



**REPORT ON PROGRESS IN THE PROMOTION AND USE OF ENERGY FROM RENEWABLE
SOURCES PURSUANT TO ARTICLE 22 OF DIRECTIVE 2009/28/EC
SPAIN
(2011 and 2012)**

27 December 2013

0. Introduction

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 establishes the general minimum targets of a 20% share of energy from renewable sources in gross final consumption of energy in the European Union (EU) and a 10% target for energy from renewable sources to be achieved by all Member States in energy consumption in the transportation sector by 2020.

To achieve this, it sets 2020 targets for each Member State and a minimum indicative trajectory leading up to that year. In Spain, this target means that renewable sources must account for at least 20% of final energy consumption by 2020 - the same as the EU average - together with a minimum contribution of 10% from renewable sources in the field of transport by that year.

The Directive called on every Member State to draw up and notify a National Renewable Energy Action Plan (NREAP) for the period 2011–2020 to the European Commission (EC) by 30 June 2010 with a view to complying with the binding targets laid down in the Directive. Article 22 of this Directive also states that by 31 December 2011, and every two years thereafter, each Member State will submit a report to the Commission on progress in the promotion and use of energy from renewable sources.

The National Renewable Energy Action Plan for Spain (NREAP) for 2011-2020 dated 30 June 2010 was sent to the European Commission on 6 July 2010, with the content set out in Annex VI to the Directive. This Plan was updated and later replaced by a new NREAP dated 20 December 2011, which was sent to the European Commission on 5 January 2012. On account of this review of the NREAP, the first progress report for 2009 and 2010 was sent to the European Commission in June 2012 pursuant to Article 22 of the Directive.

This report therefore outlines progress in the promotion and use of energy from renewable sources in 2011 and 2012 pursuant to the obligation set out in Article 22 of Directive 2009/28/EC.

1. Sectoral and overall shares and actual consumption of energy from renewable sources in 2011 and 2012

Table 1 summarises the shares of energy from renewable energy sources in gross final consumption within the three main sectors, according to the framework of Directive 2009/28/EC for 2011 and 2012.

Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources¹

	2011	2012
Renewable energy shares in heating and cooling [RES-H&C ² (%)]	13.6%	14.0%
Renewable energy shares in electricity [RES-E ³ (%)]	31.6%	33.5%
Renewable energy shares in transport [RES-T ⁴ (%)]	0.4%	0.4%
Overall renewable energy share ⁵ [RES (%)]	13.2%	14.3%
<i>Of which from cooperation mechanism⁶ (%)</i>		
<i>Surplus for cooperation mechanism⁷ (%)</i>		

Table 1.a shows the calculation table for the renewable energy contribution of each sector to final energy consumption for 2011 and 2012.

Table 1a: Calculation table for the renewable energy contribution of each sector to final energy consumption (ktoe)⁸

	2011	2012
<i>a) Gross final consumption of renewable energy sources for heating and cooling</i>	4 093	4 145
<i>b) Gross final consumption of electricity from RES</i>	7 639	8 023
<i>c) Gross final consumption of energy from RES in transport</i>	108	114
<i>d) Gross total consumption from renewable energy sources⁹</i>	11 840	12 282
<i>e) Transfers of renewable energy sources to other Member States</i>		
<i>f) Transfer of renewable energy sources from other Member States and 3rd countries</i>		
<i>g) Consumption of renewable energy sources adjusted for target (D)-(E)+(F)</i>	11 840	12 282

Table 1.b shows capacity and production for 2011 and 2012 respectively.

¹ Facilitates comparison with Table 3 and Table 4a of the NREAPs.

² Share of renewable energy in heating and cooling: gross final consumption of energy from renewable sources for heating and cooling (as defined in Articles 5(1)b) and 5(4) of Directive 2009/28/EC divided by gross final consumption of energy for heating and cooling. The same methodology as in Table 3 of NREAPs applies.

³ Share of renewable energy in electricity: gross final consumption of electricity from renewable sources for electricity (as defined in Articles 5(1)a) and 5(3) of Directive 2009/28/EC divided by total gross final consumption of electricity. The same methodology as in Table 3 of NREAPs applies.

⁴ Share of renewable energy in transport: final energy from renewable sources consumed in transport (cf. Article 5(1)c) and 5(5) of Directive 2009/28/EC divided by the consumption in transport of 1) petrol; 2) diesel; 3) biofuels used in road and rail transport and 4) electricity in land transport (as reflected in row 3 of Table 1). The same methodology as in Table 3 of NREAPs applies.

⁵ Share of renewable energy in gross final energy consumption. The same methodology as in Table 3 of NREAPs applies.

⁶ In percentage point of overall RES share.

⁷ In percentage point of overall RES share.

⁸ Facilitates comparison with Table 4a of the NREAPs

⁹ According to Art.5(1) of Directive 2009/28/EC gas, electricity and hydrogen from renewable energy sources shall only be considered once. No double counting is allowed.

Table 1.b: Total actual contribution (installed capacity, gross electricity generation) from each renewable energy technology in [Member State] to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in electricity¹⁰

	2011		2012	
	MW	GWh	MW	GWh
<i>Hydro</i> ¹¹ : <i>non pumped</i>	13 283	28 833	13 293	27 594
<1MW*	276		279	
1MW–10 MW*	1 655		1 663	
>10MW*	11 352		11 351	
<i>pumped (pure and mixed)</i>	5 257	2 315	5 257	3 617
<i>mixed</i> ¹²	2 792	2 616	2 792	2 535
<i>Geothermal</i>	0	0	0	0
<i>Solar</i> :	5 501	9 400	6 603	11 968
<i>photovoltaic</i>	4 352	7 441	4 603	8 193
<i>concentrated solar power</i>	1 149	1 959	2 000	3 775
<i>Tide, wave, ocean</i>	0	0	0	0
<i>Wind</i> :	21 529	44 644	22 775	47 560
<i>onshore</i>	21 529		22 775	
<i>offshore</i>	0		0	
<i>Biomass</i> ¹³ :	772	3 814	858	4 262
<i>solid biomass</i>	563	3 011	640	3 396
<i>biogas</i>	209	803	218	866
<i>bioliquids</i>	0	0	0	0
TOTAL (minus pumping)	43 877	89 307	46 321	93 919
<i>of which in CHP</i>				

* We are unable to provide a breakdown per capacity of the standardised hydroelectric energy production data, as we do not have a breakdown of capacity for the past fifteen years.

¹⁰ Facilitates comparison with Table 10a of the NREAPs.

¹¹ Normalised in accordance with Directive 2009/28/EC and Eurostat methodology.

¹² In accordance with new Eurostat methodology.

¹³ Take into account only those complying with applicable sustainability criteria, cf. Article 5(1) of Directive 2009/28/EC last subparagraph.

Table 1.c shows the objectives for heating/cooling generation technologies, including geothermal energy (including heat pumps), solar thermal, biomass (solid or biogas) and aerothermal energy for 2011 and 2012.

Table 1c: Total actual contribution (final energy consumption¹⁴) from each renewable energy technology in [Member State] to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in heating and cooling (ktoe)¹⁵

	2011	2012
Geothermal (excluding low temperature geothermal heat in heat pump applications)	17	18
Solar	205	220
Biomass ¹⁶ :	3 871	3 907
<i>solid biomass</i>	3 816	3 851
<i>biogas</i>	55	55
<i>bioliquids</i>	0	0
Renewable energy from heat pumps:*		
of which aerothermal		
of which geothermal		
of which hydrothermal		
TOTAL	4 093	4 145
<i>Of which DH¹⁷</i>		
<i>Of which biomass in households¹⁸</i>	2 472	2 485

* The data referring to renewable energy from heat pumps is partially included under geothermal energy. Data relating to aerothermal technologies is yet to be incorporated as we are awaiting the completion of a specific study on heat pumps, which the IDAE (Institute for Energy Diversification and Saving) intends to carry out shortly.

¹⁴ Direct use and district heat as defined in Article 5.4 of Directive 2009/28/EC.

¹⁵ Facilitates comparison with Table 11 of the NREAPs.

¹⁶ Take into account only those complying with applicable sustainability criteria, cf. Article 5(1) last subparagraph of Directive 2009/28/EC.

¹⁷ District heating and / or cooling from total renewable heating and cooling consumption (RES- DH).

¹⁸ From the total renewable heating and cooling consumption.

Table 1.d contains a breakdown of all of the renewable energy sources used in the transport sector in 2011 and 2012.

Table 1d: Total actual contribution from each renewable energy technology in [Member State] to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in the transport sector (ktoe)^{19, 20}

	2011	2012
Bioethanol/ bio-ETBE	225	200
<i>Of which Biofuels²¹ Article 21.2</i>		
<i>Of which imported²²</i>		
Biodiesel	1 392	1 889
<i>Of which Biofuels²³ Article 21.2</i>		
<i>Of which imported²⁴</i>		
Hydrogen from renewables		
Renewable electricity	108	114
<i>Of which road transport</i>		
<i>Of which non-road transport</i>	108	114
Others (as biogas, vegetable oils, etc.) – please specify: HVO	74	
<i>Of which Biofuels²⁵ Article 21.2</i>		
TOTAL	1 799	2 203

[NOTE 1]

Data prepared using information published in the National Energy Commission's [NEC] 2011 Annual Report on the obligation to use biofuels. As of the date of preparing this report, the 2012 report from the National Markets and Competition Commission (NMCC), the entity that the NEC has joined, was not available. We have therefore not included data on the production of biofuels for 2012.

¹⁹ For biofuels take into account only those compliant with the sustainability criteria, cf. Article 5(1) last subparagraph.

²⁰ Facilitates comparison with Table 12 of the NREAPs.

²¹ Biofuels that are included in Article 21(2) of Directive 2009/28/EC.

²² From the whole amount of bioethanol / bio-ETBE.

²³ Biofuels that are included in Article 21(2) of Directive 2009/28/EC.

²⁴ From the whole amount of biodiesel.

²⁵ Biofuels that are included in Article 21(2) of Directive 2009/28/EC.

2. Measures taken in 2011–2012 and/or planned at national level to promote the growth of energy from renewable sources taking into account the indicative trajectory for achieving the national RES targets as outlined in your National Renewable Energy Action Plan. (Article 22(1)a) of Directive 2009/28/EC).

Table 2: Overview of all policies and measures*

* The support schemes for electricity production from renewable energy have not been included in this table as they are detailed in section 3.

General measures

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
1. Preparing templates for municipal ordinances for the introduction of renewable energies.	Soft	Promoting the use of renewable energies in buildings at a local level, in urban or semi-urban environments. Reducing administrative barriers and standardising regulations	City councils and local authorities	Existing	2011 – 2015
2. Planning electrical and gas infrastructures (2015 – 2020)	Regulatory	Key areas: ensuring that demand is supplied, maintaining the system's economic sustainability; maintaining and improving the electricity system through rational structuring of the grids, allowing for the implementation of different supply-related activities; contributing towards the integration of new energy production from renewable sources	Operation of the electricity system and investments in energy projects	Being prepared	2015 – 2020
3. Establishing a certification and qualification system for low-power wind installers.	Regulatory	Certification and qualification system for low-power wind energy installers using renewable energies, transposing the provisions of Articles 14.3 and 14.4 of Directive 2009/28/EC. Increasing the quality of facilities	-	Existing	2011 - 2015

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
4. Establishing a certification and qualification system for solar energy installers	Regulatory	Certification and qualification system for solar thermal and photovoltaic energy installers using renewable energies, transposing the provisions of Articles 14.3 and 14.4 of Directive 2009/28/EC. Increasing the quality of facilities	-	Existing	2011
5. Establishing a certification and qualification system for geothermal energy installers	Regulatory	Certification and qualification system for installers using renewable energies for all technologies, transposing the provisions of Articles 14.3 and 14.4 of Directive 2009/28/EC. Increasing the quality of facilities	-	Existing	2012 – 2013
6. Transition agreements between the IDAE and Autonomous Communities and Cities to support investment in renewable facilities	Financial	Aid for renewable energies that do not receive aid through the system of premiums and tariffs	Network-isolated thermal solar, thermal biomass, photovoltaic and wind energy, biogas, geothermal, mixed facilities	Completed	2011
7. Solar radiation atlas	Soft	Detailed and proven knowledge of global, direct and diffuse radiation data will be a tool allowing for and facilitating the correct determination of the resources available for any geographical location and will allow us to improve the operational and commercial experience of the sector as a whole and of the growing sector linked to the sale of thermal energy in particular, eliminating part of the current uncertainty on account of a lack of unique reference sources	Sectors: thermal solar, photovoltaic solar, thermoelectric solar. Applicable to public administrations, energy service companies (ESC), developers, engineering works, facilities and users	Existing	2012

Electricity sector measures

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
1. Further development of international interconnections.	Soft	Increasing security of supply, facilitating the integration of greater non-manageable renewable electricity production and changing Spain's current status as an energy island	Electricity system operator, operators and owners of electricity generation facilities	Under way	2012 – 2020
2. Specific regulatory treatment for connection to the grid and authorisation of low-power renewable facilities (Royal Decree 1699/2011 of 18 November)	Regulatory	Reducing administrative barriers to low-power renewable electricity facilities, allowing for their deployment and promoting distributed generation	Developers and end users	Existing	2011
3. Establishing a mechanism to allow for the generation of electricity for internal use, especially energy produced from renewable sources	Regulatory	Promoting electricity generation for internal use from renewable sources and flattening of the demand curve. Developing a distributed generation electricity system.	Facilities, developers, energy producers subject to special regimes and consumers	Existing	2012 – 2020
4. Technical requirements for electricity generation facilities using renewable sources by modifying the Operating Procedure PO 12.2	Regulatory	Once this operating procedure has been approved, the new facilities will provide the electricity system with more features, benefits and important services to guarantee safer operation and, therefore, the envisaged integration of renewable generation may be implemented under better security conditions	Electricity system operator, owners of production facilities connected to the grid	Existing	2011 – 2014
5. Improving monitoring by the Special Regime Control Centre (SRCC)	Soft	Maximising electricity production under the special regime while maintaining the security of the electricity system	Electricity system operator and operators of electricity generation facilities	Existing	2011 – 2020

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
6. Developing the electricity demand and smart grid management systems as a whole	Regulatory	Flattening the demand curve by moving consumption from peak periods to off-peak periods, which will result in a reduction in structural expenditure required to cover peak demand; reducing the risk of having to dump renewable energies at off-peak times, mostly wind energy, thus favouring its integration; greater efficiency for the system as a whole; and active participation of demand in the operation of the electricity system	Electricity system operator, end users	Existing	2011 – 2020
7. Simplification of the administrative proceedings of renewable electricity facilities	Regulatory	Managing to rationalise and speed up administrative proceedings pursuant to Directive 2009/28 and Law 2/2011 on a Sustainable Economy	Renewable energy sector	Existing	2011 - 2015

Thermal renewable measures

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
1. BIOMCASA, GEOCASA and SOLCASA programmes	Financial	These programmes establish a system for funding projects put forward by the ESCs[1] which, as well as promoting these companies, promote a high-quality offer adapted to the needs of the users of hot water and air conditioning in buildings, using thermal solar, geothermal or biomass energy	Energy service companies (ESCs), associations of owners and other building owners.	Existing	2009 -

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
2. Updating and adapting energy rating programmes and simplified methods for the use of geothermal energy in buildings and homes. Recognised document "Technical guide to designing systems for closed-circuit geothermal exchange"	Regulatory	Increasing the share of renewable energies in the supply of energy consumption in buildings. Greater flexibility when carrying out proceedings to register renewable thermal facilities within buildings. Improving the quality of facilities.	Housing developers, builders, architects, renewable energy facilities and ESCs	Existing	2011 – 2012
3. Integration of renewable energies into public buildings	Soft	Achieving the integration of renewable energies into public buildings	Public administrations	Existing	2012 – 2020
4. LTI (Large Thermal Installations) programme: Funding companies with Large Thermal Installations using energy from renewable sources within the building	Financing	Promoting the implementation in buildings of large thermal energy facilities that use renewable energies – biomass, thermal solar and geothermal energy). This new incentive line is aimed at projects that, on account of their size and complexity, are outside the limits established in the BIOMCASA, SOLCASA AND GEOCASA programmes, establishing a system of funding large facilities in these sectors via ESCs.	ESCs, Construction sector	Existing	2011 -

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
5. Inclusion of biomass in heating and cooling networks within energy certification systems in buildings	Regulatory	Although there are no specific quantitative objectives for this proposal, the aim is to bring about a change of behaviour of the local administrations, town planners, architects and housing developers so that they consider renewable energy options within their corresponding town planning work and housing developments	Public administrations, town planners, architects, developers	Existing	2011 – 2012
6. Technical and economic viability study and study of solar thermal potential in order to incorporate this into the district grids.	Regulatory	Although there are no specific quantitative objectives for this proposal, the aim is to bring about a change of behaviour of the local administrations, town planners, architects and housing developers so that they consider renewable energy options within their corresponding town planning work and housing developments	Public administrations, town planners, architects, developers	Existing	2011 - 2012

Transport sector measures

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
1. Law 2/2011 of 4 March on sustainable economy. Transposes the energy objectives of the renewable energy directive, including 10% renewable energies in the transport sector	Regulatory	Promoting the use of renewable energies in the transport sector.	Biofuels sector and renewable electricity sector in terms of transport	Existing	2011 – 2020
2. Royal Decree 459/2011 of 1 April establishing compulsory biofuel objectives for 2011, 2012 and 2013.	Regulatory	Greater use of biofuels.	Oil product operators and distributors.	Completed. Repealed in Article 41 of Law 11/2013 of 26 July, which reduced the obligation to use biofuels.	2011 – 2012

3. Royal Decree 1597/2011 of 4 November, governing the sustainability criteria for biofuels and bioliquids, the National Sustainability Verification System and the double value of some biofuels for calculation purposes	Regulatory	Making progress in the control of the sustainability of biofuels and bioliquids produced and consumed in Spain	The entire value chain of the biofuel and bioliquid sector.	Existing, delayed entry into effect by Law 11/2013 of 26 July.	2011 – 2020
4. Order IET/822/2012 of 20 April, governing the allocation of amounts of biofuel production in order to calculate compliance with compulsory biofuel objectives.	Regulatory	A mechanism that allows for a harmonious development on the Spanish market of biofuel production and consumption capacity variables in order to increase energy independence and supply security.	Hydrocarbon sector	Planned, pending publication of the definitive list of plants with a production quota allocation.	2012 – 2016

Specific measures in the solar sector

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
1. Proposals to promote professionalisation of the sector	Information/ Training	Improving the quality of the entire facility. A change of attitude towards solar energy.	Installers, developers and end users.	Existing	2011 – 2020

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
2. Drawing up the CHEQ4 programme to validate the minimum solar contribution of the TBC	Soft	Facilitating the application, compliance and evaluation of the HE4 section included in the Technical Buildings Code (TBC). Validating the minimum solar contribution.	Housing developers, builders, architects, solar energy installers	Completed	2011
3. Recognised RITE document [Regulations on thermal installations in buildings] "Solar thermal energy guide" (ASIT – Thermal Industry Solar Association)	Soft	Promoting good practice at solar energy facilities	Housing developers, builders, architects, solar energy installers	Completed	2011
4. Training courses for energy certification trainers at existing buildings, incorporating good practice for solar energy	Training	Training a team of experts within the regional governments and among industry professionals in order to disseminate solar energy good practice among construction professionals when carrying out energy certifications at existing buildings.	Autonomous Communities, Professional Associations	Completed	2012 – 2013
5. Training courses for energy certification of existing buildings that incorporate solar energy good practice	Training	Favouring the integration of renewable energies and, in particular, solar energy into existing buildings, as a measure to improve the energy rating of the buildings	Certifying technicians (architects, engineers, etc.)	Existing	2012 - 2014

Specific measures in the wind sector

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
1. Guidelines to ensure the quality of low-power wind equipment	Regulatory	Simplifying the process for approving and certifying equipment	General State Administration, regional and local authorities, equipment manufacturers, end users	Existing	2011 – 2015

Specific measures in the biomass, biogas and waste sectors

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
1. Creation of a legal framework to allow for the injection of biomethane into natural gas networks	Regulatory	Facilitating more efficient use of biogas	Public administration, biogas sector	Existing	2011 – 2020
2. Developing the regulation and standardisation of biomass fuels	Regulatory	Standardising the different types of biomass for domestic use, including specific rules and standards for pellets, etc.	Public administration, AENOR [Spanish Association for Standardisation and Certification]	Existing	2000 - 2020

Specific measures in the biofuel sector

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
1. Design and implementation of a sustainability control scheme for biofuels and bioliquids	Regulatory	The implementation of this system aims to make progress in sustainability control of biofuels and bioliquids produced and consumed in Spain in accordance with European legislative requirements.	The entire biofuel value chain	Existing (approved by RD 1597/2011 of 4 November)	2011 – 2020
2. Preparing and implementing a biofuel quality assurance system	Regulatory	Ensuring quality control of biofuel production processes, thus increasing confidence in the use of biofuels by all industry agents.	Biofuel sector	Existing	2011 – 2014

Name and reference of the measure	Type of measure*	Expected result**	Targeted group and or activity***	Existing or planned****	Start and end dates of the measure
3. Harmonious development of the Spanish biofuel market	Regulatory	Depending on the results of this analysis, there are plans to develop a mechanism to allow the Spanish market a harmonious development of biofuel production and consumption capacity variables. This will help increase energy independence and supply security.	Hydrocarbon sector	Existing (approved by Order IET/822/2012 of 20 April)	2011 – 2011

2.a Description of the progress made in evaluating and improving administrative procedures to remove regulatory and non-regulatory barriers to the development of renewable energy

2011 saw the publication of Royal Decree 1699/2011 of 18 November 2011, regulating the grid connection of low-power electricity production facilities. This standard establishes basic, simplified administrative and technical conditions for connection to the low and high voltage grid (up to 36 kV) of renewable energy and low-power cogeneration facilities in order to reduce the proceedings required to develop these facilities.

2.b Description of the measures in ensuring the transmission and distribution of electricity produced from renewable energy sources and in improving the framework or rules for bearing and sharing of costs related to grid connections and grid reinforcements.

Current legislation¹ states that costs corresponding to the connection of supply infrastructures to the existing grid will be covered by the developer, while the transporter and distributor will be responsible for the costs of strengthening or adapting the transport and distribution grid, respectively, in other words applying what Decision 2009/548/EC refers to as the “shallow approach”. The owners of the grid will receive remuneration linked to this strengthening and adaptation work through a remuneration system governed by Royal Decree 352/2008 of 29 February, establishing remuneration for transportation of electricity for facilities started up since 1 January 2008, and Royal Decree 222/2008 of 15 February, establishing the remuneration system for electricity distribution. Likewise, Royal Decree 1955/2000 describes the grid planning process (Article 8 onwards). Among the general principles of the planning process, Article 9 stipulates that it works towards “the elimination of restrictions which could generate a higher overall cost of the energy supplied” and “the efficient incorporation of new generators into the system”.

2012² saw the publication of various legal provisions aimed at correcting the imbalance between the income and costs of the electricity sector, establishing measures to modify the remuneration methodology for transport activity carried out by Red Eléctrica:

- Royal Decree-Law 13/2012 of 30 March. This royal decree urgently tackles a range of measures with the ultimate aim of reducing temporary imbalances by 2012, both for the electricity sector and the natural gas sector. The system’s income previously came from both access tolls and from the tariffs under which the distributors supplied electricity to the consumers, set based on the costs of the electricity system, including the cost of the energy.

¹ In 2013 other provisions were published which are not included in this report, and which replace those cited in this paragraph. In any case, in terms of the payment for these infrastructures, there have been no substantial changes and the cost allocation criteria have been maintained.

² In 2013 Law 24/2013 of 26 December was published on the Electricity Sector, which consolidates the content pertaining to grids of the royal decrees referred to in this section. It has not been cited because it is not covered by this report.

Based on this Royal Decree-Law access tolls are now the main source of income for the electricity system, as well as other regulated prices, which finance regulated activities together with the other system costs. The measures adopted include: new criteria to regulate remuneration for distribution and transport, limiting the implementation of new transport installations (gas and electricity), a reduction in payments for “power guarantees”, (these are linked to the actual availability of the plants), and changes in remuneration for generation within non-mainland systems through the recognised cost of purchasing fuel.

It also authorises the General State Administration to launch international cooperation mechanisms to comply with the undertakings set out in Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on promoting the use of energy from renewable sources.

- Royal Decree Law 20/2012 of 13 July 2012 requires the imposition of a regional supplement in the access tolls and last resource tariffs for the Autonomous Communities, and amends the remuneration for transport activity (remuneration through investment will be recognised for unamortised assets in service, using their net value as a base). It also establishes measures in addition to the remuneration system of the generation plants subject to the normal regime within non-mainland systems.

Below is a brief description of the measures adopted and/or planned in 2011 and 2012, aimed at optimising the transportation and distribution of electricity from renewable sources:

- Resolution of 27 December 2012 of the Directorate General of Energy Policy and Mines, approving the annual transport network installation programme. In accordance with Order ITC/2906/2010 of 8 November, approving the annual programme of exceptional installations and actions within the electricity and natural gas transport networks, and up until the approval of the new plan for the electricity transport network, the issue of new administrative authorisations for transport installations by the General State Administration has been suspended, apart from installations for international connections. This resolution published the list of installations for which the suspension has been lifted and for which construction has been authorised since this was deemed necessary.
- Connection of the mainland system to the Balearic Islands. This DC underwater interconnection has joined together the existing electrical system on mainland Spain and the Balearic Islands. Up until the launch of the interconnection between mainland Spain and the Balearic Islands in August 2012, the Balearic Island electrical system was made up of two small and electrically isolated sub-systems: Mallorca-Menorca and Ibiza-Formentera.

This electrical interconnection is a project that contributes towards ensuring and improving the reliability of the electrical supply of the Balearic system. It is the first step toward the integration of this isolated electrical system into the mainland electricity market, and also allows for greater integration of renewable energies within the Balearic system.

In 2013 the electrical energy exchanges via the Mainland-Balearic link had an export balance to the Balearic Islands of 1 266 GWh, covering 22.3% of the demand of the Balearic electricity system.

From an environmental point of view, the balance for this first year has meant a reduction in emissions from electricity generation of 285 000 tonnes of CO₂.

The current electrical infrastructure plan also contemplates joining up the two electrical subsystems of the Balearic Islands through the Mallorca-Ibiza double electrical link, which Red Eléctrica will implement in the next few years. The Mallorca-Ibiza underwater interconnection will bring environmental benefits, as well as advantages in terms of cost-savings for the electricity system and the integration of renewable energies.

- Greater development of international interconnections: we should point out that a new line is currently being built to the east of the Pyrenees, which will double the electricity exchange capacity between Spain and France (from 1 400 MW to 2 800 MW), reinforce the security of the two electricity systems and favour the integration of more renewable energies, especially wind energy from the Spanish system. The 400 kV DC line, measuring 65 kilometres in length, will be fully underground and two converter substations will be built at either end. An 8.5 kilometre tunnel, measuring 3.5 metres in diameter, will house the cables in the section crossing the Pyrenees.

Work began in 2011 after obtaining the relevant administrative authorisations. In 2012 all of the administrative proceedings were completed and the permits required were obtained to implement the project and route construction work has continued. In April 2013 the interconnection tunnel drilling work was completed, with the tunnelling machine reaching the meeting point with its French counterpart. The interconnection should enter into operation in 2015.

As well as this interconnection with France, the possibility of a new interconnection is being studied for implementation by 2020. This will be an underwater interconnection running from the Basque Country along the Bay of Biscay.

- Planning electrical and gas infrastructures. During the period covered by the first monitoring report, and in accordance with the four-yearly reviews of the planning of infrastructures and energy networks set out by the Law on Sustainable Economy, and with the provisions of Royal Decree 1955/2000 and Royal Decree-Law 13/2012, work began to draw up the electrical and gas infrastructure plan for 2012-2020 through Order ITC/734/2010 of 26 March 2010. In 2011 work continued to prepare this report and an initial version was drawn up together with the related Environmental Sustainability Report, in accordance with Directive 2011/42/EC. After a period of public information and consultation with the Autonomous Communities, a final proposal for the 2012-2020 Plan was submitted to the Sub-directorate General of Energy Planning and Monitoring for its approval on 11 November 2011.

However, the coverage index based on the new demand conditions on account of the change of macroeconomic situation and its projection to 2020 vastly exceeded the threshold deemed sufficient to guarantee the security of the energy supply in an economically efficient manner. Therefore, on 29 November 2012 a new energy planning procedure began through order IET/2598/2012 for a new plan for 2015–2020, taking into consideration the new macroeconomic and demand situation.

As established in this order, the new plan will take into consideration the increase in the share of renewable energies in electricity generation, the changes in the demand profile as a result of a reduction in the share of industrial demand in total electricity demand, a greater concentration of demand at certain times of the year, as well as the increase in the average costs of the grids due to lower usage rates. It will also take into account the importance of distributed generation from renewable sources and generation for internal use, and will analyse the need to extend the gas network to facilitate the integration of gas from renewable sources (in accordance with and transposing Article 16.9 of Directive 2009/28/EC) and will take into account and will analyse the option of local heating and cooling networks using renewable sources (in accordance with and transposing Article 16.11 of Directive 2009/28/EC). It will therefore facilitate the development of the Spanish energy system in order to comply with the objectives set for 2020 on energy efficiency, renewable energies and the environment, and will set the country on the path defined by the European Commission for 2050.

- Publication of the Annual Programme of Installations of the Transport Network through the Resolution of 27 December 2012 of the Directorate General of Energy Policy and Mines, in accordance with the Electricity and Gas Sector Plan for 2008–2016 and with the modifications made by Order ITC/2906/2010 of 8 November and its subsequent correction of errors published on 19 November 2011 in the “Official State Bulletin”. This annual programme updated the most significant aspects in terms of time variations and exceptional actions concerning the infrastructures contained in the Planning document for the electricity and gas sectors for 2008–2016, approved by the Council of Ministers on 30 May 2008.
- Royal Decree 1699/2011 of 18 November, regulating connection to the low-power electricity production installation network: Establishes basic administrative and technical conditions for connection to the low and high voltage network (up to 36 kV) of renewable energy and low-power cogeneration installations, taking into account their special characteristics in order to establish a specific regulation to allow for the implementation of these activities.

These measures aim to develop distributed generation, which offers benefits for the system such as the reduction of grid losses, the reduction of the need for investment in new grids and, finally, minimising the impact of the electrical installations on their surroundings.

- Development of systems to manage electricity demand and smart grids as a whole: Definition of a set of actions to manage additional demand to be considered by 2020 which will allow, among other things, for progress in the conversion of our electrical infrastructures to so-called smart grids, based on information technologies, an element that is very important in achieving active demand management. These actions primarily focus on:

- Specific super-off-peak hourly differentiation systems for electric vehicles (a measure created in the 2010–2012 Action Plan within the framework of the “Integrated Strategy to Promote Electric Vehicles” and governed in Royal Decree 647/2011 of 9 May).
- Development of the recharge manager role: aimed at the charging of electric vehicles and taking the form of contracts between the charge manager and the end users (an activity that is already regulated in Royal Decree 647/2011 of 9 May).
- All of the meters for electricity supplies with a contracted power of up to 15 kW will be replaced with new equipment allowing for hourly differentiation and remote management by 31 December 2018, as set out in ORDER ITC/3860/2007 of 28 December and order IET/290/2012 of 16 February, modifying the former.
- Improvement of monitoring by the Special Regime Control Centre (SRCC): The SRCC was set up in 2006 and is integrated into the Spanish Electricity Grid control system as the system operator. It provides the only real-time connection for the generators subject to the special system to the National Electricity Control Centre (NECC), via the generation control centres to which they are attached; it is responsible for the real-time management of this type of electricity generation. It carries out the following tasks:
 - Production forecasts (wind).
 - Precise security analyses for all time points.
 - Real-time control of the production attached to the SRCC.

The examination and control of generation allows for production to be maximised to avoid preventative restrictions and to delay them, as applicable, to real time.

Since its creation it has taken steps to improve and optimise its monitoring activities.

- Technical requirements for electricity generation facilities using renewable sources through the modification of Operating Procedure PO 12.2: Throughout the decade there will be a gradual move away from synchronous generators (mainly conventional electricity generation) to other generators based on power electronics (wind and solar photovoltaic, mainly). In this context these new generators should provide similar capacity and services, where technically possible, to the synchronous generators they are replacing and, in this respect, collaboration and coordination of the entire sector is essential to achieve the appropriate technological and normative development, focussed on the optimal and safe integration of this type of energy.

A modification to Operating Procedure PO 12.2 is being developed that meets the technical requirements identified in line with the above.

The necessary technical requirements of the modification of PO 12.2 are related to:

- Permanent and temporary operability within certain voltage and frequency ranges
- Dynamic voltage control during network disturbances
- Permanent voltage control

- Power-frequency regulation capacity and certain power control requirements.
- Improving voltage control as a result of the new proposed technical requirements (voltage setpoint versus the actual power factor control)

Description of the support schemes and other measures currently in place that are applied to promote energy from renewable sources and report on any developments in the measures used with respect to those set out in your National Renewable Energy Action Plan

- a) Support schemes to promote the use of energy from renewable sources in the electricity sector established by Spain

Up until 2012³, the legal and economic framework governing the generation of electricity from renewable sources in Spain has been based on a system of regulated premiums and tariffs.

The legislation that has governed this framework (some of it recently modified) has been as follows:

- Law 54/1997 of 27 November 1997 of the Electricity Sector
- Royal Decree 1955/2000 of 1 December 2000, regulating transport, distribution, marketing and supply activities, as well as the authorisation procedures for electricity facilities.
- Royal Decree 842/2002 of 2 August 2002, approving the low voltage electrotechnical regulation.
- Royal Decree 661/2007 of 25 May 2007, regulating electricity production subject to the special regime.
- Royal Decree 1028/2007 of 20 July 2007, establishing the administrative procedure for processing applications for the authorisation of electricity generating facilities in territorial waters.
- Royal Decree 1578/2008 of 26 September 2008 on remuneration for electricity production through solar photovoltaic technology for installations after the deadline for maintaining remuneration under Royal Decree 661/2007 of 25 May 2007 for this technology.
- Royal Decree Law 6/2009 of 30 April 2009, adopting certain measures in the energy sector and approving energy assistance relief (governing the mechanisms for the pre-assignment of remuneration in Article 4 and transitional provisions four and five.

³ Other provisions were published in 2013, which are not included in this report.

- Royal Decree 1565/2010 of 19 November 2010, regulating and modifying certain aspects of electricity production subject to the special regime.
- Royal Decree 1614/2010 of 7 December 2010, regulating and amending certain aspects relating to solar thermal and wind electricity production
- Royal Decree-Law 14/2010 of 23 December 2010, establishing urgent measures to correct the electricity sector's tariff deficit.
- Sustainable Economy Law 2/2011 of 4 March 2011, incorporating some of the elements from the support frameworks for renewable energies, which should be present to guarantee the sustainability of their future growth.
- Royal Decree 647/2011 of 9 May 2011, regulating the activity of the system recharge manager to carry out energy recharging services.
- Order ITC/2914/2011 of 27 October 2011, modifying Order ITC/1522/2007 of 24 May 2007 establishing regulations on the guarantee of origin of electricity from renewable sources and from high efficiency cogeneration.
- Royal Decree 1544/2011 of 31 October 2011, establishing the access tolls for transport and distribution networks which should be paid by electricity producers
- Royal Decree 1699/2011 of 18 November 2011, governing the network connection of low-power electricity production facilities
- Royal Decree-Law 1/2012 of 27 January 2012, suspending the procedures for the pre-assignment of remuneration and abolishing economic incentives for new electricity production facilities using cogeneration, renewable energy sources and residual waste. This standard froze the fixed remuneration system within the legal system both for operating installations and for renewable installations which, although not yet in operation, were registered in the Remuneration Pre-assignment Register (mentioned above).
- Royal Decree-Law 20/2012 of 13 July 2012 on measures to ensure budget stability and to foster competition, modifying Law 54/1997 on the Electricity Sector.
- Royal Decree-Law 13/2012 of 30 March 2012, transposing directives concerning domestic electricity and gas markets and electronic communications and adopting measures to remedy deviations for imbalances between the costs and revenue of the electricity and gas sectors.
- Law 15/2012 of 27 December 2012 on fiscal measures for energy sustainability, governing three new taxes, one of which is a tax on the electricity production value, applicable to renewable production as well. This law creates a standard for the use of continental waters for the production of electricity and modifies the tax rates established for natural gas and coal, whilst lifting the exemptions envisaged for energy products used in the production of electricity and in the cogeneration of electricity and useful heat.

- Law 17/2012 of 27 December 2012 on the General State Budget for 2013, establishing various exceptional measures, including a series of contributions to finance the costs of the electricity system in terms of promoting the use of renewable energies, equivalent to the estimated total annual state income from the taxes included in the law on fiscal measures for energy sustainability and 90 percent of the estimated income from the sale of greenhouse gas emission rights, up to a maximum of EUR 450 million.
- Royal Decree-Law 29/2012 of 28 December 2012, improving management and welfare protection in the Special System for Household Employees and other measures of an economic and social nature. [Article 8. Inadmissibility of the economic system prioritised for generation installations under the special regime that were not finalised prior to the deadline or that have equipment that is not envisaged in the implementation project].

Moreover, the following national regulation affects wind facilities in particular: in February 2012 the State Air Security Agency published the “Signalling and illumination guide for wind turbines and farms”. This guide was produced to implement chapter 6 of Annex 14 of the International Civil Aviation Organisation (ICAO), transposed into Spanish legislation through Royal Decree 862/2009 of 14 May, approving the technical rules on designing and operating public airfields and governing the certification of state-run airports.

- b) Support schemes to promote the use of energy from renewable sources in heating and cooling applied by Spain

In 2011–2012, support for the use of renewable energies for thermal uses includes both updating and generating new regulations in order to transpose the latest European directives into Spanish legislation and promote renewable energies, such as the funding programmes implemented through energy service companies (ESCs).

Throughout 2011 and 2012 various updates were made to the Regulation on heating systems in buildings and the energy efficiency certification procedure was drawn up. These actions culminated in the publication in April 2013 of Royal Decree 238/2013⁴ and Royal Decree 235/2013⁵ respectively.

Regulations

- *Regulation on Heating Systems in Buildings*

⁴ Royal Decree 238/2013 of 5 April modifying certain articles and technical instructions of the Regulation on Heating Systems in Buildings (RHSB), approved by Royal Decree 1027/2007 of 20 July.

⁵ Royal Decree 235/2013 of 5 April, recasting Royal Decree 47/2007, transposing Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 in terms of energy efficiency certification in buildings.

In addition to the publication in April 2011 of Recognised RITE Document on updating and adapting energy rating programmes and simplified methods for using geothermal energy in buildings and homes, June 2012 saw the publication of a new recognised document for the geothermal industry entitled "Technical Guide for the design of closed-circuit geothermal exchange systems".

Financial aid

- *Aid to investment*

In 2011 a system of aid to investment in renewable energies was maintained, basically for thermal use, with the budgets established by the General State Administration plus internal funds from the Autonomous Communities. This system is applied through agreements with the Autonomous Communities, which manage the release of these funds to the applicant.

In order to access this aid, applicants must meet the requirements established in the corresponding aid publications of each Autonomous Community, based on the agreements entered into between the Central and Regional Governments.

Aid to investment is established according to the type of technology, renewable sector and specific characteristics of the features of the equipment used.

- *Funding programmes*

In 2009 and 2010 within the framework of the 2005-2010 Renewable Energy Plan, a system was launched to fund thermal production projects using renewable energies, via energy service companies (ESCs), with two specific objectives. The first was to promote the development of this type of company and the second was to increase the use of biomass, geothermal energy and solar energy, guaranteeing the quality of the facilities and presenting an offer adapted to the users' needs for hot water and air-conditioning in buildings.

These programmes (BIOMCASA, GEOCASA, SOLCASA) have limits in terms of the amount per project and are supplemented by the Large Thermal Installations (LTI) programme for the three renewable energy sources referred to above.

The LTI programme is applicable to large-scale investment projects and has a system of various technical and financial guarantees. This new incentive line is aimed at projects which, on account of their size and complexity, are outside the limits established in the BIOMCASA, SOLCASA and GEOCASA programmes, establishing a funding system for large installations within these sectors.

These programmes establish technical guarantees in terms of implementing the facilities, ensure a commitment to supply a certain quantity of energy and to provide financial savings for the end user and run information and promotion campaigns both for the sectors involved in developing the projects and for the users.

Given the satisfactory results of these programmes, in 2012 new requests for proposals were published. With regard to biomass in particular, once the programme funds had run out (€4.4 million allocated in 2011–2012), in 2013 a new BIOMCASA II Programme was launched to continue promoting and funding thermal biomass projects in buildings in Spain, helping promote this type of project and incorporate new companies into the programme.

The user receives a long-term supply contract with an energy price that is lower than they would have to pay if they went with a facility using conventional fuel. This price also covers the amortisation of the facility and the operation and maintenance thereof. The interest on the funding is also set at the lowest market levels, making it an attractive funding option for ESCs, which can then pass these costs on to the user.

During the first BIOMCASA programme (2009–2012), of the 97 energy service companies requesting authorisation, 64 were authorised. A total of 71 thermal biomass projects were funded through the sale of energy, which meant total funding of €8 000 000 (100%) and 23 MW of installed thermal power, with a primary energy consumption of 48.2 GWh/year, resulting in 11 960 tonnes of CO₂ avoided.

Within the Geocasa programme, 30 companies requested authorisation, of which 21 were authorised. 9 geothermal projects were funded through the sale of energy, with total funding of €1 661 820 (55.4%) and 1.2 MW installed thermal power to meet an energy demand of 4.9 GWh/year, resulting in 940 tonnes of CO₂ avoided.

A total of 53 companies requested authorisation under the SOLCASA programme, of which 41 were authorised. 9 solar thermal energy projects were funded through the sale of energy, giving total funding of €1 239 206.61 (24.78%) and 1.44 MW of installed thermal power, resulting in a primary energy saving of 2.17 GWh/year and a reduction in CO₂ emissions of 716 tonnes.

In terms of the LTI programme, at present 26 companies have requested authorisation, 15 of which have been authorised. So far, the programme has financed 2 thermal biomass projects, giving total funding of €1 635 454 (9.6%), with thermal power of 8.56 MWt and a primary energy consumption of 6.5 GWh, resulting in 1 773 tonnes of CO₂ avoided.

c) Support schemes applied by Spain to promote the use of energy from renewable sources in transport

Regulations

- *Obligation to use biofuels*

Additional provision sixteen of Law 34/1998 of 7 October on the hydrocarbon sector establishes annual objectives for biofuels and other renewable fuels for transport purposes, which are compulsory objectives from 2009 onwards. It also authorises the Ministry of Industry, Energy and Tourism to issue the necessary provisions to regulate a mechanism to promote the incorporation of biofuels and other renewable fuels for transport purposes. Furthermore, it authorises the Government to modify these established objectives and to establish additional objectives.

In this respect, Royal Decree 459/2011 of 1 April, setting the compulsory biofuel objectives for 2011, 2012 and 2013, established overall objectives and objectives per product, expressed as the minimum energy content compared with the energy content in petrol, diesel oil and in total petrol and diesel oil sold or consumed. The overall compulsory objectives were set as follows: 6.2% in 2011, 6.5% in 2012 and 6.5% in 2013.

At present there is no differential support for each type of fuel or technology within the framework of this obligation. Nor does this obligation establish specific support for biofuels that meet the criteria of Article 21(2) of the Directive.

In order to achieve these objectives as efficiently as possible, Order ITC/2877/2008 of 9 October, establishing a mechanism to promote the use of biofuels and other renewable fuels for transport purposes, establishes temporary flexibility mechanisms for accounting for the quantities of biofuels sold or consumed, as well as a certification and compensatory payment system which will be managed by the National Energy Commission and will allow for the parties to transfer certificates, while also acting as a control mechanism for this obligation.

The parties subject to the Spanish system on compulsory use of biofuels are as follows:

- Operators authorised for the wholesale distribution of petrol products for their annual sales on the domestic market, excluding wholesale sales to other operators.
- Companies involved in the retail distribution of petrol products for their annual sales on the section of the domestic market not supplied by wholesale operators.
- Consumers of petrol products for their annual consumption that is not supplied by wholesale operators or by companies involved in the retail distribution of petrol products.

Parties without sufficient certificates to comply with their obligations will have to make compensatory payments.

Payment of compensatory payments will be understood as compliance with the established obligations, provided that the level of violation of these obligations is minor in nature (below the threshold established using the calculation formula set out in Order ITC/2877/2008). Otherwise, it will be understood that the party is in breach of the established obligations to achieve the annual objectives on the minimum content of biofuels and other renewable fuels, which will be classed as a very serious violation pursuant to Law 34/1998. Administrative sanctions on account of such a violation will be applied, notwithstanding the relevant compensatory payments that must be made.

Order ITC/2877/2008 appoints the National Energy Commission as the entity responsible for issuing biofuel certificates, managing the certification mechanism and supervising and controlling the biofuel marketing obligation.

Financial aid

- *Fiscal exemption for pilot biofuel projects*

The Law on Special Taxes states that the manufacture or import of biofuels intended for use as fuels, directly or mixed with conventional fuels, in pilot projects for the technological development of less contaminating products shall be exempt from the special tax on hydrocarbons.

“Pilot projects for the technological development of less contaminating products” will be understood as any experimental and fixed-term projects relating to the production or use of the products indicated and intended to demonstrate the technical or technological viability of their production or use, excluding the subsequent industrial use of the results thereof.

This is a voluntary system managed by the Department of Special Customs and Taxes of the Taxation Agency.

The Special Taxes Regulation states that once an exemption request has been approved, the management centre will issue the corresponding agreement recognising this exemption with the period of validity requested by the interested parties, but no longer than five years.

There is a maximum limit established in the Regulation on Special Taxes relating to the accreditation of the experimental nature of the project and verification that the project is limited to demonstrating the technical or technological viability of the production or use of the biofuel in question. This condition will be understood to have been verified when the quantity of biofuels produced does not exceed 5 000 litres/year.

- *Allocation of biofuel production quotas*

Order IET/822/2012 of 20 April, governing the allocation of biofuel production quotas in order to calculate compliance with compulsory biofuel objectives (modified through Order IET/2736/2012 of 20 December) aims to promote the biofuel industry for transport purposes.

The abovementioned Order seeks to contribute towards the development of biofuels as a substantial element of both environmental protection policies and greenhouse gas emission reduction policies, and of the compulsory objectives on the use of energy from renewable sources set out for this purpose. It also seeks to contribute towards the security of the energy supply, increasing energy independence and reducing the cost of petrol imports, as well as promoting the Spanish and EU biofuel production sectors.

The process of allocating biofuel production quotas was under way at the time of preparing this report, with a definitive list of the biofuel production plants to benefit from these allocations yet to be issued.

Table 3 on support schemes for renewable energies is not included in this report as the sector is undergoing a complete overhaul. The enactment of Royal Decree-Law 9/2013 of 12 July, adopting urgent measures to ensure the financial stability of the electricity system, marked the start of the process of reforming the electricity sector, by authorising the Government to approve a new legal and economic system for existing electricity production facilities using renewable energy sources, cogeneration and residual waste. This Royal Decree modifies Article 30.4 of Law 54/1997 of 27 November on the Electricity Sector in order to introduce specific principles on which the new system will be based.

As a result, a new Law on the Electricity Industry is currently awaiting approval by Parliament. The implementation of this Law, which will govern electricity production using renewable energy sources, cogeneration and residual waste, will significantly modify the system applicable to these facilities, based on principles which will allow for these facilities to cover the necessary costs to compete on the market on an equal footing with other technologies and to achieve reasonable profit margins.

The aim of this new legislation is for existing and future renewable facilities to receive a payment that covers the investment costs that an efficient and well-managed company will not be able to recover from the market.

3.1. Information on how supported electricity is allocated to final customers for purposes of Article 3 (6) of Directive 2003/54/EC.

The details of the guarantees of origin in the invoices that the traders pass on to the end customers, pursuant to article 110 bis of Royal Decree 1955/2000 of 1 December, governing transport, distribution, marketing, supply and authorisation procedures of electricity facilities, are determined in additional provision one of Order ITC/2914/2011 of 27 October.

The regulations on the guarantee of origin system, as set out below, can be found in Order ITC/1522/2007 of 24 May, modified by Order ITC/2914/2011 of 27 October.

4. Information on how, where applicable, the support schemes have been structured to take into account RES applications that give additional benefits, but may also have higher costs, including biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material

The provisions of Article 21.2 of Directive 28/2009 on the double value assigned to certain biofuels to comply with compulsory objectives have been incorporated into the Spanish legal system, together with the transposition of Articles 17, 18, 19, 20 and Annex V of the abovementioned Directive, through Royal Decree 1597/2011 of 4 November, governing the sustainability criteria for biofuels and bioliquids, the National Sustainability Verification System and the double value of some biofuels for calculation purposes.

The definition of waste, residues, non-food cellulosic material, and ligno-cellulosic material, approved by resolution of the State Secretariat for Energy in section 4 of final provision three of the abovementioned Royal Decree, had yet to be published at the time of preparing this report.

5. Information on the functioning of the system of guarantees of origin for electricity and heating and cooling from RES, and the measures taken to ensure reliability and protection against fraud of the system.

In Spain, the system of guarantees of origin for electricity and heat and cold generation from renewable energy sources and high-efficiency cogeneration is governed by Order ITC/1522/2007 of 24 May, Order ITC/2914/2011 of 27 October, modifying Order ITC/1522/2007, and Circular 6/2012 of 27 September of the National Energy Commission, establishing rules on the organisation and operation of the Origin Guarantee System for electricity from renewable energy sources and high-efficiency cogeneration.

The guarantee of origin is an electronic accreditation, issued at the request of the interested party, which ensures that a certain number of megawatt-hours of electricity produced at a plant within a set period of time have been generated from renewable energy sources or from high-efficiency cogeneration.

The guarantees of origin are given to three decimal places. The guarantees of origin will also include, as a bare minimum, data relating to the identification, location, start-up date, type of energy, capacity of the facility, period of operation and support scheme, notwithstanding the fact that this information may be given in more detail through a Circular of the National Energy Commission which should be published in the "Official State Bulletin".

The National Energy Commission is the Organisation responsible throughout Spain for issuing guarantees of origin for electricity generated from renewable energy sources and from high-efficiency cogeneration, as well as for managing said guarantees. It may carry out these tasks directly or through a third party, with the authorisation of the State Secretariat for Energy of the Ministry of Industry, Energy and Tourism. This third party should be independent of the generation, distribution and marketing activities and should be designated pursuant to the relevant legislation on public sector contracting.

- **System of book entries for guarantees of origin**

The National Energy Commission has established a system of book entries for guarantees of origin for electricity generated from renewable energy sources and high-efficiency cogeneration, which aims to record information and manage the abovementioned guarantees of origin.

The system must be managed through electronic procedures and resources via the National Energy Commission's Electronic Register pursuant to Article 27.6 of Law 11/2007 of 22 June on public electronic access to Public Services and Article 32 of Royal Decree 1671/2009 of 6 November, partially implementing this Law.

This system of book entries records information about the number of guarantees of origin issued, as well as the transfers thereof.

Income obtained from the sale of guarantees of origin should be recorded separately. During the first quarter of each year, the producers to whom guarantees of origin are issued will send the National Energy Commission a report on the plan for the allocation of this income, which may be intended for new developments of production facilities subject to the special regime which are not profitable under the current remuneration system, or for general research and development activities (R&D) aimed at improving the global environment.

After checking the information provided in the request, the National Energy Commission will issue the guarantee of origin, consisting of the corresponding book entry on the electricity produced.

Guarantees of origin for production month x will be issued before the last day of month x+10 and, in any case, before 28 February of each year for guarantees corresponding to the previous year. Guarantees of origin will be understood to have been issued to the owner of the facility, who will be the initial holder thereof.

Transfers of any guarantee of origin must be requested by the guarantee holder from the National Energy Commission so that the corresponding book entry can be made.

The import of guarantees of origin will be considered in the same way as the issue thereof.

Certification of guarantees of origin issued in another Member State may be submitted by the traders to the National Energy Commission so that they are granted the same recognition as those issued under the Spanish guarantee of origin system, provided that they are issued pursuant to the requirements of Directives 2004/8/EC of the European Parliament and of the Council of 11 February 2004 on the promotion of cogeneration based on the demand for useful heat on the domestic energy market and modifying Directives 92/42/EEC and 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 modifying and repealing Directives 2001/77/EC and 2003/30/EC. Guarantees of origin must be issued by the issuing body designated by a Member State of the European Union. When there are doubts as to the accuracy, reliability or integrity of a guarantee of origin issued by another Member State, the National Energy Commission may refuse to recognise this guarantee, notifying the State Secretariat for Energy so that it can notify the European Commission.

Guarantees of origin may only be exported by the owners of electricity generation facilities.

An electricity producer subject to the special regime or, as applicable, the ordinary regime with power over 50 MW, which has received any premium or incentive for its production or surplus, and which requests guarantees of origin for their export, regardless of the energy sales option they have selected, must waive the financial quantity equivalent to the premium and, as applicable, the incentive set out in the relevant financial regime for each exported guarantee of origin. If the financial regime contemplates a single payment linked to a regulated tariff, without any premium or incentive, the amount that must be waived by the producer for each exported guarantee of origin will be the difference between the remuneration received and the final hourly price set on the market for this technology.

The amounts of the concepts to be waived by the producer will be considered, as applicable, as income due for the settlement system established in Royal Decree 2017/1997 of 26 December, organising and regulating the settlement procedure for transportation, distribution and tariff retailing costs, permanent costs of the system and the costs of diversification and security of supply.

- Controls, sanction system and evaluation of the normative framework

- The National Energy Commission will carry out the checks and inspections it deems necessary in order to perform its duties to issue guarantees of origin for electricity generated from renewable energy sources and high-efficiency cogeneration.
- The owners of the facilities covered by this order must guarantee physical access thereto under adequate conditions for the performance of the relevant checks, verifications and, as applicable, inspections.
- The trading companies must also provide access to their records and accounts for checks and verifications of the transfers and cancellations of guarantees of origin, energy readings for the end user and the income obtained from the sale of guarantees of origin.
- Violations of the obligations envisaged in this order will result in the application of the system of offences and sanctions set out in Chapter X of Law 54/1997 of 27 November on the Electricity Sector.

The National Energy Commission will periodically send the Ministry of Industry, Energy and Tourism, at its request, a public and open-access report evaluating the current legislative and regulatory framework with regard to the authorisation procedures applicable to electricity production plant facilities using renewable energy sources and high-efficiency cogeneration, indicating the actions taken, where applicable.

This evaluation will be carried out with a view to reducing the regulatory and non-regulatory obstacles to increasing electricity production from renewable energy sources and from high-efficiency cogeneration, rationalising and accelerating the relevant administrative procedures, ensuring that the rules are objective, transparent and non-discriminatory and that they take into consideration the features of the different technologies, promote the design of cogeneration units that respond to the economically justifiable demands of useful heat and avoid the production of excess heat in relation to useful heat.

The report should also refer to the measures to be adopted to facilitate access to the grid of electricity generated from renewable energy sources, studying, among other things, the viability of introducing bidirectional measuring.

6. Description of the developments in 2011 and 2012 in the availability and use of biomass resources for energy purposes

Table 4: Biomass supply for energy use

	Amount of domestic raw material (*)		Primary energy in domestic raw material (ktoe)		Amount of imported raw material from EU (*)		Primary energy in amount of imported raw material from EU (ktoe)		Amount of imported raw material from non EU(*)		Primary energy in amount of imported raw material from non EU (ktoe)	
	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012
Biomass supply for heating and electricity:												
Direct supply of wood biomass from forests and other wooded land energy generation (fellings etc.)**	6 449 761	6 119 989	1 612	1 530	0	0	0	0	0	0	0	0
Indirect supply of wood biomass (residues and co-products from wood industry etc.)**	6 418 614	6 264 771	1 926	1 879	0	0	0	0	0	0	0	0
Energy crops (grasses, etc.) and short rotation trees (please specify)	769 843	1 072 727	237	322	0	0	0	0	0	0	0	0
Agricultural by-products / processed residues and fishery by-products **	5 757 277	5 620 115	2 035	1 939	0	0	0	0	0	0	0	0
Biomass from waste (municipal, industrial etc.) **	7 110 385	7 201 425	529	498	0	0	0	0	0	0	0	0
Others (please specify)												
Biomass supply for transport:												
Common arable crops for biofuels (please specify main types)	459 167		102		179 347		38		2 969 305		540	0
Energy crops (grasses, etc.) and short rotation trees for biofuels (please specify main types)	0	0	0	0	0	0	0	0	0	0	0	0
Others (please specify)												

* Amount of raw material if possible in m3 for biomass from forestry and in tonnes for biomass from agriculture and fishery and biomass from waste

** The definition of this biomass category should be understood in line with table 7 of part 4.6.1 of Commission Decision C (2009) 5174 final establishing a template for National Renewable Energy Action Plans under Directive 2009/28/EC

Table 4a. Current domestic agricultural land use for production of crops dedicated to energy production (ha)

Land use	Surface (ha)	
	2011	2012*
1. Land used for common arable crops (wheat, sugar beet etc.) and oilseeds (rapeseed, sunflower etc.)		
Wheat (soft and hard)	15 246	
Barley	12 100	
Corn	18 674	
Sunflower and safflower	2 653	
Rape	1 618	
2. Land used for short rotation trees (willows, poplars).		
3. Land used for other energy crops such as grasses (reed canary grass, switch grass, Miscanthus), sorghum. (Please specify main types)		

*No data available for 2012

7. Information on any changes in commodity prices and land use in 2011 and 2012 associated with increased use of biomass and other forms of energy from renewable sources? References, where available, to relevant documentation on these impacts.

In Spain's case, the scarce use of domestic commodities means that its impact on land use and on a global market such as the market for commodities used to manufacture biofuels is irrelevant. The prices of commodities have followed the same pattern as international markets.

8. Description of the development and share of biofuels made from wastes, residues, non-food cellulosic material, and lingo cellulosic material

As stated above in point 4, the definition of waste, residues, non-food cellulosic material, and ligno-cellulosic material, approved by resolution of the State Secretariat for Energy in section 4 of final provision three of Royal Decree 1597/2011 of 4 November, had yet to be published at the time of preparing this report.

In order to provide the data required in table 5, we have data only for 2011 corresponding to the production and consumption of biodiesel from used cooking oils and animal fats. This data was published by the National Energy Commission (NEC).

Finally, we should point out that in 2011 and 2012 no bioethanol was produced or consumed on a commercial scale that could be included within the scope of Article 21.2 of the Directive.

Table 5: Production and consumption of Art.21(2) biofuels (Ktoe)

Article 21(2) biofuels²⁶	2011	2012*
Production – Biodiesel from UCO and animal fats	179.9	
Consumption – Biodiesel from UCO and animal fast	95.1	
Total production Art.21.2.biofuels	179.9	
Total consumption Art.21.2. biofuels	95.1	
% share of 21.2. fuels from total RES-T		

*No data available for 2012

9. Information on the estimated impacts of the production of biofuels and bioliquids on biodiversity, water resources, water quality and soil quality in 2011 and 2012

Since there is no description of this type of information at a Community level, Royal Decree 1597/2011 which transposed the Directive into the Spanish legal system in terms of biofuel and bioliquid sustainability, does not incorporate a definition of the data that the economic agents must provide in this respect, something which requires policy development in future. Likewise, here we should point out that in terms of biodiversity, the Commission has still not published a definition of pastures and meadows of high biodiversity value.

In any case, in Spain the impact referred to in the title of point nine is irrelevant on account of the scarce use of domestic commodities for the production of biofuels.

²⁶ Biofuels made from waste, residues, non-food cellulosic material, and lignocellulosic material.

10. Estimate the net greenhouse gas emission savings due to the use of energy from renewable sources

Table 6 indicates the estimated reductions in greenhouse gas emissions attributable to the use of renewable energy for 2011 and 2012, differentiating between greenhouse gas emissions attributable to the use of renewable energy, the use of renewable energy in heating and cooling and the use of renewable energy in transport.

Table 6: Estimated GHG emission savings (*) from the use of renewable energy (t CO₂eq)

Environmental aspects	2011	2012
Total estimated net GHG emission saving from using renewable energy	53 653 831	56 856 813
- Estimated net GHG saving from the use of renewable electricity	35 829 249	37 629 056
- Estimated net GHG saving from the use of renewable energy in heating and cooling	12 185 633	12 340 261
- Estimated net GHG saving from the use of renewable energy in transport	5 638 950	6 887 495

(*) The data corresponds solely to the estimated reduction of CO₂. In the electricity sector this has been calculated based on standardised renewable production, compared with emissions from a natural gas combined cycle plant.

11. Report on for 2011 and 2012 and estimate for the following years up to 2020 the excess/deficit production of energy from renewable sources compared to the indicative trajectory that could be transferred to/imported from other Member States and/or third countries, as well as estimated potential for joint projects until 2020

Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory that could be transferred to/from other Member States and/or third countries in [Member State] (ktoe)²⁷ *

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Actual/estimated TOTAL excess production	3 337	3 956	3 388	3 878	2 804	3 469	2 049	2 793		839
Actual/estimated TOTAL deficit production	0	0	0	0	0	0	0	0	0	0

* The excess production included in table 7 is based on the production and demand values included in Annex 2 of this report.

²⁷ Please use actual figures to report on the excess production in the two years preceding submission of the report, and estimates for the following years up to 2020.

11.1. Provide details of statistical transfers, joint projects and joint support scheme decision rules

We have not made use of any of the cooperation mechanisms set out in the Directive.

12. Provide information on how the share for biodegradable waste in waste used for producing energy has been estimated, and what steps have been taken to improve and verify such estimates

As has been stated in previous sections, the definition of waste, residues, non-food cellulosic material, and ligno-cellulosic material, approved by resolution of the State Secretariat for Energy in section 4 of final provision three of Royal Decree 1597/2011 of 4 November, had yet to be published at the time of preparing this report.

The source of information for the share of biodiesel produced from used cooking oil and animal fats are the reports published each year by the National Energy Commission (NEC) since 2009 on the obligation to use biofuels. As the organisation responsible for ensuring compliance with the compulsory use of biofuels, the NEC obtains data using SICBIOS software.

In terms of biomass, no progress has been made in this respect, using the same methods as in the preparation of the NREAP.

ANNEX 1: Calculation method for the energy share from renewable sources

The data included in this progress report on the promotion and use of energy from renewable sources complies with the methodology established in Article 5 and Annexes II, III and VII of Directive 2009/28/EC and in its subsequent community developments.

In this respect, Spain uses the “SHARES” tool, developed by the European Commission in order to standardise the calculation of the contribution of renewable energies in the different Member States. To obtain the share of renewable energies in relation to the set objectives for 2020, the SHARES tool directly reads all of the information required from the energy questionnaires that Spain completes each year and sends to the IEA and to EUROSTAT. The questionnaires and those responsible for completing them are as follows:

- Renewable energies (IDAE-MINETUR)
- Coal (MINETUR)
- Oil (MINETUR)
- Natural gas (MINETUR)
- Electricity and heat (MINETUR)

In terms of the renewable energies questionnaire, the Ministry of Industry, Energy and Tourism (MINETUR), via the IDAE (Institute for Energy Diversification and Saving), prepares data on the capacity of electricity generation facilities, biofuel production capacity and consumption of renewable energies for thermal use, and compares this with the data on electricity generation and consumption of biofuels prepared by MINETUR. For the electricity and heat questionnaire, the IDAE provides the results of the cogeneration statistics prepared jointly with MINETUR.

As well as the information from the abovementioned questionnaires, the SHARES tool also requires the following additional information:

- Standardisation of data on hydroelectric and wind generation in accordance with the Directive on renewable energies (MINETUR).
- Mixed and pure pumping (MINETUR).
- Heat pumps (IDAE).
- Biofuel sustainability (MINETUR).

The questionnaires and the rest of the information are prepared in accordance with the instruction manuals drawn up by EUROSTAT-IEA-OECD-UNECE and with REGULATION (EU) no. 147/2013 of the Commission of 13 February 2013.

ANNEX 2: Projection of final energy demand and final energy consumption from renewable sources in the period from 2013 to 2020

The development of the macroeconomic situation in the last few years has meant that it has been necessary to carry out a review, in terms of the values included in the NREAP, of the energy demand projections used to calculate the share of energy consumption from renewable sources, and therefore used as the basis for analysing compliance with the path set by Directive 2009/28/EC in Annex I.b and for establishing the envisaged excess production values indicated in table 7 of this report. Below are the final energy demand and renewable production values taken into consideration:

(ktoe)	2013	2014	2015	2016	2017	2018	2019	2020
Final gross energy demand (Article 5.6)	83 773	83 547	82 967	82 702	82 794	83 053	83 479	83 969
Final renewable energy consumption	14 442	14 821	15 072	15 369	15 740	15 962	16 294	16 794