



GOBIERNO
DE ESPAÑA

MINISTERIO
DE INDUSTRIA, ENERGÍA
Y TURISMO



IDAE
Instituto para la Diversificación
y Ahorro de la Energía

**PROGRESS REPORT ON THE PROMOTION AND
USE OF ENERGY FROM RENEWABLE SOURCES
AS ESTABLISHED IN ARTICLE 22 OF DIRECTIVE
2009/28/EC
SPAIN
(YEARS 2009 and 2010)**

1 June 2012

INDEX

0	Introduction.....	1
1	Sectoral and overall shares and actual consumption of energy from renewable sources	2
2	Measures taken and/or planned at national level to promote the growth of energy from renewable sources	6
2.a	<i>Progress made in evaluating and improving administrative procedures to remove regulatory and non-regulatory barriers to the development of renewable energy</i>	21
2.b	<i>Measures taken to ensure the transportation and distribution of electricity produced from renewable energy sources, and to improve the framework or rules for bearing and sharing of costs related to grid connections and grid reinforcements</i>	23
3	Support schemes and other measures currently in place to promote energy from renewable sources, and any developments in the measures used with respect to those set out in the NREAP.....	28
3.1	<i>Information on how supported electricity is allocated to final consumers in accordance with Article 3(6) of Directive 2003/54/EC.....</i>	44
4	Structuring support schemes 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 lignocellulosic material.....	45
5	Functioning of the system of guarantees of origin for electricity and heating and cooling from RES. Measures taken to ensure reliability and protection against fraud.....	46
6	Developments in the availability and use of biomass resources for energy purposes	49
7	Changes in commodity prices and land use associated with increased use of biomass and other forms of energy from renewable sources. References to relevant documentation on these impacts	52
8	Development and share of biofuels made from wastes, residues, non-food cellulosic material, and lignocellulosic material	53
9	Estimated impact of the production of biofuels and bioliquids on biodiversity, water resources, water quality and soil quality	54
10	Net greenhouse gas emission saving from the use of energy from renewable sources	55

11	Excess/deficit production of energy from renewable sources which could be transferred to/imported from other Member States and/or third countries. Estimated potential for joint projects until 2020.....	56
11.1	<i>Statistical transfers, joint projects and joint support scheme decision rules.....</i>	56
12	Estimated share of biodegradable waste in waste used for producing energy. Steps taken to improve and verify such estimates.....	57
	Response to Article 22(c) of Directive 2009/28/EC	57

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 an overall European Union (EU) binding target of a 20 % share of renewable energy sources in gross final energy consumption and a share of 10 % renewable energy in the transport sector to be achieved by all Member States by 2020.

To achieve that, it sets 2020 targets for each Member State and a minimum indicative trajectory leading up to that year. In Spain, the 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 contribution of 10 % from renewable sources in the transport sector by that year.

The Directive calls on every Member State to draw up and notify a National Renewable Energy Action Plan (NREAP) for the period 2011-20 to the European Commission (EC) by 30 June 2010, with a view to complying with the binding targets laid down in the Directive.

In addition, Article 22 of the Directive establishes that each Member State shall submit a report to the Commission on the progress in the promotion and use of energy from renewable sources by 31 December 2011, and every two years thereafter.

The 2011–20 National Renewable Energy Action Plan (NREAP), dated 30 June 2010, was submitted to the European Commission on 6 July 2010.

After the elaboration and submission of the NREAP to the European Commission, and within the framework of the difficulties the global and Spanish economy has experienced, the economic aspects associated to the development of renewable energies took on particular importance, leading to the adjustment of targets and the elaboration of a new 2011–20 National Renewable Energy Action Plan (NREAP) in Spain, which updated and replaced the previous one with a new NREAP dated 20 December 2011, which was submitted to the European Commission on 5 January 2012.

This has led to a delay in the elaboration of this progress report on the promotion and use of energy from renewable sources.

1. Sectoral and overall shares and actual consumption of energy from renewable sources in 2009 and 2010

Table 1 presents a summary of the energy shares, in the three biggest sectors, from sources of renewable energy in gross final consumption, as established by Directive 2009/28/EC for the years 2009, 2010 and 2011.

Table 1: Sectoral shares (electricity, heating and cooling, and transport) and overall shares of energy from renewable sources ¹

	2009	2010
Share of renewable energies in heating and cooling [RES-H&C ² (%)]	12.0 %	11.9 %
Share of renewable energies in electricity [RES-E ³ (%)]	27.2 %	29.2 %
Share of renewable energies in transport [RES-T ⁴ (%)]	3.5 %	4.8 %
Overall share of renewable sources [RES ⁵ (%)]	12.5 %	13.5 %
<i>Of which from cooperation mechanism ⁶ (%)</i>		
<i>Surplus for cooperation mechanism ⁷ (%)</i>		

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

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

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

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

⁶ In percentage points of the overall share of RES

⁷ In percentage points of the overall share of RES.

Table 1.a presents the calculation table for the renewable energy contribution of each sector to final consumption of energy in 2009 and 2010.

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

	2009	2010
<i>a) Gross final consumption of renewable energy sources for heating and cooling</i>	3 957	4 258
<i>b) Gross final consumption of electricity produced from RES</i>	6 729	7 334
<i>c) Gross final consumption of energy from RES in the transport sector</i>	1 105	1 466
<i>d) Total gross consumption of renewable energy sources ⁹</i>	11 741	13 005
<i>e) Transfers of renewable energy sources to other Member States</i>		
<i>f) Transfers of renewable energy sources from other Member States and 3rd countries</i>		
<i>g) RES consumption adjusted for target (d) – (e) + (f)</i>	11 741	13 005

⁸ Facilitates comparison with table 4a of the NREAPs.

⁹ In accordance with Article 5(1) of Directive 2009/28/EC, gas, electricity, and hydrogen from renewable energy sources will only be counted once. Double counting is not allowed.

Table 1.b includes the capacities and productions, respectively, for 2009 and 2010.

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 of renewable resources **in electricity**¹⁰

	2009		2010	
	MW	GWh	MW	GWh
<i>Hydroelectric Energy</i> ¹¹ <i>non pumped</i>	13 158	30 395	13 188	31 545
<i>< 1MW</i>	269	1 181	273	371
<i>1MW-10 MW</i>	1 640	3 171	1 653	2 944
<i>>10 MW</i>	11 249	26 043	11 262	28 230
<i>pumped (pure and mixed)</i>	5 347	2 831	5 347	3 210
<i>Geothermal</i>	0	0	0	0
<i>Solar energy:</i>	3 770	6 064	4 598	7 105
<i>photovoltaic energy</i>	3 488	5 961	3 916	6 413
<i>concentrated solar power</i>	282	103	682	692
<i>Ocean, tidal and wave energy</i>	0	0	0	0
<i>Wind energy:</i> ¹²	19 176	38 295	20 759	42 732
<i>onshore</i>	19 176	38 295	20 759	42 732
<i>offshore</i>	0	0	0	0
<i>Biomass:</i> ¹³	774	3 488	846	3 894
<i>solid biomass</i>	597	2 958	657	3 241
<i>biogas</i>	177	530	189	653
<i>bioliquids</i>	0	0	0	0
<i>TOTAL (non-pumped)</i>	36 878	78 242	39 391	85 275
<i>of which in CHP</i>	0	0	246	1 462

¹⁰ Facilitates comparison with Table 10a of the NREAPs.

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

¹² Take into account only those complying with applicable sustainability criteria. cf. Article 5(1) of Directive 2009/28/EC last subparagraph.

Table 1.c presents the targets for heating/cooling generation technologies, which include geothermal (including heat pumps), solar thermal, biomass (both in solid state and in biogas form) and aerothermal energy for 2009 and 2010.

Table 1.c: Total actual contribution (final energy consumption¹³) 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)¹⁴

	2009	2010
Geothermal (excluding low temperature geothermal heat in heat pump applications)	4	4
Solar energy	156	183
Biomass ¹⁵ :	3 782	4 054
<i>solid biomass</i>	3 750	4 015
<i>biogas</i>	32	39
<i>bioliquids</i>	0	0
Renewable energy from heat pumps:	15	17
- of which aerothermal	5	5
- of which geothermal	10	12
- of which hydrothermal	0	0
TOTAL	3 957	4 258
<i>Of which DH</i> ¹⁶	0	3
<i>Of which biomass in households</i> ¹⁷	0	2 055

¹³ Direct use and district heat as defined in Article 5(4) of Directive 2009/28/EC.

¹⁴ Facilitates comparison with Table 11 of the NREAPs.

¹⁵ Take into account only those complying with applicable sustainability criteria, cf. Article 5(1) of Directive 2009/28/EC last subparagraph.

¹⁶ District heating and / or cooling from total renewable heating and cooling consumption (RES- DH).

¹⁷ From the total renewable heating and cooling consumption.

Table 1.d provides a breakdown of all the sources of renewable energy used in the transport sector for the years 2009 and 2010.

Table 1.d: 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)^{18, 19},

	2009	2010
Bioethanol/ bio-ETBE	151	231
<i>Of which Biofuels²⁰ from Article 21(2)</i>	0	0
<i>Of which imported²¹</i>	0	25
Biodiesel	905	1183
Of which biofuels ²² from Article 21(2)	0	5
Of which imported ²³	0	748
Hydrogen from renewable sources	0	0
Renewable electricity	50	53
<i>Of which road transport</i>	0	0
<i>Of which non-road transport</i>	50	53
Others (as biogas, vegetable oils, etc.)- please specify	0	0
<i>Of which biofuels²⁴ from Article 21(2)</i>	0	0
TOTAL	1 105	1 466

¹⁸ For biofuels take into account only those compliant with the sustainability criteria, cf. Article 5(1) of Directive 2009/28/EC last subparagraph.

¹⁹ Facilitates comparison with Table 12 of the NREAPs.

²⁰ Biofuels that are included in Article 21(2) of Directive 2009/28/EC..

²¹ From the whole amount of bioethanol / bio-ETBE.

²² Biofuels that are included in Article 21(2) of Directive 2009/28/EC.

²³ From the whole amount of biodiesel..

²⁴ Biofuels that are included in Article 21(2) of Directive 2009/28/EC.

2. Measures taken in 2009 and 2010 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.

Table 2: Overview of all policies and measures

Measures adopted in 2009 and 2010

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. DAE Agreements - Autonomous Communities and Cities to support the investment in renewable installations, in the REP 2005-2010 framework	Financial	Support renewable energies that do not receive support from the system of tariffs and premium payments	Solar thermal, biomass thermal, photovoltaic and off-grid wind energy systems, biogas, geothermal and mixed installations. Biofuel suppliers and biomass treatment equipment.	Completed (and continued 2011)	2006-10

Electricity 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. Royal Decree-Law 6/2009 of 30 April establishing the Remuneration Pre-allocation Registry for renewable energy installations under the special regime	Regulatory	Provide for the establishment of mechanisms in the remuneration registry for renewable energy installations under the special regime, guaranteeing legal certainty to those who have made investments and setting the basis for a more sustainable development of renewable energies, their gradual cost reduction and greater competition with conventional technologies.	The renewable origin electricity production sector	Existing	2009–
2. Royal Decree-Law 6/2010, of 9 April on measures for promoting economic recovery and employment	Regulatory	Promote Energy Service Companies (ESCOs ¹) and the electric vehicle. It introduced measures to facilitate the tariff deficit securitisation process.	ESCOs. Electric vehicle, Electricity sector.	Existing	2010–
3. Royal Decree 1565/2010 of 19 November , which amends certain regulations and aspects of the production of renewable energies	Regulatory	Set out the technical requirements for the consideration of substantial modifications to cogeneration and wind energy electrical energy production installations. Modify the reactive power compensation scheme, lay down the conditions for wind technology experimental	Owners of renewable electricity generation installations Sectors: cogeneration, solar thermoelectric, wind power	Existing	2010–

¹ Energy Service Companies (ESCOs).

		installations and provide for the possibility of granting the right to additional remuneration on top of the production market's remuneration for innovative solar thermoelectric installations			
4. Royal Decree 1614/2010 of 7 December which regulates and amends certain aspects related to the production of electrical energy from solar, thermoelectric and wind energies	Regulatory	Limit the number of equivalent hours of operation with the right to an equivalent feed-in tariff, as well as a reduction in the premium for wind power installations	Owners of renewable electricity generation installations Sectors: Solar thermoelectric, wind power	Existing	2010–
5. Royal Decree-Law 14/2010 of 23 December establishing urgent measures to correct the tariff deficit in the electricity sector	Regulatory	Amend the maximum limits established in the Royal Decree-Law 6/2009 of 30 April for the years 2010, 2011 and 2012, maintaining the goal of preventing the emergence of a new deficit in the electricity system from 2013 onward. Proceed to the adoption of other immediate measures in consumer protection and the reduction of certain cost and System revenue allocations. Limit the equivalent operating hours of photovoltaic installations to correct the charge separation estimates in the generation of this technology	Owners of renewable electricity generation installations Sectors: photovoltaic	Existing	2010–
6. Law 39/2010 of 22 December approving General State Budgets for the year 2011	Regulatory	Require energy producers to pay a power generation access tariff, as is the case in the development of transmission and distribution grids		Existing	2010–11

Thermal 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. Order VIV/984/2009, of 15 April, modifying certain basic documents of the Technical Code for Buildings, approved by Royal Decree 314/2006 17 March and Royal Decree 1371/2007 19 October.	Regulatory	Clarify and specify its application and adapt it to technical advance and progress	Property developers, architects, renewable energy developers, ESCOs	Existing	2009–
2. Royal Decree 1826/2009, of 27 November, amending the Regulations of thermal installations in buildings, approved by Royal Decree 1027/2007 of 20 July	Regulatory	Limit the temperatures maintained inside conditioned buildings and establishments for different uses. Display the determined temperature range in certain buildings and establishments.	Housing developers, builders, architects, renewable energy installers, ESCOs	Existing	2009–
3. Municipal regulations	Regulatory	Minimum requirements of use, compulsory minimum contributions and conditions of solar energy in buildings located in municipalities that aim to facilitate the elaboration of regulations for other municipalities that may want to introduce them	City councils and local administrations	Existing	1999–
4. BIOMCASA, GEOCASA and SOLCASA Programmes	Financial	Establish a financing system for projects presented by the ESCO ² s which, in addition to developing the	ESCOs, property owner associations and other building	Existing	2009–

² Energy Service Companies (ESCOs).

		latter, promotes quality products that can adapt to the needs of hot water consumers and building conditioning, using solar thermal, geothermal or biomass energy.	owners.		
--	--	--	---------	--	--

Transport 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. Royal Decree 1088/2010 of 3 September amending Royal Decree 61/2006 of 31 January on the technical specification for petrol, diesel, the use of biofuels and the sulphur content of marine fuels.	Regulatory	Greater use of biofuels. Transposes a Directive that allows the incorporation of a higher amount of biofuels in petrol and diesel	Oil product operators and distributors	Existing	2010–
2. Circular 2/2009 of 26 February of the National Energy Commission, regulating the implementation and administration of the mechanism to promote the use of biofuels and other renewable fuels for transport purposes and establishing the regulations for the organisation and operation of the mechanism.	Regulatory	Define procedures, standards and rules pertaining to applications for opening Certification Accounts, applications for the issue of biofuel certificates and the transfer and shift of certificates. Establish management procedures for the National Energy Commission's Book-Entry System.	Biofuels sector	Existing	2009–

Measures adopted from 1 January 2011

Given the circumstances described in the introduction, Spain revised its NREAP in December 2011 and submitted it to the European Commission in January 2012. Most of the measures outlined as from 1 January 2011 are listed as “in process of adoption” under the status column, which refers to the status of the measures at the time this report was elaborated.

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	Status (****)
1. Planning of electrical and gas infrastructures (2012–20).	Soft	Including: ensure the demand is met; maintain and improve the electricity system through the rational structuring of grids, which will enable the introduction of various activities intended to ensure supply; contribute to the integration of new renewable energy production	Electricity system operations and investments in energy projects	Planned	2011–20	In process of adoption
2. Modification of the Technical Building Code (TBC)	Regulatory	Increase the participation of renewable energies in the supply and consumption of energy in buildings.	Property developers, architects, ESCOs, renewable energy developers	Planned	2011–12	In process of adoption
3. IDAE Transition Agreements - Autonomous Communities and Cities to support the investment in renewable installations.	Financial	Support renewable energies that do not receive support from the system of tariffs and premium payments	Solar thermal, biomass thermal, photovoltaic and off-grid wind energy systems, biogas, geothermal and mixed installations. Biofuel suppliers and biomass treatment equipment.	Existing	2011	Adopted

4. Establishment of a certification and qualification system for installers	Regulatory	Certification and qualification system for renewable energy installers of all technologies. Increase the quality of installations	-	Planned	2011–12	In process of adoption
---	------------	--	---	---------	---------	------------------------

(*) Indicate if the measure is (predominantly) regulatory, financial or soft (i.e. information campaign).

(**) Is the expected result behavioural change, installed capacity (MW; t/year), energy generated (ktoe)?

(***) Who are the targeted persons: investors, end users, public administration, planners, architects, installers, etc.? What is the targeted activity / sector: biofuel production, energetic use of animal manure, etc.?

(****) The measure's status will be indicated: if it has already been adopted and its date of adoption, or if it is in process of adoption and its foreseen date of completion.

Measures in the field of electricity generation using renewable energies

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	Status (****)
1. Greater development of international interconnections.	Soft	Increase the security of the supply, facilitate the integration of a greater production of non-manageable renewable energies and eliminate the energy island status that currently characterises Spain	Electricity system operators, operators and owners of electricity generation installations	Planned	2012–20	In process of adoption
2. Specific regulatory treatment for network connection and authorisation of small power renewable energy installations (Royal Decree 1699/2011 of 18 November).	Regulatory	Reduce administrative barriers for small power renewable electricity installations, allowing their deployment and boosting distributed generation	Developers and final consumers	Underway	2011	Adopted
3. Establishment of a net balance mechanism for renewable electricity installations destined for self-consumption	Regulatory	Promotion of the self-consumption of electric energy produced with renewable sources and flattening the demand curve. Development of a distributed electricity generation	Installations, developers, energy producers in the special regime and consumers	Planned	2012–20	In process of adoption

		system				
4. Specific regulatory treatment for the development of reversible hydroelectric plants in existing infrastructures.	Regulatory	Increase the electricity storage capacity, which will facilitate the integration of energies from non-manageable renewable sources into the transmission and distribution grid. The forecasts for 2020 in installed pumped storage capacity have been established taking into account the current forecasts by the operators. Almost an additional 3,500 MW will be reached	Investors	Planned	2012–20	In process of adoption
5. Technical requirements for renewable electricity generation installations through the modification of Operating Procedure OP 12.2	Regulatory	Once this operating procedure has been approved, new installations will provide the electricity system with more features, better performance and important services to ensure its secure functioning and, therefore, future integration of renewable energy generation will be performed under more secure conditions.	Electricity system operators, owners of production installations connected to the grid	Planned	2011–12	In process of adoption
6. Improved monitoring by the Special Regime Control Centre (CECRE)	Soft	Maximise special regime electricity production, preserving the security of the electricity system	Electricity system operators and operators of electricity generation installations	Underway	2011–20	In process of adoption

(*) Indicate if the measure is (predominantly) regulatory, financial or soft (i.e. information campaign).

(**)Is the expected result behavioural change, installed capacity (MW; t/year), energy generated (ktoe)?

(***)Who are the targeted persons: investors, end users, public administration, planners, architects, installers, etc.? What is the targeted activity / sector: biofuel production, energetic use of animal manure, etc.?

(****) The measure's status will be indicated: if it has already been adopted and its date of adoption, or if it is in process of adoption and its foreseen date of completion.

Measures in the field of thermal renewable energies

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	Status (****)
1. Adaptation of the Regulation on Thermal Installations in Buildings (RITE) for renewable energy technologies.	Regulatory	Increase the participation of renewable energies in the supply and consumption of energy in buildings. Greater flexibility in carrying out procedures for registering renewable thermal installations in buildings	Property developers, builders, architects, renewable energy installations and ESCOs	Planned	2011–12	In process of adoption
2. Integration of renewable energies in public buildings	Soft	Achieve the integration of renewable energies in public buildings	Public administrations	Planned	2012–20	In process of adoption
3. GIT Programme (Large Thermal Installation Programme): Financing to qualified firms of Large Thermal Installations running on renewable energies in the building sector.	Financing	Promote the implementation of large thermal energy installations in the building sector, from the exploitation of renewable energies such as biomass, solar thermal and geothermal energy. This new boost line is addressed to all the projects which, given their size and complexity, were left out of the limits established in the calls of BIOMCASA, SOLCASA and GEOTCASA programmes, establishing a financing system for large installations in these areas through ESCOs	ESCOs, Building sector	Existing	2011–	Adopted

(*) Indicate if the measure is (predominantly) regulatory, financial or soft (i.e. information campaign).

(**) Is the expected result behavioural change, installed capacity (MW; t/year), energy generated (ktoe)?

(***)Who are the targeted persons: investors, end users, public administration, planners, architects, installers, etc.? What is the targeted activity / sector: biofuel production, energetic use of animal manure, etc.?

(****) The measure's status will be indicated: if it has already been adopted and its date of adoption, or if it is in process of adoption and its foreseen date of completion.

Specific measures in the hydroelectric 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	Status (****)
1. Promotion of bids for hydroelectric harnessing in existing public infrastructures	Regulatory - Financial	Increase the installed hydroelectric capacity	Public Administrations	Existing	2012–20	Partially Adopted

(*) Indicate if the measure is (predominantly) regulatory, financial or soft (i.e. information campaign).

(**)Is the expected result behavioural change, installed capacity (MW; t/year), energy generated (ktoe)?

(***)Who are the targeted persons: investors, end users, public administration, planners, architects, installers, etc.? What is the targeted activity / sector: biofuel production, energetic use of animal manure, etc.?

(****) The measure's status will be indicated: if it has already been adopted and its date of adoption, or if it is in process of adoption and its foreseen date of completion.

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	Status (****)
1. Promote the standardisation of solar thermal installation elements and configurations	Promotion	Optimise productive processes, reduce costs and promote better dissemination of the technology	Certifying entities, laboratories, technological centres, manufacturers, installers.	Planned	2010–20	In process of adoption

2. Proposals to encourage the sector's professionalisation	Information/ Training	Improve the quality of the entire installation. Change attitudes towards solar energy	Installers, developers and final consumers.	Planned	2011–20	In process of adoption
--	--------------------------	--	---	---------	---------	------------------------

(*) Indicate if the measure is (predominantly) regulatory, financial or soft (i.e. information campaign).

(**) Is the expected result behavioural change, installed capacity (MW; t/year), energy generated (ktoe)?

(***) Who are the targeted persons: investors, end users, public administration, planners, architects, installers, etc.? What is the targeted activity / sector: biofuel production, energetic use of animal manure, etc.?

(****) The measure's status will be indicated: if it has already been adopted and its date of adoption, or if it is in process of adoption and its foreseen date of completion.

Specific measures in the wind power 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	Status (****)
1. Guidelines to guarantee the quality of small capacity wind power facilities.	Regulatory	Simplification of the homologation and equipment certification processes	General state administration, regional and local authorities, equipment manufacturers and end consumers	Planned	2011–12	In process of adoption

(*) Indicate if the measure is (predominantly) regulatory, financial or soft (i.e. information campaign).

(**) Is the expected result behavioural change, installed capacity (MW; t/year), energy generated (ktoe)?

(***) Who are the targeted persons: investors, end users, public administration, planners, architects, installers, etc.? What is the targeted activity / sector: biofuel production, energetic use of animal manure, etc.?

(****) The measure's status will be indicated: if it has already been adopted and its date of adoption, or if it is in process of adoption and its foreseen date of completion.

Specific measures in the biomass, biogas and residues 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	Status (****)
1. Analysis of technical-economic actions for the optimisation of biomass transport, in collaboration with regional and local authorities	Regulatory	Reduction in transport costs	Logistic companies, purchasing companies	Planned	2013–20	In process of adoption
2. Implementation of a system to assure quality in SRF production processes	Regulatory	Creation of a market for fuels produced from waste	Public authorities, waste management companies, potential purchasing companies	Planned	2012–20	In process of adoption
3. Promote the use of quality digestates in fertilization practices	Regulatory	Normalise the use of digestates as fertilizer or organic amendments	Public authorities, livestock and agro-industrial sectors	Planned	2012–20	In process of adoption
4. Creation of the legal framework that allows the injection of biomethane in natural gas networks	Regulatory	Facilitate more efficient uses of biogas	Public authorities, biogas sector	In Development	2011–20	In process of adoption
5. Development of the regulation and normalisation of biomass fuels	Regulatory	Normalisation of different types of biomass for domestic use including specific standards and regulations for pellets, etc.	Public authorities, AENOR	In Development	2000–20	In process of adoption
6. Development of quantification methodologies for the biodegradable fraction and fuel from different waste	Soft	Precisely determine what parts of the	Waste recovery sector (producers as well as purchasers)	Planned	2012–14	In process of adoption

currents		energy from waste is renewable				
7. Development of a working group on waste energy recovery at Coordination Commission level	Soft	The correct application of the waste management hierarchy	Waste recovery sector (producers as well as purchasers)	Planned	2011–20	In process of adoption

(*) Indicate if the measure is (predominantly) regulatory, financial or soft (i.e. information campaign).

(**) Is the expected result behavioural change, installed capacity (MW; t/year), energy generated (ktoe)?

(***) Who are the targeted persons: investors, end users, public administration, planners, architects, installers, etc.? What is the targeted activity / sector: biofuel production, energetic use of animal manure, etc.?

(****) The measure's status will be indicated: if it has already been adopted and its date of adoption, or if it is in process of adoption and its foreseen date of completion.

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	Status (****)
1. Design and implementation of a sustainability control scheme for biofuels and bioliquids.	Regulatory	The aim of this system is to advance the sustainability control of biofuels and bioliquids produced and purchased in Spain, in accordance with European regulations.	The entire biofuel value chain	Planned	2011–20	Underway (approved RD 1597/2011 of 4 November)
2. Elaboration and implementation of a system to ensure the quality of biofuels	Regulatory	Ensure quality control in biofuel production processes, increasing confidence in the use of biofuels on behalf of the agencies in the sector.	Biofuels sector	Existing Planned	Since 2008 2011–14	Underway since December 2010

3. Harmonious development of the Spanish biofuel market	Regulatory	Based on the results of such analysis, the aim is to develop a mechanism that allows the Spanish biofuel market to develop in harmony with the variables of production capacity and consumption. This will contribute to increasing energy independence and the security of the supply.	Hydrocarbon sector	Planned	2011-11	Underway (approved Order IET/822/2012 of 20 April)
---	------------	---	--------------------	---------	---------	--

(*) Indicate if the measure is (predominantly) regulatory, financial or soft (i.e. information campaign).

(**)Is the expected result behavioural change, installed capacity (MW; t/year), energy generated (ktoe)?

(***)Who are the targeted persons: investors, end users, public administration, planners, architects, installers, etc.? What is the targeted activity / sector: biofuel production, energetic use of animal manure, etc.?

(****) The measure's status will be indicated: if it has already been adopted and its date of adoption, or if it is in process of adoption and its foreseen date of completion.

The application of measures that require the allocation of economic resources will have to adapt to Spanish economic austerity measures and budget balancing.

In addition to the measures described in the tables above, it is important to note that on 5 March 2011, the **Sustainable Economy Act** was approved, which in its Article 78, “national objectives on energy savings, energy efficiency and renewable energies” establishes:

- a) A 20 % national minimum target for the share of energy from renewable energies in gross final energy consumption by 2020. This target must be achieved with a 10 % share of renewable energy in the final energy consumption of all forms of transport by 2020.
- b) Accordingly, necessary strategies and measures shall be adopted to achieve an overall target in the reduction of primary energy demand, on the baseline scenario of an absence of active policies for energy saving and efficiency, in accordance with the 20% target established by the European Union by 2020 and with the greenhouse gas emission reduction targets undertaken by Spain.
- c) The previous targets must guide the design and approval of public policies and, specially, public incentives for the development of different sources of renewable energy and the adoption of energy efficiency measures.
- d) To this end, the Government shall approve national plans in energy saving, energy efficiency and renewable energies, that will include measures in supply guidance and promotion, and energy consumption, allowing the achievement of the stated targets and the possibility of developing renewable energies in all Autonomous Communities.

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

The mechanism to encourage the use of biofuels and other renewable transport fuels established, among others, the obligation of certain economic operators to monthly and annually send required data to demonstrate their compliance with the established targets.

With the purpose of defining administrative procedures to allow the application of this renewable energy development tool, Circular 2/2009 of 26 February of the National Energy Commission (CNE), regulating the implantation and management of the mechanism for promoting the use of biofuels and other renewable fuels for transport, defined the procedures, rules and regulations for opening Certification Accounts, the application of issuing biofuel certificates and the transfer and hand over of certificates, and established the procedures for the management of the Book-Entry System.

From the CNE's website, the SICBIOS application can be accessed from the "Biofuels Certification Provider" link, through this, obligated parties and those seeking verification may access the Certification System. On this application, parties can open Certification Accounts, register in the Certification System, edit data, and cancel Account registration or opening. Once the request to open an Account or request for registration has been approved, parties obligated to the sale or purchase of biofuels, owners of biofuel production installations who are not obligated parties, and owners of storage installations, can send the data required by the promotion mechanism through the CNE website monthly and annually.

Royal Decree 1699/2011 of 18 November, which regulates the connection of small power electricity production installations to the grid, adopts specific measures to promote a higher dissemination of renewable energy technologies. Its main priority is the rationalisation and acceleration of administrative procedures for obtaining licenses that allow higher generation capacity, especially in the domestic and tertiary sectors, which are high electricity and heat energy consumers and are composed of numerous low capacity consumers of up to 400 V, although some large buildings are connected to high voltage of between 1kV and 36kV. The small size of some renewable energy installations and the existing knowledge on city distribution systems, allows the determination of a series of circumstances where connection to the grid is always possible, without requiring expensive studies and the time and resources of distribution companies.

This new royal decree develops Law 54/1997 of 27 November on the Electricity Sector, in tune with the current Directive 2004/8/EC of 11 February 2004, and with Directive 2009/28/EC of 23 April 2009 through the establishment of basic administrative and technical conditions for connection to low and high voltage networks of up to 36kV in renewable energy installations, taking into account their special characteristics and with the purpose of establishing a specific regulation that allows the development of these activities.

As a new feature, Royal Decree 1699/2011 simplifies the requirements for small power installations to allow connection at points where there is a pre-existing supply.

Accordingly, production installations with nominal power not exceeding 100kW are excluded from the administrative authorisation system, but a new regulation will be shortly announced on the electricity produced on the grid by consumers for their own use, which will incentivise self-consumption.

The purpose of these measures is to promote distributed electricity generation, which will represent benefits for the system such as reducing losses on the grid, reducing the need for investments in new grids and, ultimately, minimising the impact that electrical installations have on their surroundings.

Additionally, Royal Decree 1699/2011 made other regulatory amendments in order to optimise the flow of information between governing bodies of the autonomous communities, the Ministry of Industry, Tourism and Commerce, and the National Energy Commission, to improve the service provided to the general public.

In the solar photovoltaic energy sector, the 12 month period, extendable to a maximum 16 in the case of a request for an extension, has been replaced by a single period of 16 months for photovoltaic installations recorded in the Remuneration Pre-assignment Registry to obtain final registration and begin the sale of energy. The amount of guarantees required to participate in the Remuneration Pre-allocation Registry has been decreased, in accordance with the new amounts required for access to the distribution network.

2.b Measures taken to ensure the transportation and distribution of electricity produced from renewable energy sources, and to improve the framework or rules for bearing and sharing of costs related to grid connections and grid reinforcements

There have not been any significant modifications in 2009/2010 to measures on the bearing and sharing of costs related to grid connections and grid reinforcements. However, the current regulation establishes that connection costs shall be charged to the developer, while the transporter and distributor shall forward the costs of reinforcement or expansion of the transmission and distribution grid respectively, i.e. what Decision 2009/548/EC defines as the “narrow scope” is applied. The latter are guaranteed recovery of their investment through a remunerative scheme regulated by Royal Decree 325/2008 of 29 February, which establishes remuneration for electricity transmission activities for installations brought into service after 1 January 2008 and Royal Decree 222/2008 of 15 February which establishes the remunerative scheme for electricity distribution activities.

With regard to the rules on the bearing and sharing of costs for technical adaptation of the grid, operating procedure 12.1 (issued by the Resolution of 11 February 2005, by the Secretary of State for Energy, approving a set of technical and instrumental procedures necessary for the proper technical management of the Electricity System) describes the sharing of costs and guarantees necessary for building the reinforcements. In addition, Royal Decree 1955/2000 describes the planning procedure of the grid (from Article 8). In Article 9, one of the general principles of the planning procedure is stated to be “the elimination of restrictions that could lead to the overall cost of the energy supplied being higher” and “the efficient incorporation of the new generators into the system”. Also, operational procedure 13.1 (published through the “Resolution of 22 March 2005, of the Secretary of State for Energy, approving the technical and instrumental operational procedure 13.1 - Criteria for the Development of the Transmission Grid - necessary for the proper technical management of the Electricity Grid”) sets out the technical criteria to be used in planning studies for the transmission grid and refers to the minimum generating capacity for the creation of a new substation.

A brief description of the adopted and/or planned measures in the years 2009 and 2010 to optimise the transmission and distribution of renewable electricity is described below:

- Publication of the Annual Transmission Grid Installation Programme in compliance with the 2008–16 Plan for the Electricity and Gas Sectors (Order ITC/2906/2010): This annual programme details the most significant aspects relating to discrete changes and exceptional actions to infrastructures contained in the 2008–16 Plan for the Electricity and Gas Sectors, approved by the Council of Ministers on 30 May 2008. It must be noted that, although the Plan was approved on that date, the technical studies that it is based on were performed around a year earlier, which has led to new requirements and various updates.
- Enhanced development of international interconnections: the importance Spain has for the development of international connections with France should be noted, as aside from increasing the security of the supply, it will allow the integration of a larger volume of renewable energies and increase the commercial exchange of electricity with the rest of Europe, eliminating

Spain's status as an energy island. The planning currently in effect establishes two new interconnections with France, one through the Eastern Pyrenees and another through the Central Pyrenees. The first of the two is the Santa Llogaia-Baixas line, whose definitive technical solution involves a double direct-current circuit with 2 000 MW of capacity which is expected to come into operation in 2014. This interconnection will allow the achievement of the government targets adopted by Spain and France to increase the commercial exchange capacity up to 2 600 MW over the medium term. The second action relates to the long term target, also governmental, of achieving 4 000 MW between Spain and France, which is covered by the current plan with a new line through the Central Pyrenees. However, recent viability studies will lead to the inclusion in the 2012–20 plan of a new direct current link of 2 000 MW from the Basque Country to France through the Gulf of Bizkaia. It also includes the installation of a dephaser in series with the Arkale-Argia 200kV line, to maximise the use of this line by avoiding overloads, and the necessary internal reinforcements to take full advantage of the interconnections mentioned above. The following table details the forecast Net Transfer Capacity (NTC) for 2020:

Country	Transfer	2011	2013	2015	2020
France	Import	1200- 1400	1200- 1400	2600- 2800	4000
	Export	600- 700	1200- 1400	1700- 2200	4000
Portugal	Import	1600- 1700	2700- 3000	3000- 3200	3200
	Export	1600- 1900	2000- 2800	3000- 3200	3200
Morocco	Import	600	600	600	600
	Export	700- 900	700- 900	700- 900	700- 900

Source: REE/MINETUR

- Planning of gas and electric infrastructures (2012–20): This new planning document is being drawn up for the 2012–20 period in compliance with the time horizons included in Royal Decree 1955/2000, with the four year revision period for infrastructure and electricity grid planning established by the Sustainable Economy Act, and particularly with Royal Decree-Law 13/2012, which establishes that the System Operator must submit a draft transmission grid planning document to the Ministry of Industry, Energy and Tourism before June 30 2012. Its elaboration began with the publication of Order ITC/734/2010 of 24 March commencing the procedure for formulating development proposals for the electrical energy transmission grid, the natural gas transport network and storing facilities for strategic reserves of oil products. It thus complies with the Sustainable Economy Act which establishes, among other things, that planning shall be performed taking into account the obligation to maximise the participation of renewable energies in the pool of energy generation and particularly electricity. In order to coordinate the administrative processes of infrastructure authorisation with planning, the latter must forecast a start date for each new infrastructure it incorporates. The authorisation procedure for transmission and distribution grid infrastructures is currently regulated in Law 54/1997 and in Royal Decree 1955/2000, which developed the former.

Some of the more general objectives include ensuring demand is met; maintaining and improving the electricity system through the rational

structuring of grids, which will enable the introduction of various activities intended to ensure supply; contributing to the integration of new energy production from renewable sources.

Royal Decree 1699/2011 of 18 November which regulates the network connection of small power electricity production installations: Establishes basic administrative and technical conditions for connection of small-scale cogeneration systems and renewable energy installations to low and high voltage grids up to 36kV, taking into account their special characteristics in order to establish specific regulations allowing the development of production activities.

The purpose of these measures is to promote distributed electricity generation, which will represent benefits for the system such as reducing losses on the grid, reducing the need for investments in new grids and, ultimately, minimising the impact that electrical installations have on their surroundings.

- Specific regulatory treatment for the development of reversible hydroelectric plants in existing infrastructures: These measures are intended to develop a regulatory framework to promote the development of new reversible hydroelectric plants or the expansion of existing ones, taking advantage of existing infrastructures (dams, canals, or deposits), in a compatible way with hydrologic planning and preserving the environmental values, with the purpose of increasing the storage capacity of electricity, which will facilitate integration into the transmission and distribution system of energy from non-manageable renewable energies. The 2020 forecasts for installed pumped-storage capacity have been established taking into account the current forecasts by the agencies. Almost an additional 3 500 MW will be achieved.
- Development of management systems for electricity demand and intelligent networks in general: A group of actions for the management of additional demand to be addressed in 2020 which will allow, among other things, to advance in the conversion of our electricity infrastructures to Smart Grids, which will be supported by information technologies, an element of great importance in achieving active demand management. These actions are fundamentally centred on:
 - Specific valley hour discrimination systems for the electric vehicle (a measure created in the 2010–12 Action Plan, within the framework of the “Integral Strategy for the Promotion of the Electric Vehicle” and regulated in Royal Decree 647/211 of 9 May).
 - The development of a recharging manager: aimed at recharging the electric vehicle and materialised in the form of services between the recharging manager and end consumers (activity regulated by Royal Decree 647/2011 of 9 May).
 - All measurement counters in electricity supplies with a contractual capacity of up to 15kW will be replaced by new equipment that allows hourly discrimination and remote management before 31 December 2018 as established in ORDER ITC/3860/2007 of 28 December.
- Improved monitoring by the Special Regime Control Centre (CECRE): CECRE, created in 2006, is integrated into the Electricity Network control structure

for the special regime. This centre is the sole interlocutor in real-time between the National Electrical Control Centre (CECOEL) and each one of the generation control centres, to which the wind farms are connected. It performs:

- Production forecasts (wind).
- Precise security analysis in all temporary fields.
- Real-time control of production linked to CECRE.

Examination and control of generation allows production to be maximised, avoiding preventive restrictions and delaying them, if such is the case, in real-time.

Since its creation, it has carried out tasks to improve and optimise supervision activities.

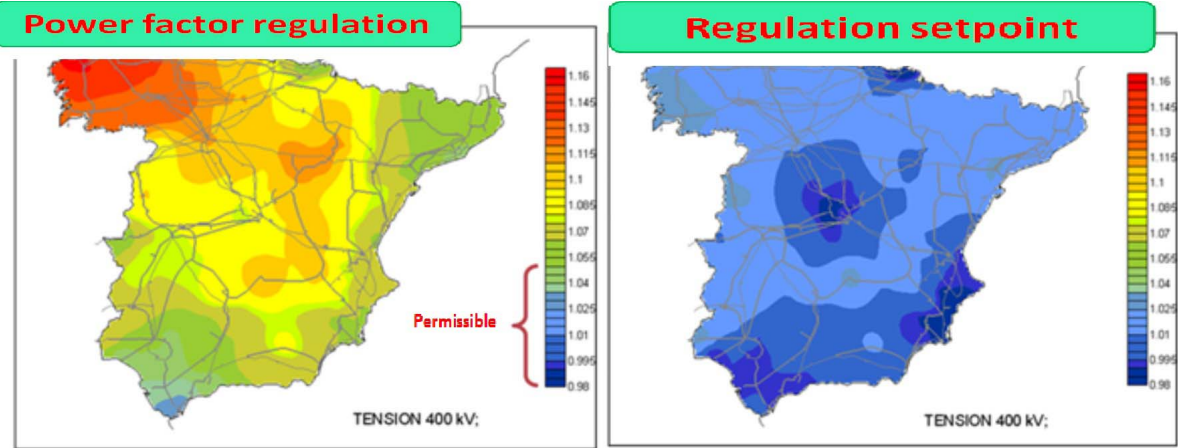
- Technical requirements for renewable electricity installations through the modification of Operational Procedure OP 12.2: Throughout the decade, there will be an eventual displacement of synchronous generators (principally conventional electricity generation) for others based on power electronics (mainly wind and solar photovoltaic). In this context, it is important for these new installations to contribute capacities and performances that are similar, where technically possible, to the synchronous generators being displaced and in this regard, collaboration and coordination of the entire sector is essential to achieve proper technological and regulatory development that is focused on an optimised and secure integration of this type of energy.

Recently, Red Eléctrica de España (Spain's Electricity Network), as the system's operator, has made a proposal for the amendment of Operational Procedure OP 12.2, which establishes the identified technical requirements in line with the above, the result of over two years of work in collaboration with the sector: wind associations, manufacturers, developers, etc.

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

- Capacity of permanent and temporary functioning within specific ranges of voltage and frequency
 - Dynamic control of voltage during network disturbances, similar to AVR (Automatic Voltage Regulator) of the conventional generators, so that a specific reactive current is injected during short-circuits. This ensures contribution in sustaining the system's voltage during short-circuits and later voltage recovery, avoiding a temporary deepening and extension of the voltage holes and contributing to the transitional stability of the system.
 - Voltage control during the permanent regime.
 - Power-frequency regulation capacity and certain power control requirements.

Improvement in the control of voltage as a result of the new technical requirements proposed (power factor regulation compared to current regulation setpoint)



Source: REE

3 Support schemes and other measures currently in place to promote energy from renewable sources, and any developments in the measures used with respect to those set out in the NREAP

a) Support systems for the promotion of the use of energy from renewable sources that have been introduced in Spain

The legal and economic framework that regulates renewable electricity generation in Spain is based on a system of tariffs and premium payments.

As described in the NREAPS, the legislation governing this framework is as follows:

- **Law 54/1997 of the Electricity Sector of 27 November**
- **Royal Decree 1955/2000 of 1 December**
- **Royal Decree 842/2002 of 2 August**
- **Royal Decree 661/2007 of 25 May**, regulating the production of electricity under the special regime. For the determination of the remunerative levels, specific technical and economic aspects of each technology are taken into account, as well as the capacity of the installations and their date of entry into service, using the system's criteria for sustainability and economic efficiency.

Owners of renewable installations may choose, for periods of over a year, between two remunerative alternatives for transmitted energy:

- Sale at a regulated tariff, which is different for each technology.
- Free sale in the electricity production market (except for solar photovoltaic).
 - For lower prices in the market, the remunerative scheme guarantees a minimum remunerative level, which offers assurance to the owners of renewable installations on the minimum obtainable return.
 - Also, the scheme specifies a cap for the collection of feed-in tariffs, as the values of the tariffs are null for higher prices in the market, thus limiting high prices in the system, as in such cases, the producer only receives the electricity market price.

For subgroup b.1.1 (solar photovoltaic) this financial regime will only be applied to installations registered in the administrative register of electricity generation installations under the special regime before 29 September 2008, and no later than 28 January 2012. In the case of b.1.2 (solar thermoelectric) and b.2.1 (onshore wind) it will be applied to installations registered in the Remuneration Pre-assignment Registry established by RD-L 6/2009 and that have been registered in the Pre-assignment Registry before 28 January 2012.

- **Royal Decree 1028/2007 of 20 July**
- **Royal Decree 1578/2008 of 26 September**
- **Royal Decree-law 6/2009 of 30 April**

- **Royal Decree 1565/2010** of 19 November
- **Royal Decree 1614/2010** of 7 December
- **Royal Decree-law 14/2010** of 23 December
- **Law 2/2011** of 4 March on **Sustainable Economy**, incorporates some of the elements of the support schemes for renewable energies that must be present to guarantee sustainability of their future growth, such as: stability, flexibility, progressive internalisation of costs and prioritisation in the incorporation of installations that incorporate technological innovations that optimise efficiency in production, transmission and distribution, and that contribute a higher manageability reducing greenhouse gas emissions, guaranteeing sufficiency and stability in the energy supply.

After the elaboration of the NREAP and with the main purpose of eliminating the electricity tariff deficit, **Royal Decree Law 1/2012** of 27 January was approved to temporarily suppress economic incentives for new electrical energy production installations from cogeneration, renewable energies and residues. This RDL also temporarily suspends procedures for pre-assignment of the remuneration established in Royal Decree- Law 6/2009 of 30 April and RD 1578/208 of 26 September.

b) Support systems for the promotion of the use of energy from renewable sources in heating and cooling applied by Spain

The support system to promote electricity generation through a system of feed-in tariffs (described in bullet a) under the Special Regime of Electricity Production, which contains specific subgroups for biomass and biogas according to the origin and technology used, specifically encourages cogeneration from renewable sources. Once the minimum equivalent electrical performance established by the Directive is achieved, it proceeds to the cogeneration category, obtaining a higher remuneration in all subgroups. Furthermore, improving the equivalent electrical performance equates to an improvement in remuneration through the increase in efficiency.

When renewable thermal energy installations are established, both the regulatory and financial support systems are performed or evaluated jointly with certain specific variations according to the type of energy source (biomass, geothermal or solar thermal) and the type of application (individual, central or conditioning networks). In respect to the support systems for the promotion of the use of urban heating and cooling from renewable energies, even though there is no tradition in the application of urban heating networks in Spain, it has been included along with the other applications so that it can be offered, as explained below, however its use shall be limited.

Below are the measures for all technologies.

Regulation

Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings lays down the obligation to make an energy performance certificate available to buyers or users of buildings. This certificate must include objective information on the energy characteristics of

buildings so that their energy efficiency can be assessed and compared, with a view to promoting energy efficient buildings and investment in energy savings.

This Directive has been transposed through three Royal Decrees relating to building energy rating (RD 47/2007), the regulation of thermal installations in buildings (RD 1027/2007) and Technical Building Code (RD 314/2006).

- *Energy rating of buildings*

Royal Decree 47/2007 of 19 January 2007 partially transposed Directive 2002/91/EC through the approval of a basic procedure for the energy efficiency certification of new buildings.

A building may be given an energy rating by means of the Reference IT programme (CALENER) or an Alternative IT programme, which constitute the so-called general energy rating option for buildings in accordance with Article 4 of RD 47/2007. Furthermore, the energy certification procedures for existing buildings are currently being finalised, which in addition to calculating building energy rating, propose measures to improve that rating in both technical and economic terms.

The evaluation and calculation of ratings when buildings are supplied with heating, hot water or cooling by means of renewable energy systems (including biomass, geothermal and solar thermal) either individually, centralised or through centralised heating networks, has been incorporated into the calculation procedures for energy certification in buildings.

The necessary legal steps are now being taken to transpose the obligation envisaged in Article 7(1) of Directive 2002/91/EC to make an energy performance certificate available to prospective buyers or tenants.

Although there are no specific quantitative targets for this measure, its aim is to bring about change in the behaviour of local administrations, urban planners, architects and housing developers to get them to consider renewable energy options in the sphere of urban development and housing. This measure, added to all the others described in this section, will produce a series of synergies to motivate the sector.

- *Regulation on Thermal Installations in Buildings*

Another part of Directive 2002/91/EC has been transposed through Royal Decree 1027/2007, establishing the Regulation on Thermal Installations in Buildings (RITE). This document, along with the documents recognised by the RITE Advisory Committee, establishes the minimum requirements which must be met by thermal installations in the building sector. A number of modifications have been made over the last several years to regulate and eliminate barriers hindering the implementation of thermal installations in buildings using renewable energies (biomass, geothermal and solar thermal).

These minimum requirements must be met in order to obtain an operating permit for the installations and are verified by means of inspections performed by the competent departments in each of the Autonomous Communities.

Modification of the RITE is currently being considered in order to comply with Article 13 of Directive 2009/28 and offer an adequately structured prescriptive framework to

develop regulatory aspects that can help both to improve the energy efficiency of thermal installations by introducing new, more efficient technologies and to introduce renewable energies which are not yet sufficiently developed.

- *Technical Building Code*

Directive 2002/91/EC was also taken into account in the drafting of Royal Decree 314/2006 approving the Technical Building Code, which makes the use of renewable energies compulsory in its section HE 4. This section provides for a minimum solar contribution for hot water depending on the specific climate conditions of the Spanish region in question, and volume of use. In addition, Section HE 5 establishes a minimum solar photovoltaic contribution for buildings intended for certain purposes from a given size upwards.

Compliance with the provisions of the Technical Building Code is a basic requirement that must be met for a new building to obtain the certificate of habitability, and their compliance is therefore compulsory in the building sector.

- *Municipal regulations*

For over six years, there has been a model for solar municipal regulation, which lays down the minimum conditions of use and the minimum compulsory contribution of solar energy in buildings within municipalities. Local authorities are free to adopt this model and a large number of municipalities have opted to implement it.

In light of the success of this regulation model, the intention is to put together a similar model that includes other renewable energies such as biomass and centralised district heating networks, marking an important step in boosting thermal applications, especially in small or medium-sized rural municipalities bound to the resources.

Financial support

Currently there are two ways of promoting renewable thermal energies through financial support: direct investment assistance and specific financing programmes for installations.

- *Investment aid*

There is currently a renewable energy investment aid system, mainly for thermal energies, whose budgets are established by the General State Administration and which is applied through agreements with the Autonomous Communities, which manage those funds for applicants. Agreements are reviewed and signed annually, following up on their compliance and adaptation. These budgets are supplemented by Autonomous Community funds.

To be eligible for this aid, the established requirements must be met in the corresponding aid publications of each Autonomous Community, which are based on agreements established between the Central Government and the Regional governments.

Investment aid is awarded according to technology type, renewable area and the specific characteristics and performance of the equipment used.

These agreements have been honoured since 2006.

- *Financing programmes*

A number of different financing programmes for thermal renewable energy projects have been developed over the last several years: financing coupled with subsidy, financing through ICO (Official Credit Institute) or specific per-installation financing through the IDAE using schemes such as third party financing (TPF) or financing accompanied by technical consulting. Over the last year, a new line of financing was launched as a pilot to finance heat production installations for hot water, heating, cooling and other uses in buildings through Energy Service Companies (ESCOs). This experiment commenced in 2009 with the BIOMCASA Programme targeting the biomass area, and in 2010 it is being extended to geothermal (GEOCASA Programme) and solar thermal (SOLCASA Programme). These programmes have some limitations in terms of the amount of funding per project and are supplemented through the Large Thermal Installation Programme (Sp. acronym GIT) for the three sources of renewable energy mentioned above; this programme is applicable to projects requiring a higher volume of investment but it has a system with different technical and financial guarantees.

These programmes are not limited to financial activities but also provide technical guarantees when carrying out installations, ensure a supply commitment in terms of the amount of energy and economic savings passed on to the end user, and include information promotion campaigns targeting both the sectors involved in the development of projects and users.

These programmes make total or partial financing available to ESCOs that have previously been authorised by IDAE to receive this financing. There are a number of requirements regarding supply and technical-economic capacity and technical-financial solvency that must be met to obtain this authorisation and these can be accomplished through agreements with other sector undertakings which specialise in specific aspects of the energy management process. Authorisation gives a company access to the line of finance, but it also allows it to use the logos of the programme for which it has been authorised and to take part in the promotional activities carried out within that programme.

The user is given a long-term supply contract with an energy price lower than what he would have had to pay had he opted for a conventional fuel installation, and the price assures amortisation of the installation and operation and maintenance. Also, interest rates are the lowest on the market; this financing is therefore attractive to ESCOs, which then pass these costs on to users.

If the expected positive results are achieved during the lifetime of these programmes, we will explore the possibility of implementing them through private financial institutions or continue to operate them with funds from public bodies or institutions.

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

Regulation

▪ *Compulsory use of biofuels*

Additional Provision 16 of the Hydrocarbon Sector Act, Law 34/1998 of 7 October 1998 sets annual targets for biofuels and other renewable fuels for transport which are compulsory as from 2009, reaching 5.83 % in 2010. It also authorises the Ministry of Industry, Tourism and Trade to enact the provisions needed for regulation of a mechanism to promote the incorporation of biofuels and other renewable fuels used in transport. It also authorises the Government to modify these set targets, as well as establishing additional targets.

For this purpose, Royal Decree 459/2011 of 1 April through which the compulsory targets are set for biofuels for the years 2011, 2012 and 2013, establishes three targets expressed in minimum energy content in relation to the energy content in petrol, in diesel and in the total of petrol and diesel sold or purchased.

The following compulsory targets have been set:

Biofuel Targets

2011	2012	2013
6.2%	6.5%	6.5%

The following per-product targets have also been set:

Diesel biofuel targets

2011	2012	2013
6.0%	7.0%	7.0%

Petrol biofuel targets

2011	2012	2013
3.9%	4.1%	4.1%

Currently, no distinction is made regarding the type of fuel or technology within the compulsory framework and no specific support is given to the biofuels meeting the criteria laid down in Article 21(2) of the Directive.

To achieve these targets in the most efficient way possible, order ITC/2877/2008 of 9 October which establishes a mechanism for the promotion of use of biofuels and other renewable fuels destined for transport, sets temporary flexibility mechanisms for the accounting of the amounts of biofuels sold or purchased, and a certification and compensational payment system which will be managed by the National Energy Commission and will allow obligated parties to transfer certificates, while at the same time serving as a control mechanism of the obligation.

The following are bound by Spain's compulsory scheme on the use of biofuels:

- Annual domestic market sales by operators authorised for wholesale distribution of petroleum products, excluding wholesale sales to other operators.
- Annual domestic market sales by retail distributors of petroleum products which were not supplied by wholesale operators.
- Annual consumption by consumers of petroleum products which were not supplied by wholesale operators or by retail distributors of petroleum products.

Persons subject to this scheme who lack the certificates needed to comply with their obligations shall be required to make compensatory payments.

Obligations shall be presumed to have been met upon payment of the required compensatory amounts provided that the degree of infraction is minor (below the threshold set using the formula provided in Order ITC/2877/2008). Otherwise, this shall be considered a breach of the obligations laid down for achievement of the annual targets set for minimum biofuel and other renewable fuel content and shall constitute a very serious breach according to Law 34/1998. Any imposition of administrative sanctions which may arise from the aforementioned breach is without prejudice to compensatory payments to be paid in any case.

Order ITC/2877/2008 designates the National Energy Commission as the body responsible for the issue of biofuel certificates, management of the certification and of the supervision mechanism and control of the mandatory commercialisation of biofuels.

Circular 2/2009 of 26 February 2009 issued by the National Energy Commission regulating the implementation and management of the mechanism promoting the use of biofuels and other renewable fuels used for transport, lays down the organisational and operational rules governing that mechanism. Specifically, it defines procedures, standards and rules pertaining to applications to open Certification Accounts, applications for the issue of biofuel certificates and the transfer and handover of certificates and lays down the management procedures for the Book-Entry System applicable to the National Energy Commission (CNE).

The CNE is authorised to perform whatever checks and inspections it deems necessary to supervise and control the obligations that are defined, which could affect entities bound to those obligations as well as those not bound.

Entities accrediting sale or consumption of biofuels must provide the evidence required by the CNE and grant access to their premises, registries and accounting ledgers under suitable conditions to facilitate the verification and, as the case may be, inspection of compliance with the obligations laid down by Order ITC/2877/2008, Circular 2/2009 and any others regarding these matters.

Through the order by the Ministry of Industry, Energy, and Trade, the obligations laid down in Order ITC/2877/2008 may be eliminated or modified for as long as necessary.

It is important to stress that this obligation is the basic mechanism that will be used to achieve the energy target of introducing renewable energies in transport through the contribution of biofuels.

- *Use of biofuels by the Administration's fleet of vehicles*

One of the novelties emerging from the review of the 2006 European Union Strategy for Sustainable Development is the incorporation of concrete targets in government procurement. The section devoted to Consumption and Sustainable Production sets the promotion of trends in this direction as a global target and sets out an operational aim and objective of "aspiring to reach an average level of green public procurement by 2010 in all of the European Union equal to that achieved to date by the most advanced Member States in this connection".

In this context, and as part of environmental policy strategy, the Cabinet created, through the Agreement of 22 May 2006, the Inter-ministerial Commission for the Incorporation of Environmental Criteria in Public Procurement. This Commission is responsible for drawing up a Green Public Procurement Scheme with a view to establishing a link between public procurement and the implementation of environmentally-friendly practices.

This objective is set out in Order PRE/116/2008 of 21 January, publishing the Cabinet Decision approving the Green Public Procurement Scheme pertaining to the General State Administration and its public bodies and the managing entities of the Social Security System.

This scheme establishes the link between public procurement and the implementation of environmentally-friendly practices so as to achieve the target established by the European Community in the revised Sustainable Development Strategy by 31 December 2010. Specific objectives of that Strategy include the establishment of quantifiable targets for groups of products, services and works considered a priority by the European Commission for the incorporation of environmental criteria and to draft guidelines for the incorporation of environmental criteria at the different stages of procurement.

Among the adopted measures in the sphere of transport are the following:

"Analyse and adapt the existing fleet of vehicles, before 31 December 2010, so that they can run on biofuels. This does not apply to hybrid vehicles. Include biofuel compatibility as a compulsory criterion in all purchases of new vehicles in those segments of the sector where there is an adequate supply of automobiles already equipped with this technology so that by 31 December 2012, 50 % of the fleet will consume mixtures with a high biofuel content (30 % diesel and 85 % bioethanol). As from 01 January 2008, hybrid automobiles will be purchased for use as utility vehicles mainly for city driving provided that there is sufficient market supply to allow for competition. Inclusion of a biofuel availability clause in all fuel supply contracts by 31 December 2010.

Through this measure we intend to attain consumption levels of 38 % biofuels out of the total fuel consumed by Spain's fleet of government vehicles by 31 December 2012.

The 2008-2011 Energy Saving and Efficiency Scheme approved by Cabinet on 1 August 2008 features 31 urgent measures to intensify energy saving and efficiency in Spain. Many of these are additional to others already in force. For instance, in the area of mobility the General State Administration's example-setting action is enhanced by the Green Public Procurement Scheme which set a 2009 target of at least 20 % biofuel consumption by fleets of public vehicles.

Financial Support

The current national legislation in this matter is indicated below:

- Law 38/1992 of 28 December on Excise Duties.
 - Royal Decree 1165/1995 7 July establishing the Special Duty Regulation.
 - Law 53/2002 of 30 December on fiscal, administrative and social order measures.
 - Royal Decree 1739/2003 of 19 December amending the Special duty Regulation approved by Royal Decree 1165/1995 of 7 July and Royal Decree 3485/2000 of 29 December.
 - Law 22/2005 of 18 November incorporating several Community Directives regarding the taxing of energy and electricity commodities and the common system of taxation applicable to the parent and affiliate companies of Member States and regulation of the tax system applicable to cross-border contributions to pension funds within the ambit of the European Union, into the Spanish legal system.
 - Royal Decree 191/2010 of 26 February amending the Special Duty Regulation, approved by Royal Decree 1165/1995 of 7 July.
-
- *Special tax rate levied on biofuels*

The Special Duty Act provides that, under the hydrocarbon tax, a special tax rate of 0 euro per 1000 litres will be levied on biofuels until 31 December 2012. This special rate will apply solely to the volume of actual biofuel, even when it is mixed with other products.

If deemed appropriate on the basis of the relative production cost of petroleum products and biofuels, General State Budget Laws may replace the zero rate with a positive levy which shall not exceed the tax rate applicable to equivalent conventional fuels.

This is a compulsory scheme administered by the Tax Administration's Department of Customs and Excise Duties.

On the other hand, eligibility within this support scheme is not contingent upon the size of the agency commercialising the biofuel.

- *Tax exemption for biofuel pilot projects*

The Special Duty Act provides that the manufacture or import of biofuels intended as automobile fuel, full-strength or mixed with conventional fuels, are exempt from the special duty on hydrocarbons for purposes of pilot projects for the technological development of less-polluting products.

"Pilot projects for the technological development of less-polluting products" shall mean experimental and time-limited projects addressing the production or use of such products whose aim is to demonstrate the technical or technological feasibility

of their production or use, excluding the subsequent industrial exploitation of the results of such projects.

This is a voluntary scheme managed by the Tax Administration's Department of Customs and Excise Duties.

The Special Duty Regulation provides that, once the exemption application is approved, the management centre will issue the requisite decision recognising the exemption for the period requested by the interested parties, which may not exceed five years.

- For purposes of accrediting the experimental nature of a project, i.e. that it is limited to demonstrating the technical or technological feasibility of production or use, the Special Duty Regulation establishes a maximum annual production limit of 5000 litres of biofuel.

▪ *Allocation of biodiesel production amounts*

Order IET/822/2012 of 20 April which regulates allocation of the biodiesel production amounts for the assurance of compliance of the compulsory biofuel targets.

This order has the purpose of promoting the industry of biofuels destined for transport. It seeks to contribute to the development of biofuels as a substantial element in environmental protection policies and the reduction of greenhouse gas emissions, as well as the compulsory targets of the use of energy from renewable sources destined for such purpose. Also, it is intended to contribute to the security of the energy supply, increase energy independence, and reduce the cost of petroleum imports, as well as boost the Spanish and Community biofuel production sector.

Table 3: Support Schemes for Renewable Energy

RES support schemes year 2011		Per unit support (€/MWh)	Total (M€)*	
SOLAR PHOTOVOLTAIC (connected to grid) AND SOLAR THERMOELECTRIC				
Instrument	Obligation/quota (%)		-	-
	Penalty/Buy out option/ Buy out price (€/unit)		-	-
	Average certificate price		-	-
	Tax exemption/refund		-	-
	Investment subsidies to solar photovoltaic connected to network (capital grants or loans) (€/unit)**		-	-
	Production incentives		-	-
	Feed-in premiums	Solar Photovoltaic	324.44	2 391.44
		Solar thermoelectric	239.96	426.27
Tendering		-	-	
Total annual estimated support in the electricity sector		311.65	2 817.71	
Total annual estimated support in the heating sector		-	-	
Total annual estimated support in the transport sector		-	-	

* The quantity of energy supported by the per unit support gives an indication of the effectiveness of the support for each type of technology.

** Estimated Quantity.

RES support schemes year 2011		Per unit support (€/MWh)	Total (M€)*	
SOLAR (thermal and photovoltaic not connected to grid)				
Instrument	Obligation/quota (%)		-	-
	Penalty/Buy out option/ Buy out price (€/unit)		-	-
	Average certificate price		-	-
	Tax exemption/refund		-	-
	Investment subsidies to: (capital grants or loans) (€/unit)**	Solar thermal	-	15.35
		S. photovoltaic not connected to grid	-	3.4
	Production incentives		-	-
	Feed-in Premiums		-	-
Tendering		-	-	
Total annual estimated support in the electricity sector		-	3.4	
Total annual estimated support in the heating sector		-	15.35	
Total annual estimated support in the transport sector		-	-	

* The quantity of energy supported by the per unit support gives an indication of the effectiveness of the support for each type of technology.

** Estimated Quantity.

RES support schemes year 2011		Per unit support (€/MWh)	Total (M€)*
GEOHERMAL			
Instrument	Obligation/quota (%)	-	-
	Penalty/Buy out option/ Buy out price (€/unit)	-	-
	Average certificate price		
	Tax exemption/refund	-	-
	Investment subsidies (capital grants or loans) (€/unit)	-	1.84
	Production incentives	-	-
	Feed-in Tariff	-	-
	Feed-in Premiums	-	-
Tendering	-	-	
Total annual estimated support in the electricity sector		-	-
Total annual estimated support in the heating sector		-	1.84
Total annual estimated support in the transport sector		-	-

* The quantity of energy supported by the per unit support gives an indication of the effectiveness of the support for each type of technology.

** Estimated Quantity.

RES support schemes year 2011		Per unit support (€/MWh)	Total (M€)*
HYDROELECTRIC			
Instrument	Obligation/quota (%)	-	-
	Penalty/Buy out option/ Buy out price (€/unit)	-	-
	Average certificate price	-	-
	Tax exemption/refund	-	-
	Investment subsidies (capital grants or loans) (€/unit)	-	-
	Production incentives	-	-
	Feed-in tariff	37.05	77.96
	Feed-in premiums	40.3	126.46
	Tendering	-	-
Total annual estimated support in the electricity sector		-	-
Total annual estimated support in the heating sector		-	-
Total annual estimated support in the transport sector		-	-

* The quantity of energy supported by the per unit support gives an indication of the effectiveness of the support for each type of technology.

** Estimated Quantity.

RES support schemes year 2011			Per unit support (€/MWh)	Total (M€)*	
BIOMASS					
Instrument	Obligation/quota (%)		-	-	
	Penalty/Buy out option/ Buy out price (€/unit)		-	-	
	Average certificate price		-	-	
	Tax exemption/refund		-	-	
	Investment subsidies (capital grants or loans) (€/unit)		-	8.17	
	Production incentives		-	-	
	Feed-in tariff	Main fuel energy crops	P ≤ 2 MW	171.60	0.24
			2 MW ≤ P	158.31	
		Main biomass fuel from agricultural or gardening activities	P ≤ 2 MW	135.76	0.11
			2 MW ≤ P	116.14	
		Main biomass fuel from waste from forestry harnessing and other forestry activities	P ≤ 2 MW	135.76	4.20
			2 MW ≤ P	127.75	
		Main biomass fuel from industrial installations in the agricultural sector	P ≤ 2 MW	135.76	49.94
			2 MW ≤ P	116.14	
		Main biomass fuel from industrial installations in the forestry sector	P ≤ 2 MW	100.22	0.10
			2 MW ≤ P	70.28	
		Main fuels black liquor from the paper industry	P ≤ 2 MW	100.22	-
			2 MW ≤ P	86.40	
	Feed-in premiums	Main fuel energy crops	P ≤ 2 MW	129.36	1.75
			2 MW ≤ P	113.89	
		Main biomass fuel from agricultural or gardening activities waste	P ≤ 2 MW	93.53	31.41
			2 MW ≤ P	71.71	
		Main biomass fuel from tree felling waste	P ≤ 2 MW	93.53	16.72
			2 MW ≤ P	83.33	
		Main biomass fuel from industrial installations in the sector	P ≤ 2 MW	93.53	3.61
			2 MW ≤ P	71.71	
Main biomass fuel from industrial installations in the forestry sector		P ≤ 2 MW	58.00	21.26	
		2 MW ≤ P	25.86		
Main fuel black liquors from the paper industry	P ≤ 2 MW	60.68	-		
	2 MW ≤ P	39.62			
Tendering		-	-		
Total annual estimated support in the electricity sector			74.90	129.34	
Total annual estimated support in the heating sector			-	-	
Total annual estimated support in the transport sector			-	-	

* The quantity of energy supported by the per unit support gives an indication of the effectiveness of the support for each type of technology.

** Estimated Quantity.

RES support schemes year 2011			Per unit support (€/MWh)	Total (M€)*	
BIOMASS (COGENERATION)					
Instrument	Obligation/quota (%)		-	-	
	Penalty/Buy out option/ Buy out price (€/unit)		-	-	
	Average certificate price		-	-	
	Tax exemption/refund		-	-	
	Investment subsidies (capital grants or loans) (€/unit)		-	-	
	Production incentives		-	-	
	Feed-in tariff	Main fuels energy crops	P≤2 MW	172.92	3.66
			2 MW≤P	158.31	
		Main biomass fuel from agricultural or gardening activity waste	P≤2 MW	138.23	0.00
			2 MW≤P	116.14	
		Main biomass fuel from felling waste	P≤2 MW	138.23	1.76
			2 MW≤P	127.75	
		Main biomass fuel from industrial installations in the sector	P≤2 MW	138.23	0.57
			2 MW≤P	118.25	
		Main biomass fuel from industrial installations in the sector	P≤2 MW	102.39	0.00
			2 MW≤P	77.05	
		Main fuel black liquors in the paper industry	P≤2 MW	102.39	4.11
			2 MW≤P	100.44	
	Feed-in premiums	Main fuel energy crops	P≤2 MW	130.78	16.19
			2 MW≤P	113.89	
		Main biomass fuel from agricultural or gardening activity waste	P≤2 MW	96.26	0.00
			2 MW≤P	71.71	
		Main biomass fuel from felling waste	P≤2 MW	96.26	5.67
			2 MW≤P	83.33	
		Main biomass fuel from industrial installations in the sector	P≤2 MW	96.26	20.20
			2 MW≤P	73.77	
Main biomass fuel from industrial installations in the sector		P≤2 MW	60.56	6.92	
		2 MW≤P	37.20		
Main fuel black liquors in the paper industry		P≤2 MW	63.37	47.18	
		2 MW≤P	58.40		
Tendering					
Total annual estimated support in the electricity sector			90.09	106.27	
Total annual estimated support in the heating sector			-	-	
Total annual estimated support in the transport sector			-	-	

* The quantity of energy supported by the per unit support gives an indication of the effectiveness of the support for each type of technology.

** Estimated Quantity.

RES support schemes year 2011			Per unit support (€/MWh)	Total (M€)*	
BIOGAS					
Instrument	Obligation/quota (%)		-	-	
	Penalty/Buy out option/ Buy out price (€/unit)		-	-	
	Average certificate price				
	Tax exemption/refund		-	-	
	Investment subsidies (capital grants or loans) (€/unit)		-	-	
	Production incentives		-	-	
	Feed-in tariffs	Landfill biogas		86.31	1.58
		Digestate biogas	P≤500 kW	141.14	4.00
	500 kW ≤P		104.54		
	Feed-in premiums	Landfill biogas		45.65	19.49
		Digestate biogas	P≤500 kW	110.36	7.82
			500 kW ≤P	67.24	
	Tendering		-	-	
Total annual estimated support in the electricity sector			49.51	32.89	
Total annual estimated support in the heating sector			-	-	
Total annual estimated support in the transport sector			-	-	

* The quantity of energy supported by the per unit support gives an indication of the effectiveness of the support for each type of technology.

** Estimated Quantity.

RES support schemes year 2011		BC share (energy content)			Per unit support		Total (M€)*	
BIOFUELS								
		Overall (%)	Diesel BC (%)	Petrol BC (%)				
Instrument.	Obligation/quota (%)		6.2	6	3.9	-	-	-
	Penalty/Buy out option/ Buy out price (€/unit) ¹⁾					ND	ND	ND
						Diesel BC	Petrol BC	Road transport BC
	Average certificate price ²⁾					185 €/certificate	215 €/certificate	-
	Tax exemption/refund ³⁾					307 €/m ³	400.69 €/m ³	749.3
	Investment subsidies (capital grants or loans) (€/unit)					-	-	0.13
	Production incentives					-	-	-
		Feed-in Tariffs				-	-	-
		Feed-in Premiums				-	-	-
	Tendering				-	-	-	
Total annual estimated support in the electricity sector					-	-	-	
Total annual estimated support in the heating sector					-	-	-	
Total annual estimated support in the transport sector					-	-	-	

* The quantity of energy supported by the per unit support gives an indication of the effectiveness of the support for each type of technology.

** Estimated Quantity.

¹⁾ According to the annual report on the use of biofuels corresponding to exercise 2010 of the National Energy Commission (most recent available data) the exceeding certificate payment reached the maximum limit of 350 €/certificate. The compensatory fund of said exercise increased to €2 398 900.

²⁾ According to the monthly report on certification and trading of biofuels of October 2011, published by CNE.

²⁾ The definition of certificate is a document issued under a subject's request which provides proof that said subject has credited sales or purchases by a TOE of biofuels in a specific year (according to Article 2(3) of Order ITC/2877/2008 of 9 October 2008 which establishes a mechanism for the promotion of the use of biofuels and other renewable fuels intended for transport.

³⁾ Data on the consumption of biofuels in 2011 according to the Statistical Bulletin of Hydrocarbon published by CORES.

3.1 Information on how supported electricity is allocated to final consumers in accordance with Article 3(6) of Directive 2003/54/EC

The breakdown of the guarantees of origin in the bills that traders submit to final customers are governed by the single supplementary Provision of Order ITC/2914/2011 of 27 October, in accordance with Article 110 (ii) of RD 1955/200 of 1 December regulating the activities of transmission, distribution, trading, supply and authorisation procedures for electricity installations.

This Provision establishes that:

a) The information that every supply company selling electricity to final customers must include in their bills will be calculated from the overall generation mix indicated in paragraph a) of subsection 1 from Article 110(ii), taking into account the guarantees of origin related to energy from the previous year, in accordance with Article 110(2)(ii) of RD 1955/2000 of 1 December regulating the activities of transmission, distribution, trading, supply and authorisation procedures for electricity installations.

For this purpose, the share corresponding to the total guarantees of origin issued shall be deducted from the indicated overall generation mix, and, in its case, the share corresponding to the guarantees of origin will be included up to 31 March of the previous year along with the production of energy from the company's account, and the guarantees of origin that were redeemed to their clients will be deducted until that same date.

This information should also reflect for each consumer, in such case, the number of guarantees of origin that would have been redeemed to their favour until that date, in relation to the energy from the previous year.

b) The information referenced to in (1) and (2) of Article 110(ii), relating to the energy production of the previous year, will be reflected in the bills of customers from the month of April.

During the months of January to March, both months will reproduce the same information as in preceding months of the previous year.

c) In the case of suppliers of last resort, the guarantees of origin that may have been acquired or redeemed shall be exclusively attributed to the supply activity different to that of the last resort.

4 Information on how 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 lignocellulosic material

The provisions of Article 21(2) of Directive 28/2009 in relation to the double counting granted to specific biofuels to comply with the compulsory targets, have been incorporated into Spanish legislation, along with the transposition of Articles 17, 18, 29, 20 and annex V of the Directive, through Royal Decree 1597/2011 of 4 November regulating the sustainability criteria of biofuels and bioliquids, the National Sustainability Verification System and the double counting of certain biofuels.

The definition of wastes, residues, non-food cellulosic matter and lignocellulosic material, adopted by the resolution of the State Secretary for Energy, provisioned in paragraph 4 of the third final Provision of the Royal Decree, has not yet been published at the time of writing 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

In Spain, the system of guarantees of origin for electricity and heating and cooling generation from renewable sources and high-efficiency generation is regulated by Order ITC/1522/2007 of 24 May and Order ITC/2914/2011 of 27 October, which amended the previous Order.

Guarantees of origin are electronic certificates, issued at the request of the interested party, that prove that a certain number of megawatt-hours of the electricity produced in a plan over a specific period of time have been generated from renewable sources or high-efficiency cogeneration.

Guarantees of origin shall be accounted with three decimal digits. Also, guarantees of origin must at the least include the data relative to identity, location, date of entry into service, type of energy, installation capacity, service period and support system. This information may be detailed more precisely by the Circular of the National Energy Commission, which shall be published in the “Official State Bulletin”.

The Spanish National Energy Commission (CNE) is responsible for issuing guarantees of origin of electricity produced from renewable energy sources and from high-efficiency cogeneration, as well as its management, with the power to carry out such activities directly or through a third party, with prior authorisation from the Secretary of State for Energy of the Ministry of Industry, Energy and Tourism, which shall be independent from the activities of generation, distribution and trade and shall be appointed according to public sector contract law.

The book-entry system for guarantees of origin

The National Energy Commission establishes a book-entry system for the guarantee of origin of electricity produced from renewable energy sources and through high-efficiency cogeneration, with the purpose of registering the information and managing guarantees of origin.

The management of the system shall be carried out through procedures and electronic media through the Electronic Registry of the National Energy Commission as provisioned in Article 27(6) of Law 11/2007 of 22 June of electronic access to Public Services for citizens and Article 32 of Royal Decree 1671/2009 of 6 November partially developing this Law.

This book-entry system stores information on the quantity of guarantees of origin issued, as well as their transfer.

After verifying the information provided in the application, the National Energy Commission proceeds to issue the guarantee of origin, which consists of an entry into the corresponding account of the electricity produced.

The issuing of the guarantees of origin corresponding to the production month m shall take place before the last day of the month $m+10$, but before 28 February of every year for guarantees corresponding to the previous year, and it will be carried out in favour of the installation’s owner, who will be the initial holder of the guarantee.

The transfer of any guarantee of origin must be requested by the holder of the guarantee to the National Energy Commission so that the corresponding entry may proceed in the corresponding account.

The import of guarantees of origin will be considered in the same manner as the issuing of the same.

The accreditation of guarantees of origin issued in another Member State may be presented by providers before the National Energy Commission in order to obtain the same recognition as those issued by the Guarantees of Origin System in Spain, as long as they have been issued in accordance with the requirements established in Directive 2004/8/EC of the European Parliament and the Council of 11 February 2004 on the promotion of cogeneration based on the usable heat demand in the internal energy market and amending Directive 92/42/EEC, and Directive 2009/28/EC of the European Parliament and 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. Guarantees of origin must be issued by the designated authority of a Member State of the European Union. In cases of reasonable doubt as to the accuracy, reliability or truthfulness of a guarantee of origin issued by another Member State, the National Energy Commission may refuse to accept it, informing the Secretary of State for Energy for them to report it to the European Commission.

The export of guarantees of origin may only be carried out by the owners of electricity generation installations.

Electricity producers under the special regime, or those under the ordinary regime with a power of over 50 MW that may have received a premium or incentive for their production or surplus and are requesting guarantees of origin for export independently of the selected energy sale option, must waive the equivalent economic amount of the premium for every exported guarantee of origin, and, if such is the case, the applicable incentives of the economic regime. In the case that the economic regime stipulates a single remuneration linked to a feed-in tariff, without the existence of a premium or incentive, the quantity that the producer must waive for every exported guarantee of origin shall be the difference between the remuneration received and the final sale price set in the organised market for that technology.

The conceptual amounts the producer must waiver shall be considered, if such is the case, as payable income for the settlement system established in Royal Decree 2017/1997 of 26 December governing the organisation and regulation of the procedure for the settlement of transmission, distribution and tariff retailing costs, the permanent costs of the system and diversification and security of supply costs.

Control, sanctions regime and evaluation of the regulatory framework

- The National Energy Commission shall carry out checks and inspections that it deems necessary in the exercise of its jurisdiction regarding the issuing of guarantees of origin of electricity produced from renewable energy sources and high-efficiency cogeneration.

- Owners of facilities subject to this order must grant physical access to their premises, which must be under suitable conditions for testing, verification and, as the case may be, inspection.
- Providers must allow access to their registries and accounting ledgers for testing and verification of transfers and cancellations of guarantees of origin, in relation to final consumer energy and the income obtained from the sale of the guarantees of origin.
- Providers who fail to comply with the provisions of this order shall be subject to the infractions and sanctions regime provisioned in Title X of Law 54/1997 of 27 November on the Electricity Sector.

The National Energy Commission shall periodically send a report on the evaluation of the existing legislative and regulatory framework to the Ministry of Industry, Energy and Tourism, on its request, with regard to authorisation procedures applicable to renewable electricity installations and high-efficiency cogeneration production plants, indicating actions taken where appropriate.

Such evaluation shall be made with a view to reducing the regulatory and non-regulatory barriers to the increase in electricity production from renewable resources and high-efficiency cogeneration production plants, streamlining the expediting procedures at the appropriate administrative level, ensuring that the rules are objective, transparent and non-discriminatory, and take fully into account the particularities of the various renewable energy source technologies, and encouraging the design of cogeneration units to match economically justifiable demands for useful heat output and avoiding production of more heat than useful heat.

The report must also refer to the measures taken to facilitate access to the grid system of electricity generated by renewable energy sources, studying, among other things, the viability of introducing two-way metering.

This report shall be made publicly available.

6 Developments in 2009 and 2010 in the availability and use of biomass resources for energy use

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 outside EU (ktoe)	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
Biomass supply for heating and electricity:												
Direct supply of wood biomass from forests and other wooded land energy generation (fellings etc.)**	4 953 227	5 054 931	1 238	1 264	0	0	0	0	0	0	0	0
Indirect supply of wood biomass (residues and co-products from the wood industry etc.)**	5 238 286	5 438 933	1 571	1 632	0	0	0	0	0	0	0	0
Energy crops (grasses, etc.) and short rotation trees (please specify)	338 670	479 114	102	144	0	0	0	0	0	0	0	0
Agricultural by-products / processed residues and fishery by-products **	4 391 077	4 718 222	1 561	1 659	0	0	0	0	0	0	0	0
Biomass from waste (municipal, industrial etc.) **	5 503 843	6 324 458	416	447	0	0	0	0	0	0	0	0
Other (Specify)												
Biomass supply for transport:												
Common arable crops for biofuels (please specify main types)	469 048	526 342	107	115	597 592	493 687	129	112	3 480 166	3 826 465	603	666
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 (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.

The data on common arable crops for biofuels is drawn from information published in the Annual Report for 2009 and 2012 on the obligation to use of biofuels by the National Energy Commission (CNE).

The considered crops are: wheat, barley, corn, soy, rape-seed, sunflower, palm and olive.

The information on commodities for the production of biodiesel that appears in the reports by the CNE refers to oils and not oil seeds or oil fruits. Consequently, oil produced in Spain from imported seeds or fruits are considered a national commodity. Since this table must reflect the origin of the commodities understood as biomass from agriculture, and in light of the data of cultivated ground collected in table 4.a, all soy and palm oil included in the CNE reports considered as a national commodity has been produced from seeds and fruits imported from countries outside the EU, reflected as such in the table.

As CNE reports provide data on the quantity and origin of the commodities expressed in m³ of obtained biofuel, we have proceeded to perform the necessary conversions to obtain biomass tonnes, as requested.

The conversion factors used are indicated below.

BIODIESEL

- Oil to biodiesel conversion factor: 0.95.
- Biodiesel energy content: 0.894 tep/m³.
- Density of vegetable oils: 0.92 t/m³.
- Performances of oil extraction:
 - Soy: 20%.
 - Rapeseed: 40%.
 - Sunflower: 40%.
 - Palm: 22%.
 - Olive: 20%.

BIOETHANOL

- Bioethanol energy content: 0.5074 tep/m³.
- Density of bioethanol: 0.794 t/m³.
- Conversion factor of commodity to ethanol (tonnes of ethanol obtained per tonne of processed commodity):
 - Wheat: 0.35461.
 - Barley: 0.30581.
 - Corn: 0.34424.

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

Land use	Surface (ha)	
	2009	2010*
1. Land used for common arable crops (wheat, sugar beet, etc.) and oilseeds (rapeseed, sunflower, etc.)		
Wheat (soft and hard)	1 772 800	1 935 400
Sugar Beet	49 800	43 400
Sunflower	851 100	697 900
Rapeseed	21 700	19 600
Soy	1 200	700
2. Land used for short rotation trees (willows, poplars, etc.).		
Willows		
Poplar		
Black poplar		
3. Land used for other energy crops such as grasses (reed canary grass, switch grass, Miscanthus), sorghum.		
Sorghum	7 500	7 300

* Data from 2010 to today is provisional.

7 Changes in commodity prices and land use associated with its increased use of biomass and other forms of energy from renewable sources. References to relevant documentation on these impacts

In Spain, the low utilisation of domestic raw materials renders the influence in the use of land and in a global market such as commodities used for the manufacturing of biofuels irrelevant.

8 Development and share of biofuels made from wastes, residues, non-food cellulosic material, and lignocellulosic material.

As mentioned in section 4, the definition of wastes, residues, non-food cellulosic material, and lignocellulosic material, adopted by the resolution of the State Secretary for Energy, provisioned in paragraph 4 of the third final Provision of the Royal Decree, has not yet been published at the time of writing this report.

Data on the production of biodiesel from used vegetable oils and animal fats is available in the annual reports published by the National Energy Commission (CNE) in 2009 and 2010:

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

Biofuels from fried oils and animal fats	2009	2010
Biodiesel production	117 304	189 472
Biodiesel consumption	131 232	153 706
Total production of biofuels	117 304	189 472
Total consumption of biofuels	131 232	153 706
% share of 21.2. fuels from total RES-T	-	-

²⁶ Biofuels obtained from wastes, residues, non-food cellulosic material, and lignocellulosic material.

Data is not available on the production of bioethanol according to Article 21(2) of the Directive.

9 Estimated impact of the production of biofuels and bioliquids on biodiversity, water resources, water quality and soil quality

As an instrument was not created to implement the Directive in Spain until November 2011, no information was collected during the years 2009 and 2010 on these aspects and it is not possible to provide such data.

There are number of issues raised in this part of the report that are still pending finalisation in Community legislation.

As regards biodiversity, the Commission has not yet published a definition for grassland with high biodiversity value. On the other hand, Article 18(3) of the Directive indicates that the Commission will compile the list of adequate and relevant information that economic operators must provide on the adopted measures for the protection of soil, water and air, the restoration of degraded land and the prevention of excessive water consumption in water-scarce areas, ensuring, particularly, that the provision of such information does not represent an excessive administrative burden for the operators in general, or for farmers, producer organisations and small-sized cooperatives, in particular. This list has not yet been made available.

Due to the lack of a description for this type of information at a Community level, R.D. 1597/2011 which transposes the Directive into Spanish legislation does not incorporate the definition of the data that economic operators must facilitate for that purpose, which is a matter that must undergo regulatory development in the coming months.

However, the impacts in Spain are irrelevant due to the limited use of national commodities for the production of biofuels.

10 Calculate the net greenhouse gas emission saving from the use of energy from renewable sources

Table 6 indicates the estimated greenhouse gas emission savings attributable to the use of renewable energy for the years 2009 and 2010, comparing the greenhouse gas emissions attributable to the use of renewable electricity to the use of renewable energy in heating and cooling and the use of renewable energy in transport.

Table 6: Estimated greenhouse gas emission savings (*) attributable to the use of renewable energy (t CO₂eq)

Environmental Aspects	2009	2010
<i>Total estimated net greenhouse gas emission saving from using renewable energy</i> ²⁶	46 470 021	59 774 399
- Estimated net greenhouse gas saving from the use of renewable electricity	29 565 872	39 004 622
- Estimated net greenhouse gas saving from the use of renewable energy in heating and cooling	13 324 365	15 984 022
- Estimated net GHG saving from the use of renewable energy in transport	3 579 784	4 785 755

²⁶ The contribution of gas, electricity and hydrogen produced from renewable energy sources must be provided in function of their final intended use (electricity, heating, cooling, or transport) and should only be counted once in the total quantity of net estimated greenhouse gas emission savings.

(*) The data refers only to the estimated savings of CO₂. In the electricity sector, these have been calculated from actual renewable productions without adjustment, in relation to the emissions from a combined cycle natural gas plant.

11 Provide for the years 2009 and 2010 and estimate for the following years up to 2020, the excess/deficit production of energy from renewable sources compared to the indicative trajectory, which could be transferred to/imported from other Member States and/or third countries, as well as estimated potential for joint projects until 2020

As seen in table 7, actual and estimated excess and/or deficit production of energy from renewable sources for the years 2009 and 2010 has been null, since there is no indicative trajectory target for these two years.

Table 7: Actual and estimated excess and/or deficit (-) production of renewable energy compared to the indicative trajectory which could be transferred to/from other Member States and/or third countries in [Member State] (ktoe) ^{27,28}

	2009*	2010*	2011	2012	2013	2014
TOTAL actual/estimated excess production	-	-	3 337	3 956	3 388	3 878
TOTAL actual/estimated deficit production	-	-	0	0	0	0

	2015	2016	2017	2018	2019	2020
TOTAL actual/estimated excess production	2 804	3 469	2 049	2 793		839
TOTAL actual/estimated deficit production	0	0	0	0	0	0

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 2020. In each report Member State may correct the data of the previous reports.

²⁸ When filling in the table, for deficit production please mark the shortage of production using negative numbers (e.g. -x ktOE).

* Not applicable, since there is no indicative trajectory target for these years.

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

No procedure has been established as of yet.

12 Please 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 mentioned in previous sections, the definition of wastes, residues, non-food cellulosic matter and lignocellulosic material, adopted by the resolution of the State Secretary for Energy, provisioned in paragraph (4) of the third final Provision of Royal Decree 1597/2011 of 4 November has not yet been published at the time of writing this report.

The information on the share of biodiesel produced from used vegetable oils and animal fats is taken from the reports published annually since 2009 by the National Energy Commission (CNE) on the compulsory use of biofuels. The CNE, as the body entrusted to ensure the fulfilment in the consumption of biofuels, obtains its data from the SICBIOS computer application, as explained in paragraph 2.a.

There have been no developments with regard to biomass, using the same methods as in the elaboration of the NREAP.

Response to Article 22(c)

In its first report, the Member State shall outline whether it intends to:

- a) Establish a single administrative body responsible for processing authorisation, certification and licensing applications for renewable energy installations and providing assistance to applicants

In the industrial sector, there is national legislation to regulate the core electricity sector, with the exception, among other issues, to the authorisation and procedure regulations corresponding to the Autonomous Communities with competence in this area.

The Ministry of Industry, Energy and Tourism (MINETUR), through the Directorate General for Energy Policy and Mines, drafts and publishes the applicable authorisation procedures, among others, for energy production installations in the Official State Bulletin and on its website (www.minetur.gob.es). In turn, the Autonomous Communities are responsible for regional planning, which they duly published in their own official bulletins.

Thus, in principle, the national regulation establishing the authorisations and procedures for implementation at these installations is only applicable to installations whose jurisdiction corresponds to the State i.e. electricity production plants with capacity over 50 MW, those located at sea, and electricity production plants with capacity under 50 MW that are located in Autonomous Communities with no relative authorities in the area.

In all other cases, industrial authorisations and procedures shall be governed by the respective Autonomous Communities according to the location of the installation.

With respect to the execution of renewable thermal energy production installations, there is also a national regulation in place (Regulation on Thermal Installations), which is generally applied in all Autonomous Communities, as most of them have not yet developed their own regulations on this subject (an exception is the Community of Madrid, where a specific regulation on the creation of installations has been developed).

As shown in the data sheets attached in the annex for the new National Renewable Energy Action Plan (NREAP) of 20 December 2011, which was submitted to the European Commission on 5 January 2012, the individual Administrations that grant different authorisations are very diverse, as the specific body responsible for granting authorisations varies for each one. However, most of them follow the same scheme to determine the territorial Administration that has jurisdiction to grant authorisations (i.e. whether jurisdiction lies with the Autonomous Communities or with Local Authorities), with the exception of installations whose authorisation responsibility falls on the State Administration.

In any case, improving and updating applicable regulation is a work in progress for all Administrations.

- b) Provide for automatic approval of planning and permit applications for renewable energy installations where the authorising body has not responded within the set time limits

At the moment, the automatic approval of planning and permit applications for renewable energy installations are not provided for in cases where the authorising body has not responded within the set time limits.

However, intense work is being done to simplify administrative formalities and streamline procedures. Along these lines, Royal Decree 1699/2011 of 18 November which regulates the network connection of electricity production for small power renewable energy, among other things, simplifies the requirements for small power installations that intend to connect at points where there is a pre-existing supply. Accordingly, production installations with a nominal capacity of less than 100 kW are excluded from the administrative authorisation regime.

Additionally, other regulatory amendments are being made with the purpose of optimising the flow of information between governing bodies of the autonomous communities, the Ministry of Industry, Tourism and Commerce, and the National Energy Commission, in order to improve the service provided to the general public.

- c) Indicate geographical locations suitable for exploitation of energy from renewable sources in land-use planning and for the establishment of district heating and cooling

As discussed earlier and as detailed in section 4.2 of the NREAP, the Autonomous Communities are responsible for regional planning, which they duly publish in their own official bulletins.

However, through the Institute for Energy Diversification and Saving, a body attached to the Ministry of Industry, Energy and Tourism (MINETUR), numerous analysis and sectorial studies have been carried out on the national available potential for different renewable energy generation technologies. The results of these studies have been published and geographical information systems have been integrated with the purpose of facilitating consultation of results and enabling further analysis for a single technology or a combination of them.

Similarly, through the same institution, a Wind Atlas had previously been developed, which allows the evaluation of available wind potential at a planning level, including the exploitation of results through a geographical information system for public consultation. Its application scope is throughout the national territory, including inland waterways and an additional marine coastline of 24 nautical miles. This project has enabled the creation of a wind resource map in Spain with enough reliability to allow an initial evaluation of the wind potential available in a specific area.

With respect to the installation of offshore wind farms, during 2007 and 2008, a Strategic Environmental Study of the Spanish coast took place, in accordance with Law 9/2006 of 28 April on the evaluation of the effects of specific plans and programmes on the environment. There are three types of areas defined in the study: a) Areas eligible for the installation of offshore wind farms; b) Restricted areas; c) Areas not eligible.