force of the new support mechanism.

The support mechanism applies to generators that have been qualified by ANRE and have commissioned their generation capacities by the end of 2016.

If the generation capacity benefited from the GC support mechanism currently in force before the new support mechanism, comes intoforce the term of the support mechanism for each such generator shall be reduced accordingly.

Generators of renewable energy developing power plants with installed capacities of over 125 MW, do not automatically benefit of the above mentioned support mechanism. They have the obligation to send individual notifications to the European Commission. This is a condition for being qualified by ANRE to be granted GCs.

Mechanism 2 – Option to sell the output at fixed tariffs applicable to small capacities

The generators of renewable energy produced in power plants with installed capacities of under 1 MW have the option to sell their output at fixed tariffs. No GCs are granted for the renewable energy sold at fixed tariffs.

Upon generator's request, the local supplier (a supplier holding a supply licence covering the area where the generator is located) is under a legal obligation to purchase the entire output sold by the generator at the regulated tariffs.

Mechanism 3 – Priority dispatch v. Guaranteed access

The new promotion mechanism makes the distinction between the priority dispatch and guaranteed access.

Priority dispatch is only available to generators, owners of energy capacities of up to 1MW that do not require balancing. These generators sell their electricity at regulated tariffs depending on the type of technology and do not benefit of the GCs support mechanism. Certain technical restrictions apply.

Guaranteed access is available to all the other generators using renewable sources. The generator of energy using renewable sources that enters into a grid connection contract with the transmission or distribution grid operator will be able to deliver the electricity to the grid (except in cases of technical restrictions imposed by the national dispatcher) but will remain responsible for the balancing.

Mechanism 4 – Others

State aid to encourage renewables is available under various schemes. The applicant is required to file a request for a grant with the relevant authorities. If the project is eligible and the grant is awarded, the beneficiary of the grant will enter into a financing agreement with the relevant public authority and will be reimbursed part of the costs incurred in connection to the project. In addition there is a period of monitoring (usually 3 years) following the finalization of the projects that benefit of such grants. Such monitoring usually requires annual or biannual reports to the relevant public authority regarding the implementation/operation of the project and is designated to ensure that the grants are used for the purpose stated in the original application and the financing agreement.

The current wording of Law 220 published in the Official Gazette (but not implemented) provides that, if the project benefits from state aid, then the generator will only be granted one GC per MWh.

However, the latest amendments proposed to Law 220 and currently under discussions with the authorities, read that if the generator of renewable energy benefits from non-refundable grants for the project, then ANRE will reduce the number of GCs granted to the respective generator so as to keep the internal rate of return agreed and approved by the European Commission.

Also, under Energy Law 13/2007, generators of renewable energy benefit from special promotion systems for renewable energy (e.g. accelerated depreciation of investments in renewable energy sources).

Russia

Mechanism 1 – The Kyoto Protocol

In 2009 Russia adopted several central legislative acts allowing the realisation of two Kyoto Protocol structures: Joint Implementation and the Green Investment Scheme. The Clean Development Mechanism, allowing countries to earn tradable Certified Emission Reduction credits for emission/reduction projects in non-Annex I countries remains unregulated in Russia.

JOINT IMPLEMENTATION (JI)

According to Article 6 of the Kyoto Protocol, for the purposes of fulfilling its obligations under Article 3, any party may transfer to or acquire from any other party Emission Reduction Units (ERUs) awarded for the implementation of projects aimed at reducing anthropogenic emissions or at increasing absorption of greenhouse gases in any sector of economy.

Under Russian law, JI within the framework of the Kyoto Protocol allows Russian companies (owning sources of greenhouse gases) to obtain additional financing for the ecological results of investment projects. The main participants in such joint projects are the owner of the source of emission (project host) and the investor (which can be represented by a Russian company only).

Government Decree No. 843 dated 28 October 2009 (replacing the former 2007 Decree which provided for an unreasonably long and complex JI process) sets out the procedure for state approval of a JI project, including the following stages:

- application for the approval of a JI project lodged to Sberbank, one of the Russian major state-owned banks fulfilling functions of the "carbon units' operator" and its examination by Sberbank;
- expertise of the project by Sberbank realised in accordance with the Rules of the applications' selection (Selection rules) adopted by the Russian Ministry of Economic Development (MED). According to the Selection rules, the projects selection is subject to three main criteria:
  - energetic and ecological efficiency,
  - technical and financial potential, and
  - economic and social effect of the project implementation;
- approval of the expertise results and preparation of recommendations for the Coordination Centre (represented by MED) by a special Expert council assigned by Sberbank; and
- approval of the project by the Coordination Centre.

Please note that on 30 December 2010, the Russian MED approved 18 JI project in the framework of the discussed procedure. The approved projects include, among others, projects for the utilisation of associated gas, for landfill gas collection and utilisation and for modernisation of the metallurgical enterprises.

At the same time, notwithstanding the importance of the new JI rules adoption in Russia, a number of issues remain unresolved. For instance, the need for a Russia-based investor means that the transfer of ERUs will take place (or, at least, be from sources) on the territory of the Russian Federation, whereas it was possible under previous rules to structure JI projects in such a way that the transfer of ERUs would take place offshore through Emission Reduction Purchase Agreements. This may entail specific Russian tax consequences (e.g. profits tax and VAT) and cause uncertainty about the legal regime of the contractual relationships between the project host, investors and buyer of ERUs insofar as the legal nature of the ERUs remains somehow unclear under current Russian legislation.

GREEN INVESTMENT SCHEME (GIS)

This legal structure provided for by the Article 17 of the Kyoto Protocol allows inter-governmental emission trading and Assigned Allocation Units trading. This mechanism realisation in Russia had not been possible before 27 June 2009, when a special Government Order No. 884-r was adopted. According to this Order, Sberbank was appointed to participate in the implementation of pilot projects for GHG emission trading. Moreover, MED, with the participation of both Russian Ministry of Foreign Affairs and Sberbank, was empowered to negotiate on conclusion of international treaties (memoranda of understanding) relating to participation in carbon trading for submission to the Russian Government.

Mechanism 2 – Climate Change Levy & Levy Exemption Certificates (LECs)

According to Article 16 of the Federal Law on Environmental Protection of 10 January 2002, a negative impact on the environment must be paid for. The forms of such negative environmental impact are determined by the federal legislation.Negative impacts on the environment include:

- emission of polluting and other substances into the atmosphere;

— dumping of polluting and other substances and microorganisms into surface water reservoirs, underground water reservoirs and onto catchment areas;
— pollution of the underground and soil;
— disposal of production and consumption waste;
— pollution of the environment with noise, heat, electromagnetic, ionising and other types of physical influences; and
— other kinds of negative environmental impacts.

The Tax Code of the Russian Federation does not include charges for environmental pollution, waste disposal and other harmful impacts (climate change levies) in the list of federal taxes and duties. Climate change levies are not regarded as taxes.

The correctness and timely payment of such levies is controlled by the Russian ecological, technical and atomic supervision service (Rostechnadzor).

The adoption of the Federal Law on environmental protection was not followed by the quick development of a system of laws and regulations required for the practical implementation of that law. Many procedures for developing such a system envisaged by the law have not been introduced yet. No Federal Law has been adopted on charges for environmental pollution. There is no system of tax or other benefits for the companies employing advanced environmental technologies and implementing ecological measures. There are no procedures for limiting, suspending or terminating the operations of companies that cause harm to the environment.

At the same time, on 27 January 2009 the Government has adopted regulations in respect of State ecological control and assessment. The State control (which includes, in particular, control of ambient air protection, land control, control of use and protection of water objects, etc.) is now realised by the Federal service of nature use supervision against all companies and persons. This may be regarded as a first step towards the practical implementation of mechanisms provided for by the Federal Law on environmental protection.

Mechanism 3 – Offshore wind

In 2002 the first joint international project in the field of wind power generation was implemented and was supported by RAO UES of Russia, the administration of the Kaliningrad region, the Ministry of Energy of the Russian Federation and the Ministry of Economy and Energy of Denmark. The construction of this wind power generation station became possible due to SEAS Energi Service A.S., a Danish company, which was assisted in its efforts by the Danish Energy Agency.

The park of wind power generators consisting of 21 wind power units is located on an area of approximately 20 hectares. Its total capacity is 5.1MW.

However, Russian legislation in the field of application of non-traditional renewable energy sources, including wind energy, is not well developed. A first step forward towards the encouragement of renewable energy sources use was made by the Federal Law "On energy saving and energy efficiency increase" dated 23 November 2009. For instance, in accordance with this document, all State (regional and municipal) programs in the energy saving field must provide for the increase in secondary energy sources and/or renewable energy sources use. Moreover, the aforementioned Law establishes several tax incentives in this sphere, including investment tax credits for companies investing in creation of objects representing renewable sources of energy, an increased depreciation coefficient for objects with high energy efficiency class and partial compensation of interest on loans and credits in the framework of energy saving projects. Moreover, a new Federal Law has been adopted by the Russian State Duma (lower house of the Russian Parliament) in May 2011 providing for an additional incentive: a 3-year property tax exemption for companies with respect to their new energy efficient equipment.

Mechanism 4 – Heat

The use of renewable energy sources, including biomass, is not widely spread in Russia. There are only a few installations designed for such purposes. For example, with assistance from IC-Tula, a limited liability company, an agricultural farm in the Tula region has assembled a gas generator system HERLT HSV 800. There are now plans to organise the mass production of gas generator heating systems in Russia.

In addition, a Federal Law "On heat supply" was recently (on 27 July 2010) adopted in this sphere providing for a program of heat supply systems complex development as well as for general principles of tariffication for services of heat production, realisation, transfer and dispatching. It is noteworthy, however, that this document does not determine clearly the state policy in the field of generation of heat from renewable sources.

Mechanism 5 – Various sources of funding

Financing is provided by the Government of the Russian Federation and by investors.

Serbia

Background

Energy potential of the renewable energy sources (RES) in the Republic of Serbia is significant and estimated at over 4.3 million tonnes of oil equivalent (toe) annually (participation of biomass in total potential approximately amounts to 63%, with 14% of hydro potential, 14% of solar energy, 5% of wind energy and 4% of geothermal energy). Notwithstanding the above, Serbia at the moment may not be recognized as a country in which the RES are systematically and thoroughly used. With minimal number of the plants for RES exploitation and insignificant annual production accomplished therein, Serbia is still struggling to have its potentials in this field adequately used.

Becoming more and more aware of sustainable development demands, Serbia appears decisive in its intention to encourage the usage of the RES. Not only that promoting the RES is stated as one of the goals to be achieved under the several national Strategies (Energy Development Strategy; Sustainable Development Strategy), but the mandatory legislation has been transforming through the years and showing the enhanced understanding of RES importance.

Regulators

Apart from the Energy Agency of the Republic of Serbia, being the main state's regulatory body with competences relating to production, trade and distribution of electricity, natural gas, oil and oil-products, a new regulatory body has been established in 2004 - the Energy Efficiency Agency. The said authority is principally in charge for preparing the proposals and programs related to measures representing the incentives for enhancing the energy efficiency and RES exploitation, providing also an advisory to relevant stakeholders and organizing educational activities in promotion of energy efficiency, at the same time being competent for monitoring of the relevant programs' implementation.

Legal Framework

— International
- In 2006, Serbia ratified the Energy Community Treaty and assumed the obligation to implement the EU Directives 2001/77/EC and 2003/30/EC
- In 2007, Serbia ratified Kyoto Protocol
- In 2009, Serbia became the member state of the International Renewable Energy Agency (IRENA), whose goal is to "promote the widespread and increased adoption and the sustainable use of all forms of renewable energy"

— National
- Energy Act (2004) with implementing regulations
- Planning and Construction Act (2009) with implementing regulations
- Environmental Protection Act (2009) with implementing regulations

Incentive Measures

Having in mind the aforesaid potentials, Serbia is considered to be the convenient milieu for widespread usage of RES in production of both the heating (especially by means of its biomass and solar potential) and electricity power (via small hydro-power and wind-power plants – up to 10 MW). In line with the above factual context and intending to promote and encourage the wider usage of the RES in Serbia, the Energy Act envisages the category of privileged electrical power and heating producers being, among others, the producers generating power through the RES. However, the relevant implementing regulations allowing for application of state-subsidized mechanisms favoring RES producers have been adopted only with respect to electrical-power producers whilst the relevant regulations for RES heating producers is still pending.

ELECTRICITY: FEED IN TARIFF MECHANISM

Producers of electrical energy from renewable sources may apply for obtainment of the eligible producer status and subsequently become entitled to the Feed-in-Tariff for the delivered energy. In order to benefit from the Feed-in-Tariff, the privileged producer concludes the written power-purchase agreement with state's incumbent EPS as a buyer - public enterprise for power generation, distribution and trade. However, the costs incurred through this incentive are finally born by the end customers. The agreement is entered into for the 12 year period of time and it may be unilaterally terminated by the producer with the 30-day notice period.

The regulation implementing the Feed-in-Tariff system in RES electricity production has been initially adopted for the limited period of time and is to expire by end of 2012. It remains to be seen whether this incentive system will be amended or even replaced with another system in the forthcoming period.

Incentive measures envisage the application of Feed-in-Tariff as per the type of power-plant producing electricity from RES and the capacity installed (P), stated in MW.

The table below contains details as to currently applicable Feed-in-Tariffs (c€/kWh):

	Type of power plant	Installed capacity (MW)	Incentive measure – feed in tariff (c€/kWh)
1.	**Hydro power plants**		
1.1		up to 0.5 MW	9.7
1.2		from 0.5 MW to 2 MW	10.316 – 1.233*P
1.3		from 2 MW to 10 MW	7.85
1.4	On existing infrastructure	up to 2 MW	7.35
1.5	On existing infrastructure	from 2 MW to 10 MW	5.9
2.	**Biomass power plants**		
2.1		up to 0.5 MW	13.6
2.2		from 0.5 MW to 5 MW	13.845 – 0.489*P
2.3		from 5 MW to 10 MW	11.4
3.	**Biogas power plants**		
3.1		up to 0.2 MW	16.0
3.2		from 0.2 MW to 2 MW	16.444 – 2.222*P
3.3		over 2 MW	12.0
4.	**Landfill and sewage gas power plants**		6,7
5.	**Wind power plants**		9.5
6.	**Solar power plants**		23
7.	**Geothermal power plant**		7.5
8.	**Power plants combined with the fossil fuel production**		
8.1		up to 0.2 MW	C o =10.4[1]
8.2		from 0.2 MW to 2 MW	Co = 10.667–1.333*P
8.3		from 2 MW to 10 MW	Co = 8.2
8.4	On existing infrastructure	up to 10 MW	Co = 7.6
9.	**Waste fired power plants**		
9.1		up to 1 MW	9.2
9.2		from 1 MW to 10 MW	8.5

[1] Correction of purchase price for natural gas fired combined-heat-and-power plants: C = Co *(0.7* G/27.83 + 0.3)
C – new purchase price of electricity
Co – reference purchase price of 27.83 RSD/m3, specified for enterprises performing retail activities for tariff customers, which does not include expenses for use of transportation system of Public Enterprise "Srbijagas" Novi Sad, according to the tariff element "energy carrier",
G (RSD/ m3) – new natural gas price specified for enterprises performing retail activities for tariff customers, which does not include expenses for use of transportation system of Public Enterprise "Srbijagas" Novi Sad, according to the tariff element "energy carrier".

Finally, certain upper limits for using the incentives are legally set, i.e. the above incentive measures apply until the total installed capacity reach the value of: (a) 5 MW for solar power plants, and (b) 450 MW for wind power plants.

HEATING

The Serbian authorities are currently preparing the incentive measures intended to encourage the renewable heating production. No details on this matter are available at the moment, since the relevant regulations have not been adopted yet.

Planning and Construction in the field of RES

According to the Planning and Construction Act, the power producers which are using the RES are granted certain rights facilitating the construction procedure and, later on, operations of the power plant (e.g. abolition of license requirements for construction of temporary objects having the main purpose of investigating possibilities for RES-facilities usage, legal servitudes related to the wind-power plants, possibility to construct RES objects on the agricultural land with the approval of authorities, simplified procedure for production of solar collectors and cells, etc.).

Goals / Actions

Implementation of the Serbian Energy Development Strategy implies the increase of participation of the electricity produced from the RES in the total national electricity power consumption for 2.2% until 2012. This goal is to be accomplished through harmonization of the national legislation with the acquis communautaire, incentive measures, elimination of administrative impediments through amending the relevant regulations and co operation with the international financial institutions in order to gain the financial support (loans) for the future RES projects:

	2007	2012 (intended)
Production (RES)	9.974 GWh	10.713 GWh
Total consumption	32.946 GWh	32.946 GWh
RES participation in electrical power consumption	30.3%	32.5%

Achieving the planned goals and capacities should result in the construction of at least 45 MWe small hydro-power plants, 45 MWe wind-power plants, 5 MWe solar-power plants, 2 MWe biomass-power plants and 5 MWe biogas-power plants, while the expected investments until 2012 are estimated as the value amounting to approximately EUR 200 million.

Slovakia

Background

On 11 January 2006, the Slovak government approved the Energy Policy of the Slovak Republic for the next 25 years. One of the aims of the Energy Policy is to increase the percentage of renewable energy sources as part of electricity production.

Renewable energy sources (including large hydroelectric power stations) account for the production of approximately 5.2TWh of electricity, which represents approximately 16% of domestic electricity consumption. According to the Energy Policy, the overall utilisable potential of certain types of renewable energy sources provides an opportunity to increase their proportion in electricity production to 19% in 2010 and 24% in 2030.

Pursuant to the Strategy of Increased Utilisation of Renewable Sources of Energy in the Slovak Republic as adopted by the Slovak government on 25 April 2007, there is a target increase in the production of electricity from renewable energy sources (excluding production from large hydroelectric power stations, which is dominant in Slovakia) of 4% of the total electricity consumption corresponding to 31,000GWh in 2010. Based on the information presented by the Economy Ministry the share of electricity produced from renewable energy sources was 7.4% of the total electricity consumption in 2009.

Directive No. 2009/28/EC on the promotion of the use of energy from renewable sources, which amends and subsequently repeals Directives 2001/77/EC and 2003/30/EC, sets a target share of energy from renewable sources in gross final energy consumption of 14% in 2020 for Slovakia. In October 2010 the Slovak government approved the National Renewable Energy Action Plan in which it confirmed the 14% share in 2020 and also declared support for biomass and biogas projects rather than solar and wind projects.

Mechanism 1 – Act on Support of Renewable Sources of Energy and on high-efficiency cogeneration

Act No. 309/2009 Coll. on Support of Renewable Sources of Energy and on high-efficiency cogeneration as amended (the "Renewable Energy Act") became effective as of 1 September 2009 (some provisions became effective on 1 January 2010). The Renewable Energy Act transposes EC Directives No. 2001/77/EC and No. 2004/8/EC and provides a legal framework for promoting the production of electricity from renewable energy sources and high-efficiency cogeneration.

Under the Renewable Energy Act, measures promoting electricity produced from renewable sources and from high-efficiency cogeneration ("electricity") vary depending on the type of renewable source and capacity of the production plant. In general, power plants with lower installed output are promoted more than larger ones.

The Renewable Energy Act stipulates that an electricity producer of electricity from renewable energy sources has the:

— right to priority connection of its facility for electricity production into the regional distribution grid;
— right to priority access into the grid, transmission, distribution and supply of electricity;
— right to off-take of electricity for the electricity price on loss;
— right to additional payment; and
— right for assuming the liability for divergence by the regional distribution grid operator.

MANDATORY OFF-TAKE OF ELECTRICITY

The regional distribution grid operator, to which the power plant is connected directly or through the local distribution system, is obliged to off-take all such produced electricity, and that for the electricity price on loss. The price on loss shall represent the arithmetical mean of the electricity prices for the purpose of covering loss of all regional distribution grid operators and is calculated on the basis of the schemes determined by RONI.

The right for off-take of electricity and the right for additional payment only relates to:

— power plants with an overall installed capacity up to 125MW; and
— power plants with an overall installed capacity up to 200MW provided that the electricity is produced by a highly efficient combined production and the share of the renewable sources in the fuel exceeds 20%.

The guaranteed off-take of electricity applies to the power plants for the period of 15 years from commencement of the facility operation or the year of reconstruction or modernisation of the technological part of the electricity production facility. Further, the guaranteed electricity off-take applies to the whole operating life of the power plant with an overall installed capacity up to 1MW.

Grid operators cannot avoid mandatory off-take on the premise that the output of solar/wind power plants tends to fluctuate. However, they are able to limit or regulate the amount of electricity produced by these fluctuating energy sources.

The mandatory off-take is a right available to electricity producers rather than an obligation. The Renewable Energy Act does not exclude the possibility that the producer also supplies electricity to other entities under a commercial contract. If however, the electricity producer wants to apply for support in the form of mandatory off-take of its electricity for the electricity price on loss by a grid operator or for additional payment (as explained below), then the producer is obliged to supply the entire volume of its produced electricity to the regional distribution grid operator, from which the producer claims support.

PRICE OF ELECTRICITY AND ADDITIONAL PAYMENT

The price of electricity produced from renewable sources is regulated by RONI by way of a generally binding decree as a fixed price. This price should be higher than the normal market price of electricity.

In determining the price, RONI shall take into consideration:

— the type of renewable source of energy;
— the technology used;
— the term of commencement of the electricity production, or the term of its reconstruction or modernisation; and
— the size of the installed capacity of the facility of electricity producer.

In the event that the electricity producer receives aid under support programs financed either by the State (or EU funds) upon construction of its facility for electricity production, the price for electricity shall be reduced by the percentage stated in the Act.

The electricity price on loss, for which the regional distributor grid operator mandatory off-take the produced electricity, is lower than the regulated price of electricity for

the determination of the additional payment. As a result, the electricity producer has the right to an additional payment (this right is limited in general to electricity production of up 10MW, but the amount varies according to the type of the renewable source of energy and the technology used), which corresponds to the difference between the regulated price of electricity for the determination of the additional payment and the electricity price on loss.

The regulated price of electricity for the determination of the additional payment (for power plants commissioned after 1 January 2010 i.e. the regulated fixed price of electricity) in the years following the year in which the solar power plant was commissioned, is equal to the price in the year in which the solar power plant was commissioned. Although not a mandatory obligation, RONI may increase the price of electricity by the core inflation coefficient. The above indicates that the support is conceived so that the price of electricity for the determination of the additional payment in the year when the power plant is put into theoperation is significant, and this price will be used for the next 15 years to calculate the support.

The additional payment should be paid by the regional distribution grid operator, to which the facility of the electricity producer is connected or on whose delineated territory it is located. The right for additional payment applies to a power plant for the period of 15 years from commissioning the power plant or from the year of its reconstruction or technology upgrade.

An electricity producer who wants to claim support under the Renewable Energy Act is obliged to submit to the regional distribution grid operator a RONI-issued certificate of origin of the electricity produced from renewable energy sources.

Mechanism 2 – Financial mechanism

State support of renewable energy sources includes several financial mechanisms, including grants, funds, and contributions administrated by various ministries.

Households may receive funding in scope of the scheme of higher biomass and solar energy use. In April 2009, the Slovak government allocated approximately EUR 8 million to the program of larger utilisation of biomass and solar energy in households. The aim of the program is to support installation of biomass boilers and solar collectors, which serve for heating and warming-up water for family houses and residential buildings. The installed equipment must satisfy certain prescribed technical parameters.
The contribution for installation of solar collectors varies between EUR 50 and EUR 200 for 1m2 of the installed area. The amount of the contribution for the biomass boiler is determined as 30% of its acquisition price. The maximum amount of the contribution for the biomass boiler must not exceed EUR 1,000.

The above program is designed to provide an important stimulus for the installation of solar collectors and biomass boilers which will comply with environmental acceptability with the aim of increasing the utilisation of renewable energy sources in the Slovak Republic, and ensuring efficient coverage of energy needs of Slovak households.

All other sectors may use structural funds. Besides financial measures earmarked for financing projects using renewable sources, there are also EU structural funds for the period of 2007–2013. The Environmental Fund, which provides a yearly subsidy of EUR 1 million, is also regarded as promoting renewable resources. Financial means provided by the Ministry of Agriculture and Ministry of Environment are usually granted for various projects on biomass utilisation.

The Economy Ministry has considered the impact of favourable price regulation on consumer electricity prices since photovoltaic and wind energy is significantly more expensive than electricity from sources such as hydro-energy and biomass. As a result legislative changes effective from May 2010 and May 2011 were introduced. Based on those changes, only solar plants with the total installed capacity to 100kW located on buildings are entitled for additional payment. This will definitely slow down development of new solar plants.

Mechanism 3 – Tax incentives

Electricity produced from renewable sources, provided it is supplied directly to end consumers of electricity or consumed by a legal entity or an individual who produced it, is exempt from electricity excise tax (the tax is currently EUR 1.32/MWh) as stipulated by the Act No. 609/2007 Coll. on the Excise tax on Electricity, Coal, and Natural Gas.

Mechanism 4 – New renewable energy projects

Investment plans for the construction of power plants with an installed capacity above 1MW must comply with the government's long-term energy policy. This involves applying for a certificate of compliance from the Economy Ministry, accompanied by confirmation that the project has been approved by the transmission/distribution grid operators to which the plant will connect. As of 1 May 2010 the new piece of legislation came into effect under which this 1MW limit will be decreased for solar and wind power plants to 100kW. This is intended to reduce the number of new power plants. Unless the distribution or transmission grid operator approve the investment plan for construction of a new power plant, the Economy Ministry will not issue a certificate of compliance and the power plant cannot be built.

The transmission grid operator SEPS as well as the regional distribution grid operators issued announcements that they will not approve any new projects by the end of the year 2011.

As of 1 May 2011 the amendment to the Renewable Energy Act implemented additional rules for support of biogas by the right of priority distribution of biomethane.

Spain

Background

In accordance with the Draft Renewable Energies Plan 2011–2020 submitted to the European Commission by the Spanish Ministry of Industry, Tourism, and Trade, it is estimated that Spain's renewable energies should contribute 22.7% to the final gross consumption of energy in Spain by the year 2020. The contribution of renewable energies to the production of electrical energy should reach 42.3% by the same year. Such previsions indicate that Spain should exceed the objectives fixed for the said period by the Directive 2009/28 on the promotion of the use of energy from renewable sources.

The Spanish market for renewable energies has faced high levels of investment. Most of the investment thus far has been directed towards solar energy as a result of the geographical location of the country and the system of incentives put in place.

Mechanism 1 – The Energy Sector Act 54/1997 and the Royal Decree 661/2007 on the Production of Electricity in the Special Regime

Royal Decree 661/2007 was adopted in 2007 as a response to growing investments in the sector. It established a more beneficial payment regime than that previously in force. The main objective of the Royal Decree 661/2007 was to further develop the Energy Sector Act in relation to the economic and legal regime applicable to installations producing energy from renewable sources. The first important modification to tariff in relation to photovoltaic installations was made by the Special Regime Register on 26 September 2008 (Royal Decree 1578/2008) for those installations that obtain the in the Register of photovoltaic installations after 29 September 2008. The tariff applicable to those installations will depend on the date of their definitive inscription in the "Register of Pre-Assignation".

Moreover, another important modification to the feed in tariff was made by Royal Decree 1614/2010, 7 September 2010 (thermoelectric and wind power installations) and Royal Decree 1565/2010, 19 November 2010 (for all installations) and Royal Decree-Law 14/2010, 23 December (photovoltaic installations).

WHAT ARE THE BENEFITS OF THE SPECIAL REGIME?

Installations that qualify for the Special Regime enjoy the following benefits:

— connection and access to the grid of the company responsible for the distribution or transport of electricity subject to the capacity of the network;
— transfer of all of the installations net production of energy whenever its absorption by the corresponding network is feasible;
— to receive one of the two types of payment envisaged being either the regulated tariff or a special bonus (note this does not apply to all renewable energy sources); and
— to sell all, or a part of, the installations' net production through direct lines.

WHO QUALIFIES UNDER THE SPECIAL REGIME?

The following installations qualify under the Special Regime where their installed capacity does not exceed 50MW:

— installations that use high efficiency co-generation or other forms of residual energy;
— installations that use renewable non-consumable energies such as biomass or bio-fuels;
— installations that use non-renewable waste; and
— plants for treatment of agricultural and livestock waste.

Installations over 50MW fall under the normal regime. However, there are certain economic benefits available for installations whose installed capacity is over 50MW but less than 100MW.

HOW DOES IT WORK?

ROYAL DECREE 661/2007 ON THE PRODUCTION OF ELECTRICITY IN THE SPECIAL REGIME:

The owners of installations benefiting from the Special Regime may choose among two types of payment, namely:

— to sell the electricity produced in exchange for a regulated tariff expressed as Euro Cents per kWh;
— the regulated tariff is dependent on the category to which the installation pertains, the capacity installed and in some cases on the age of the installation; and
— to sell the electricity produced on the market at the price the market determines.

In this case, the selling price is the one that comes as a result of the organised market, or of the negotiations held, additionally complemented, where applicable, with a special bonus expressed in Eurocents per kWh. In other words, should the operators opt to participate in the market, the bonus obtained will vary according to the market price determined on an hourly basis. The value of the final payment that the installation receives will depend on the technology used.

MAIN AMENDMENTS TO THE PLANNED REGIME IN THE ROYAL DECREE 661/2007 ACCORDING TO THE LAST LEGISLATIVE CHANGES:

— restriction of the equivalent working hours entitled to equivalent feed in tariff- or bonus;
— selling obligation at a fixed tariff of solar thermoelectric plants, for at least 12 months;
— review of the economic scheme of the solar thermoelectric plants under the special regime; and
— review of the premiums of the wind power installations under the special regime.

INSTALLATIONS WITH CAPACITY > 50 MW:

The Government has decided to eliminate the right to receive a bonus for installations with an installed capacity that exceeds 50 MW. The beneficiary installations are obliged to negotiate freely on the market.

Nevertheless, it has to be pointed out that this new legal regulation has raised some doubts, essentially concerning the retroactive effect of the amendments and its compliance with the Spanish Constitution and the Community law.

Mechanism 2 – Guarantees of origin

This system was implemented in 2007 by a regulation issued by the Ministry of Industry, Tourism and Commerce (Ministerial Order 1522/2007 regarding the energetic guarantees of origin). The certificates serve as accreditations which certify that a number of kilowatt-hours of electric energy produced by that producer comes from the renewable sources or from high-efficiency co-generation plants.

The certificates are issued, and the entire System of the Guarantees of Origin is managed by, the National Commission of Energy, who makes annotations in specific accounts created for this purpose. The information on which they are based comes from the Administrative register of the installations for the production of the electric energy, which is in the responsibility of the Ministry of Industry, Tourism and Trade. Once sold, the certificates are cancelled from the corresponding accounts.

Mechanism 3 – Technical Building Code

The Code, adopted in March 2006, requires that newly constructed buildings make use of solar energy. It demands that warm water is produced by solar thermal energy in the minimum share of between 30% and 70%, depending on the daily demand volume. It also requires a minimum contribution by photovoltaic energy in new buildings from the tertiary sector. For example, for offices whose surface is larger than 4,000m², a part of their electrical energy must be covered by photovoltaic installations. It is estimated that this mechanism will reduce CO2 emissions by up to 55%.

Mechanism 4 – Tax incentives

As determined in the Royal Legislative Decree 4/2004, which approved the consolidated text of the Law on the Tax on Societies, a company that invests into the production of renewable energies may benefit from a deduction of 10% of the investment value. No deductions from income tax are available for physical persons at the moment, but municipalities may apply optional discounts when determining tax obligations of neighbours who invest in renewable energy sources.
These include:

— a reduction of up to 50% of the Economic Activities Tax;
— a reduction of up to 50% of the goods and Real Estates Tax; and
— a reduction of up to 95% of the Tax on the Constructions, Installations and Works.

This incentive is contained in the text of the Law on the Local Tax Offices Royal Legislative Decree 2/2004 which approves the consolidated text of the Law on the Local Tax Offices.

Switzerland

Mechanism 1 – The Swiss Federal Energy Act and the Swiss Federal Energy Ordinance

WHY HAS IT BEEN INTRODUCED?

Switzerland intends to increase the share of electricity from renewable sources by 10% of its current energy consumption by 2030. Today, Switzerland already generates 54% of its electricity from renewable sources, with hydropower plants contributing 98% of that renewable energy.

WHAT IS IT?

The Swiss Federal Energy Act and the Swiss Federal Energy Ordinance are Switzerland's main mechanisms for encouraging the development of renewable energy. The most important element set out in these regulations is a compensatory feed-in remuneration for electricity generated from renewable energies (hydro energy up to 10 MW, photovoltaic energy, wind energy, geothermal energy, biomass energy).

HOW DOES IT WORK?

Since 1 January 2009 an annual charge of up to 0.6 centimes (~ 0.46 Eurocent) per kW/h is levied on highvoltage grid transmission costs, resulting in a distributable amount of about 265 million Swiss Francs (~ EUR 203 million) per year. Starting 1 July 2011 the maximum possible surcharge shall be increased to 0.9 centimes (~ 0.69 Eurocent). The Swiss Federal Energy Ordinance sets forth the principles governing the compensatory feed-in remuneration as well as the remuneration rates (centimes per kW/h) for various types of facilities:

- hydro energy: 7.5 – 35 centimes (~ 5.75 – 26.85 Eurocent) per kWh
- photovoltaic energy: 28.9 – 59.2 centimes (~ 22.18 – 45.45 Eurocent) per kWh
- wind energy: 17 – 20 centimes (~ 13.05 – 15.35 Eurocent) per kWh
- geothermal energy: 22.7 – 40 centimes (~ 17.43 – 30.71 Eurocent) per kWh
- biomass (waste combustion): 11.4– 14.2 centimes (~8.75 – 10.90 Eurocent) per kWh
- biomass (sewage gas): max. 24 centimes (~ max. 18.42 Eurocent) per kWh
- biomass (other): 17.5 – 46 centimes (13.43 – 35.31 Eurocent) per kWh

In general, these remuneration rates will be applicable for a period of 20 to 25 years, depending on the respective technology (e.g. hydro energy 25 years, wind energy 20 years). Most of the rates will be gradually reduced over that period of time in view of the anticipated technological progress.

These reductions will, in general, only apply to newly registered production facilities, which will then receive their remuneration based on a constant rate throughout the entire period of remuneration.

New or upgraded facilities may register with the national grid company "swissgrid". Since there were so many registrations for compensatory feed-in remuneration after the start of the remuneration scheme on 1 May 2008 the total cost ceiling was quickly reached and of a total of 11'325 applications (as of 1 December 2010) 8'088 applications were put on a waiting list. Despite the waiting list there is a continued interest to participate in the remuneration scheme. Also, due to the increase of the distributable amount, there will be some movements on the waitlist after mid 2011.

Producers of electricity from renewable energies who opt out of the new feed-in remuneration can continue to sell their green energy on the free market.

The network operator has to accept all electricity produced by the renewable energy plant. The plant operator, however, generally bears the costs of the connection to the network.

Mechanism 2 – The Swiss Federal CO2 Act

WHY HAS IT BEEN INTRODUCED?

Switzerland has ratified the Kyoto Protocol and committed itself to reduce greenhouse gas emissions. Since more than 80% of the Swiss greenhouse gas emissions are CO2 emissions Switzerland has, in particular, set goals to reduce CO2 emissions. After it became obvious that this goal would not be met by voluntary measures alone a CO2 fee was introduced based on the Swiss Federal CO2 Act.

WHAT IS IT?

The Swiss Federal CO2 Act focuses on the reduction of fossil-based energy consumption (CO2 emissions from these sources are to be reduced by 10% from 1990 levels).

HOW DOES IT WORK?

Since 1 January 2008 a fee of 12 Swiss Francs (~ EUR 9.21) per ton of CO2 emissions is to be collected on fossil combustibles (heating oil, gas) based on the Swiss Federal CO2 Act. Starting 1 January 2010 this fee was increased to 36 Swiss Francs (~ EUR 27.64).

Companies will be exempt from the CO2-fee if they agree with the Federal Government on a reduction of their CO2 emissions to a certain level (and subsequently meet that target).

Negotiating such reduction targets and thus gaining exemption from the CO2-fee are key priorities for energy-intensive sectors such as the cement, paper, glass and ceramics industries.

The CO2 Act that remains in force until 2012 requires the Swiss Federal Council to submit proposals to Parliament in good time on the goals for the reduction of greenhouse gases from 2013. These goals shall enable Switzerland to continue to reduce its output of climate-harming greenhouse gases (in particular CO2) and thus fulfil its international obligations (reduction of greenhouse gas emissions by 20% from 1990 levels by 2020).

Ukraine

Mechanism 1 – "Green" Tariffs

The Ukrainian parliament adopted a law on subsidised tariffs for electricity produced from non-conventional sources, i.e., green (feed-in) tariffs.

The green tariff is established by the National Energy Regulation Commission for each generating company separately and will be effective until 1 January 2030. The green tariff differs from one type of an alternative energy source to another.

The law foresees that the green tariff is calculated by multiplying the initial 2009 tariff for second-class consumers (EUR cent 5.17 for 1 kW/h) by the fixed green tariff index ("GTI") and peak-time adjustment ("PTA"), if applicable.

FOR WIND FARMS:

— EUR cent 6.46 for 1 kW/h – if the capacity of a wind power plant is lower than 600 kW (GTI 1.2)
— EUR cent 7.54 for 1 kW/h – if the capacity of a wind power plant is lower than 2 MW (GTI 1.4)
— EUR cent 11.3 for kW/h – if the capacity of a wind power plant is more than 2 MW. (GTI 2.1)

FOR BIOMASS

If biogas is received from landfills or sewage sludge[2]:

— EUR cent 10.77 for 1 kW/h – for biogas power plants with the total capacity lower than 500 kW(GTI 2.0)
— EUR cent 12.92 for 1 kW/h – for biogas power plants with the total capacity lower than 2 MW (GTI 2.4)
— EUR cent 14.00.for 1 kW/h – for biogas power plants with the total capacity of at least 2 MW (GTI 2.6)

If biogas is received from (i) biomass of vegetable and/or animal origin; or (ii) organic part of waste:

— EUR cent 14.53 for 1 kW/h (GTI 2.7)

FOR SOLAR:

— EUR cent 42.64 for 1 kW/h – for roof installations with the capacity lower than 100kW (GTI 4.4, PTA 1.8)
— EUR cent 44.59 for 1 kW/h – for roof installations with the capacity more than 100kW (GTI 4.6, PTA 1.8)
— EUR cent 46.53 for 1 kW/h – for ground installations (GTI 4.8, PTA 1.8)

FOR HYDRO

— EUR cent 7.76 for 1 kW/h (GTI 0.8, PTA 1.8)

Mechanism 2 – Tax benefits for renewable energy

Subject to certain qualifications, the newly adopted Tax Code of Ukraine allows the renewable energy generation companies to enjoy the following benefits:

— VAT and customs duties exemption for import of the generating equipment;
— full corporate profit tax exemption until 2020 for profits originating from the sales of electricity; and
— 75% discount on land tax for owners and less expensive land lease.

Mechanism 3 – Mandatory off-take of electricity

At the moment Ukraine has a single-buyer market for electricity and all volumes thereof, generated by way of using the above types of alternative energy, are sold at the Wholesale Electricity Market of Ukraine (WEM). WEM is administrated by the State Enterprise "Energorynok" ("Energorynok"), which purchases electricity from the generating companies and resells it to the distributors for further supply. Under the law WEM (Energorynok) has an explicit obligation to off-take and purchase all volumes of electricity produced from alternative energy sources at the green tariff, which otherwise have not been sold to the customers directly.

Mechanism 4 – Access to the grid

Ukrainian power grid is operated by the National Power Company "Ukrenergo", which owns high-voltage main and interstate power networks and local (regional) distribution companies (oblenergos), owning local low-voltage power networks. The interconnection/access procedure has not been adopted in form of a legislative act and may be referred to as a common practice established by the above state-run companies.

Under the law, the transmission system operators ("TSO") cannot not refuse any undertakings generating electricity from renewable energy sources in connection to their networks. In turn, producers of electricity are obliged to comply with connection rules and technical conditions issued by TSOs. The costs for the interconnection shall be borne by the TSOs.

[2] The green tariff will remain unchanged even if the installed capacity of a biogas power plant changes during is operational period.

Mechanism 5 – Heat

Currently Ukrainian law does not provide for any additional incentives for generation of heat from renewable energy sources, save for biomass co-generation projects, which are eligible for green tariffs.

Mechanism 6 – Public-private partnership (PPP)

Ukrainian parliament has adopted the Law on PPP on 1 July 2010 (in effect as of 31 October 2010). The Law is considered to be a rather framework act, which actually refers to the existing mechanisms of PPP, which, inter alia, include: concessions, contractual joint ventures and product sharing contracts. Therefore, its practicability is yet to be proven. The Law, however, provides for the possibility and establishes the procedure of the public procurement within the PPP, as well as the special regime of allocation and use of the land plots designated for PPP projects in Ukraine.

Mechanism 7 – Joint Implementation Mechanism of the Kyoto Protocol

The Ukrainian ratification of the Kyoto Protocol has increased the attractiveness of renewables and opened new opportunities to finance them. The Kyoto Protocol's joint implementation (JI) mechanism can potentially bring foreign investment into Ukraine's renewable energy sector. Ukraine completed all the steps required to enable JI projects in the country to obtain Emission Reduction Units (ERUs) and to enable the Government to trade Assigned Amount Units (AAUs) under the Kyoto Protocol. Ukraine is eligible for both Track 1 and Track 2 procedures for JI project registration.

Ukraine is very active in carbon trading of both ERUs and AAUs and has been continuously ranked by PointCarbon as one of the top countries for JI projects, with the second largest volumes of potentially marketable emissions reductions in Europe after Russia. The Kyoto protocol should be viewed as an important tool that can facilitate financing for renewable energy projects in Ukraine.

Mechanism 8 – Cooperation, research and development

Several scientific organisations and institutes in Ukraine are pursuing renewable energy research, development and demonstration. In addition, some companies in the defence and aerospace industries have converted their production facilities towards manufacturing renewable energy systems or their components. There have been many attempts to use the existing research, technology and engineering base. However, very few have been successful, especially when it comes to marketing those technologies.

Ukrainian State agencies are cooperating and implementing energy saving projects and developing new and renewable sources of energy with foreign organisations such as NEFCO, ADEME, SIDA as well as international organisations such as EBRD, the World Bank, IFC, USTDA, OPIC, etc.

Mechanism 9 – Various sources of funding

Ukraine is strongly funded by international financial institutions, such as EBRD and World Bank. The EBRD established a EUR 50 million Ukraine Renewable Energy Direct Lending Facility (UREDLF) to extend debt financing for all forms of renewable energy projects in Ukraine, including hydro, wind, biomass and solar. Another program of EBRD in Ukraine, a part of Sustainable Energy Initiative (SEI), is Ukraine Sustainable Energy Lending Facility (USELF) which aimed to provide the financing in the amount up to EUR 50 million for fostering small and medium renewable energy and energy efficiency projects. The World Bank has recently approved a USD 200 milllion. loan to reduce energy intensity by 20% by 2015 and by 50% by 2030, which would allow Ukraine to decrease its dependence on imported gas and the cost of energy supply.

United Kingdom

Background

The UK Government has committed to sourcing 15% of its energy (across the electricity, heat and transport sectors) from renewable sources by 2020, a fivefold increase on renewable energy production in 2009. The UK Government's lead assumption is that this will involve producing 30% of electricity from renewable sources, 12% of heat and 10% of road and rail transport. The UK is also aiming to reduce its emissions by 18% by 2020 compared to 2008 levels, and to cut its emissions by 80% below 1990 levels by 2050, as required by the Climate Change Act 2008.

The UK government is currently considering options for a wholesale review of the electricity market, the Electricity Market Reform, in order to ensure it achieves its objectives of decarbonisation, renewable energy, security of supply and affordability. A White Paper is expected to be published by July 2011, with the reform being implemented from 2013.

Mechanism 1 – The Renewables Obligation (RO)

WHY HAS IT BEEN INTRODUCED?

The RO was introduced in 2002 to incentivise the generation of electricity from renewable sources. It has been amended to reflect developments in UK policy since that time, notably in 2009 with the introduction of banding.

WHAT IS IT?

The RO is the UK Government's main mechanism for encouraging the development of large-scale renewable electricity generation. It imposes an obligation on electricity suppliers to submit a certain number of certificates (known as "renewable obligation certificates" or ROCs) to Ofgem each year or to make a payment into Ofgem's buy-out fund. Suppliers may meet their obligation by either method or a combination of the two.

HOW DOES IT WORK?

The RO works by creating a demand from electricity suppliers for ROCs, which are awarded to generators in respect of the renewable electricity they generate. To ensure that this demand is maintained, from April 2011 the number of ROCs which suppliers are required to submit each year will be set at least 10% ahead of the number of ROCs which are expected to be awarded to generators.

Assuming that there is a shortage of ROCs in the market, the value of a ROC reflects the "buy-out price" that a supplier would otherwise have to pay to Ofgem and the "recycling payment" that a supplier who submits a ROC receives from the buy-out fund created from the payments made by suppliers who meet their obligation (in whole or in part) by making a payment.

WHO GETS THE BENEFIT?

Originally, 1 ROC was awarded for each MW/h of electricity generated from renewable sources. However, the Government introduced a banding regime in 2009 which consists of awarding a greater number of ROCs per MW/h of electricity generated from emerging renewable technologies and fewer ROCs to technologies that are better established.

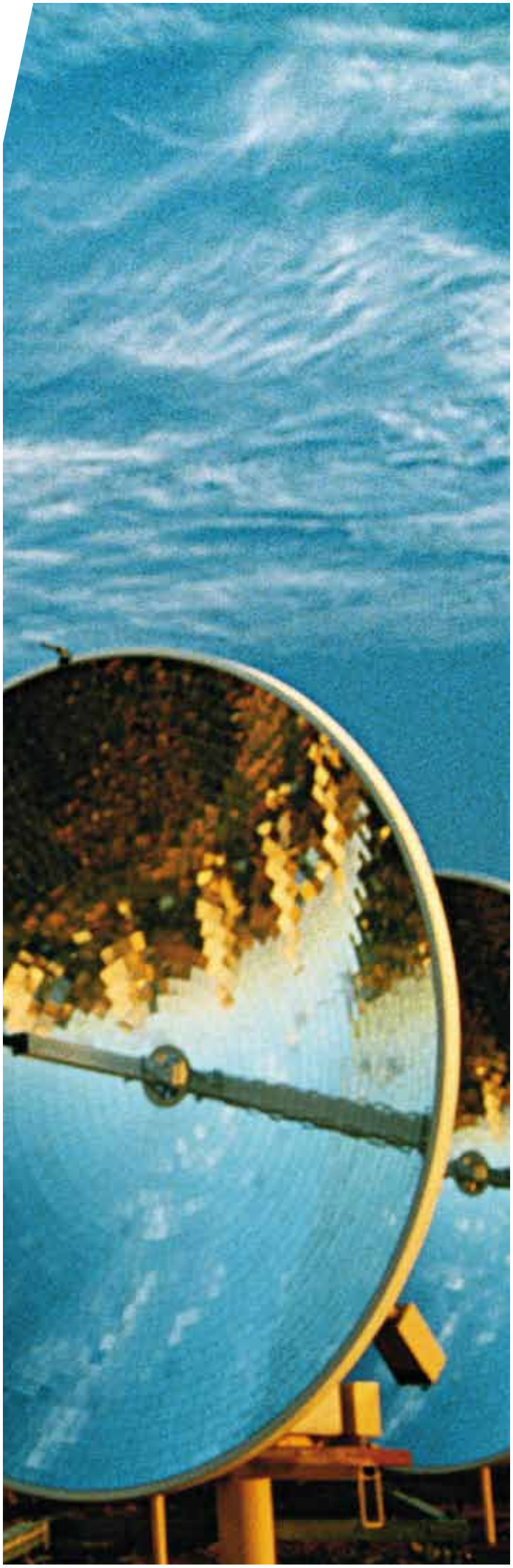
The bands in effect on 1 April 2009 were as follows:

Technologies	ROCs / MWh
Landfill gas	0.25
Sewage gas / Co-firing of biomass	0.5
Hydro / Onshore wind / Energy from Waste with CHP / Co-firing of biomass with CHP / Co-firing of Energy crops / Geopressure	1
Offshore Wind / Co-firing of Energy Crop with CHP / Dedicated Biomass	1.5*
Wave / Tidal / Solar / Geothermal / Dedicated Energy Crops (with or without CHP) / Dedicated Biomass with CHP	2

* With effect from 1 April 2010, certain offshore wind farms are eligible to receive 2 ROCs per MWH (Article 30A of Renewables Obligation Order 2009)

In December 2010, the UK Government announced that the timetable for the first banding review will be accelerated in order to avoid an investment hiatus. The consultation on new banding proposals will be held in Summer 2011 with confirmation of the banding levels in Autumn 2011.

The new bands will still come into effect as planned on 1 April 2013 (1 April 2014 for offshore wind). Note that under the Electricity Market Reform proposals, the Renewables Obligation is to be phased out by 2017.



Mechanism 2 – Feed-in Tariffs

WHAT IS IT?

The Energy Act 2008 included provisions for the introduction of a feed-in tariff scheme (FIT) for certain renewable generators with a maximum capacity of 5MW, in order to incentivise small-scale generation, including by organisations, businesses, communities and individuals who are not traditionally engaged in the electricity market. The scheme began operation on 1 April 2010 and has seen 25,000 renewable installations benefiting from the scheme so far. The FIT scheme provides for:

— a payment for all electricity (the "generation tariff"); and
— the option for a payment for any unused electricity that the generator exports to the grid (the "export tariff").

REVIEW

In Spring 2011, the UK Government announced a fast track review of the tariffs for solar projects over 50 kW. The consultation on the Government proposals is ongoing, but is expected to drastically reduce the tariffs available for such projects.

Mechanism 3 – Climate Change Levy & Levy Exemption Certificates (LECs)

The Climate Change Levy (CCL) is a tax levied on the supply of energy to non-domestic end-users. Renewable electricity is however exempt from the tax. Electricity suppliers prove that they have supplied exempt renewable electricity by obtaining LECs with the electricity they buy from renewable generators. This provides renewable generators with an additional income stream.

Mechanism 4 – Offshore wind

In January 2010, the Government announced the award of 9 offshore wine farm zone Round 3 licences, representing 25 GW of renewable generation capacity. Aside from being significantly larger (compared to 1.5GW and 7.2 GW for Round 1 and 2 respectively), Round 3 differed from Rounds 1 and 2 in two main ways: (i) the Government's UK offshore energy Strategic Environmental Assessment (SEA) which determined the location of sensitive sites and the most appropriate sites for offshore wind farm development; and (ii) the Crown Estate's Round 3 programme.

In Round 3 the Crown Estate took a more prominent lead role in that it has developed a co-investing model, which combines the technical experience of the offshore wind industry with efficiencies generated by the Crown Estate's access to resources and stakeholders. In addition, the Scottish Government has held a round for Scottish territorial waters and exclusivity agreements with 9 companies for 6 GW worth of sites have been signed.

Mechanism 5 – Emissions Trading

CLIMATE CHANGE ACT 2008

The UK adopted the Climate Change Act 2008, which requires the UK to reduce its greenhouse gas emissions by 80% by 2050 compared to 1990 levels.

The Act created a new statutory committee, the Climate Change Committee, which is responsible for advising the UK Government on the preparation of five yearly carbon budgets (the first carbon budget covers the 2008–2012 period), which the Government will need to implement in order to ensure that the overall emission reduction target set in the Act is reached.

EU ETS UPDATE

7% of the EU emission allowances to the UK for Phase 2 of the EU Emission Trading Scheme (EU ETS) were put aside by the UK government to be distributed by way of auction. The government held its first auction of EUAs in November 2008, with almost four million allowances sold.

The UK Government is currently working on the implementation of the latest EU ETS Directive for Phase 3 (2013–2020), which will heavily reform the functioning of the EU ETS, in particular with the introduction of full auctioning of allowances for the power sector.

UK CARBON FLOOR PRICE

The UK government will introduce a carbon floor price from 1 April 2013, in order to provide greater support and certainty to the price of carbon in the power sector to encourage investment in low-carbon electricity generation. UK will be the first country in the world to introduce a carbon price floor for the power sector. The floor will start at around GBP 16 per ton of carbon dioxide (tCO2) and follow a linear path to target GBP 30/tCO2 in 2020 (both in 2009 prices).

Mechanism 6 – Heat

On 10 March 2011, the Government announced the details of the Renewable Heat Incentive policy. This is the first financial support scheme for renewable heat of its kind in the world. In the first phase, long-term tariff support will target the non-domestic sectors, which contribute 38% of the UK's carbon emissions.

The second phase of the RHI scheme, beginning in October 2012, will see households moved to the same form of long-term tariff support offered to the non-domestic sector in the first phase.

Mechanism 7 – Transport

The Renewable Fuel Transport Obligation imposes an obligation on suppliers of fossil fuel for road transport to source a gradually increasing proportion of the fuel they supply from renewable sources. The target for 2010/11 is 3.5% by volume.

Currently, the UK Government is seeking views on proposals to introduce new regulations transposing the greenhouse-gas intensity reduction requirements of the Fuel Quality Directive (2009/30/EC), and on implementing the transport elements of the Renewable Energy Directive (2009/28/EC) (RED).

Mechanism 8 – Various sources of funding

Sources of funding include the Government's Technology Programme, Carbon Trust's Technology Acceleration Activities, and the EU's Framework Programme for Research and Technical Development.

In addition, a large number of funding sources are available for community, agricultural and micro-generation renewable initiatives.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