

RES-e Regions EIE PROJECT

WP-2 Survey stakeholders and analysis of real life conditions

Grid connection, Administrative procedures and strategies

Introduction

The scenario in the Castilla y León electricity production is the reflection of the nation scenario. Spain is the second European country for wind power although its biomass policy needs to be given higher priority. Castilla y León is the second region for wind power after Galicia, which is the first. The foreseen increment in Castilla y León from 2005 to 2010, according to the PER (Renewable Energy Plan in Spain, August 2005), goes from a current 1157 MW wind power capacity, to a total foreseen capacity in 2010 of 2700 MW.

Background

The first Electricity Law was approved in 1997, **Law 54/97 of the electricity sector**. In that law was defined, the two shapes of electricity production: “ordinary” and a “special” regulation. That which is called “special regulation” group makes reference to installations which use renewable energy sources, residues or cogeneration. All of these installations have in common, not to exceed of 50 MW of nominal capacity, as well as to have a special legal and economic processing. This document will be focused in that “special” generator of electricity.

In this sense all the Regions in Spain (Comunidades Autónomas) have been the bodies in charge of managing and planning the strategies for that special kind of electricity generation.

The best transposition of the Directive 2001/77/CE to boosting and regulate renewable electricity market in the Spanish legislation is the **Real Decree 436/2004** of March 12th, which establishes that the producers in special regime, have the right to connect their generator set to the electric grid in parallel and also transfer energy surplus to the same one, whenever it is possible its absorption through the network. The Real Decree 436/2004 explains the economic regime and the bonus system by the electricity production from renewable energy sources.

The previous **Real Decree 2818/1998** was repealed. And the first special regime regulation in the Spanish legislation was already showed up in 1994.

Other Spanish legislation which involves renewable electricity plant proceedings are:

Before Res-e Directive:

- **Real Decree 2366/1994** dated 9th of December, about production of electricity from hydropower, cogeneration and others supply with renewable energy sources, establishing the requirements for obtain the condition of producer in special regulation and the registration in the specific register.
- **Real Decree 1663/2000** dated 29th of September, about grid connection in Photovoltaic installations to low voltage conditions.
- **Real Decree 1955/2000** dated 1st of December, in which is established the regulation of transport, distribution, commercialisation, supply and permission procedures in electrical energy installations.
- Castilla y León approved a Decree in order to regulate the authorisation procedure of wind power electricity production installation, **Decree 189/1997**, dated 26th of September.

After Res-e Directive:

- **Real Decree 1433/2002** dated 27th of December, which establishes the measures' requirements in low voltage of consumers and plants of generation in special regime.
- And the **Real Decree 2392/2004** dated 30th of December, where is established the 2005 electrical tariff. The electrical tariff is reviewed and passed every annually.

On the other hand, the Castilla y León region has made an Enquiry to the National Energy Commission concerning to the interpretation of the **Real Decree 436/2004** and before the **Real Decree 2818/1998** which was repealed. From those enquires two Reports were submitted by the National Energy Commission about PV installations held to the "special regulation". The Junta de Castilla y León required a report about the authorisation of PV installation with an individual power capacity of 5kW connected in serial and belonging to different owners and located in the same area. The CNE (National Energy Commission in Spain) report explains that the "solar 5 kW plants" fulfil the valid legislation if they have different owners, equipment (inverters and meters) and connection. But if there are more than one installations with the same owner in the same area. Then it will mean they will be altogether one plant, not different.

Also is foreseen to pass in the beginning of 2006 the **Technical Code for Building** in which an especial issue of renewable electricity generation is included in the **Section H-5 (Electricity generation from Solar PV)**, where is defined some places and buildings which will be required installing PV such as in health centres etc...as shows the chart below:

Building:	Characteristics:
Shopping centre	> 3.000 m²
Supermarket	> 5.000 m²
Big stores	> 10.000 m²
Offices	> 4.000 m²
Hotels	> 100 beds
Hospitals	> 100 beds
Sport halls, exhibition fairgrounds	> 10.000 m²

With a minimum of power installed capacity of 6.25 kWp, which involves a power capacity of the inverter of 5 kW.

Planning Strategies

Castilla y León has developed some tools and strategies such as specific programs in order to promote renewable energies in the region, which are describing

PERCYL: 1994-2000

The ENERGY REGIONAL PLAN OF CASTILLA Y LEÓN (PERCYL-2000) was an internal document in which the energy strategies from 1998-2000 were analyzed in order to give compliance to the White energy paper.

It should be outstanding the program called **PASCER**, which was a Program of saving, substitution, cogeneration and renewable energies promotion.

Subsequently in order to follow the strategies from the PFER (The Foment Plan of National strategies), Castilla y León developed diverse plans, in each RES-e technology such as Wind Power, Solar and currently the Biomass plan.

Wind Power Plan: 1999-2004

The first step plan will cover a period from 1999 to 2004, achieving at the end of this period a power installed capacity of 1451 MW. Currently there are in the region a total power installed capacity of 1713 MW, besides 269 MW under construction, in addition of 1036 MW with administrative authorisation conceded.

After the last plan check, the plan will be up to 2009, it has been estimated an increment of wind power capacity around 800 MW per year.

Wind power plants are regulated also by the Environmental Impact Law, which must be taken into account in the procedure.

Solar Plan: 2001-2006

At this point it has to indicate that from 2001 to 2003, there were available subsidiaries for PV grid connected plants investments from the regional administration.

Currently there are 2.73 MWp of power capacity installed of photovoltaic solar energy in Castilla y León.

The solar plan included also solar thermal energy.

Biomass Plan (on track)

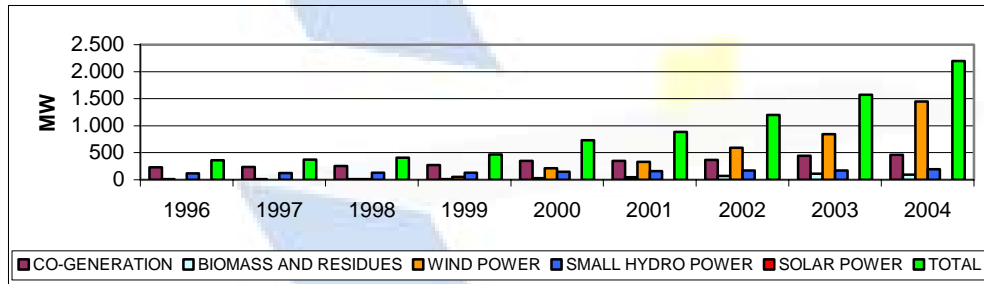
It is foreseen a shock plan based on installations, demonstration, publicity and subsidies. The objectives include not only RE-e generation, also employment, care of environment, rural development etc...

The performance sectors of biomass plan in RE-e is based on the promotion of Electric generation plants such as:

- Power plant (> 1 MW), own residues.
- Power plant (> 6 MW) agriculture residue or energy cultivation.
- Power plant (1 - 6 MW) forest or cattle-raising residue.
- Power plant of microgeneration - gasification.

All of those “strategic plans” have contributed and will continue to promote the implementation and consumption of electricity from renewable energy sources.

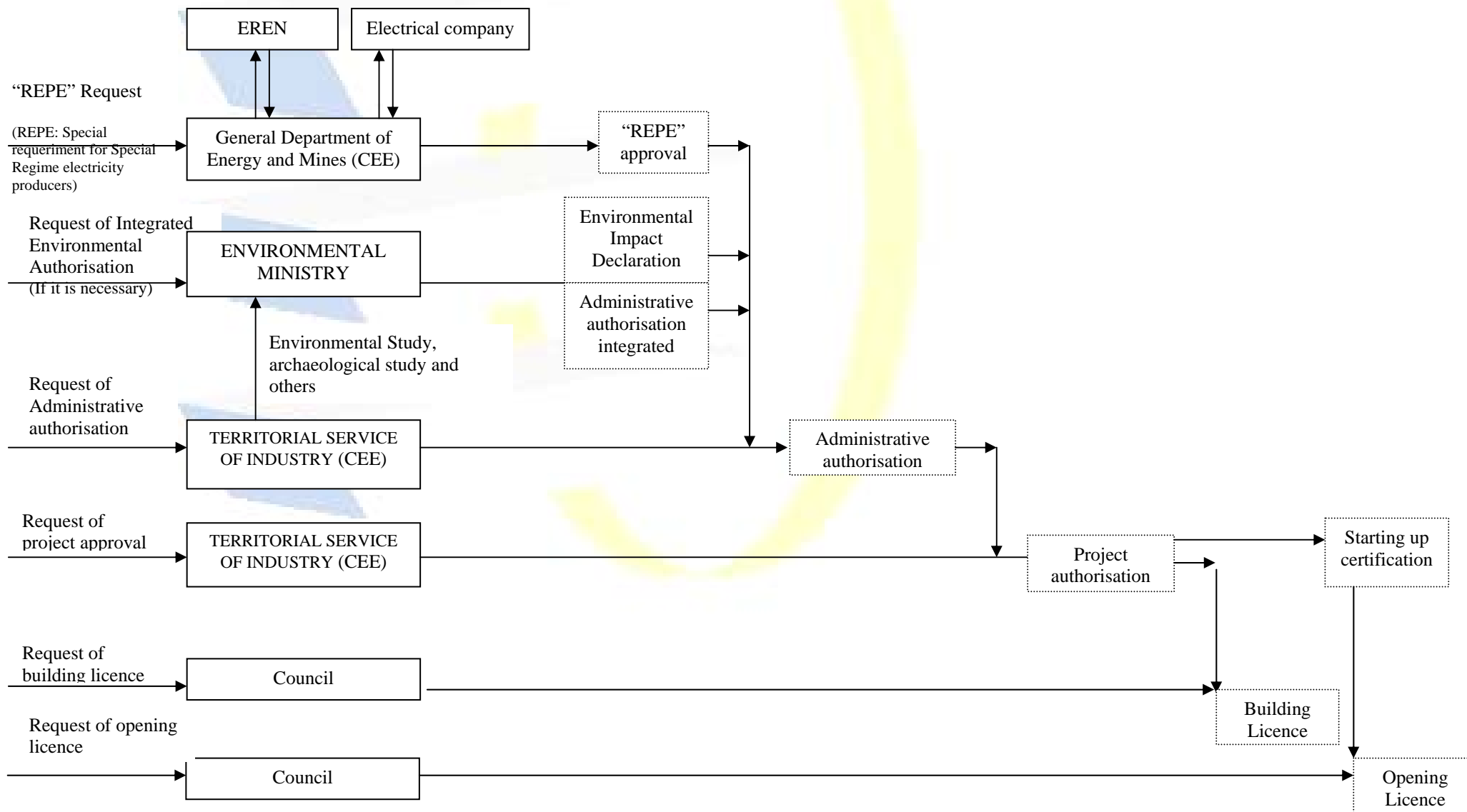
The evolution of installed capacity in Castilla y León is showed in the graphic below:



Source: EREN

An increment of the installed capacity is observed after 2001. A still increment will be expected into the next years with the support of the regional strategies.

General summary of Administrative procedure for special regime electricity producers in Castilla y León



Grid connection and Administrative barriers

All the actors agree in that the main problem in the development of Renewable electricity are the Administrative barriers and the insufficient grid capacity available for RE electricity evacuation on the part of the transport electrical net.

Following it is developed the main barriers in each technology by electricity generation from renewable energies in Castilla y León.

Wind power

Not enough capacity for electricity evacuation on the part of the transport network is the most important barrier for Wind power developing. Anyway Castilla y León is the second region of wind power installed capacity in Spain.

Another barrier that promoter find in the Administrative procedure is the Environmental procedure, where sometimes it surges some groups of public opposition and sometimes objections are added during the public proceedings.

Although one of the problem there was at the beginning of wind power development was, disagreements among land's owners, without depending on private land or public land, and also the changes of land uses rules. However this problem has currently almost disappeared. Only some administrative problems appear when the land belongs to more than one region.

Solar PV

As the rest of RE-e generation there is not enough capacity on the electrical grid.

Also the legal confusion on grid connection regulation, the lack of regulation in medium voltage grid connection and the scarce PV modules available in the market are the main barriers for the boost of this technology.

Also the promoters are worried about the possibility of connected to the same transformer. In this aspect Castilla y León has been consulted to the National Energy Commission which answered refers that it should be considered only as one installation all the installations which evacuate to the same inverter. It does not matter of they belong to different holders. It must be taken into account that all the nominal capacity will be not more than 100 kVA by one installation.

Biomass

The most important barriers in this technology are the insufficient grid capacity for the electricity evacuation.

One of the administrative procedure is the phase of “publicizing information” of the project where some times it states a patent opposition to the project development. The opposition usually alleges harmful to environment.

On the other hand, as an e-biomass plant has a high needs of water for the refrigerator circuit, a water concession has to be made, which involves a long and slow administrative procedure as it happens in the water concession in a Hydro Power plant.

Small-scale Hydro Power

Besides the water concession administrative procedure, another barrier that promoter find in the Administrative procedure is the Environmental procedure, where sometimes it surges some groups against the project development and sometimes objections are added during the public proceedings.

On the other hand a whole study in Castilla y León about detection of barriers in every Res-e technology is available. If you are interesting in consulting the study, you can ask in the e-mail: eren@jcyl.es

Stakeholders Viewpoints: weak and strong aspects. First analysis

From the enquires results from the promoter of RES-e it arises that limited capacity is the main barrier for boosting this kind of renewable electricity. About that question stakeholders have suggested to give preference to grid connections for some RE-e technologies which are in a less favourable situation.

The second common barrier is the annoying administrative procedure itself. At that point sometimes the fact that different administrations are involved in the procedure lead to promoters to take more time in the processing which go on the delay of the starting of electricity production as well as the business beginning. The interviewers’ suggestion was the creation of a special office able to carry out all the proceedings.

Anyway a staunch support is showed by the regional government towards the electricity production from these renewable energy sources.

Granting grid access and tariff system

Regarding to the way of granting grid access, it is interpreted that the law does not permit to book it.

About the system to support Renewable Electricity is a kind of REFIT (Renewable Energy Feed-in Tariffs) which let producers choosing between 2 options: a **fixed preferential tariff** or a **variable premium price** on top of the price of kWh in the general electrical market. This option of the wholesaler market tariff consists on the price of electricity (in the pool of electricity) in the market plus a bonus. At that point the producer is free annually to choose one of the 2 options for the whole year tariff.

This fixed preferential tariff system is not based on market since the price is fixed by a Real Decree (RD 436/2004). Anyway the most selected options by generators is fixed price, which has been considered steadier. This model of electricity prices is variable in the different technologies taking into account the marginal costs.

The chosen option by most of the producers has been the fixed preferential tariff, with the exception of Wind Power RES-e producers which mostly have chosen a variable premium price in the 2005.

Regarding the two options for invoicing the electric production (regulated fixed tariff or wholesaler market tariff) from the feed in tariff systems. In wind power the regulated tariff has been fixed during 2005 in 65 euros per MWh while 90 euros per MWh has been the price for the electricity sales which have chosen go to market (70% of the Wind power promoters). However some years ago most of the producers had chosen the regulated fixed tariff.

The reward framework for renewable energy is foreseen to be reviewed during the first term of 2006.

Conclusions

The ways of the Spanish regulation for Res-e are being acceptable by RES-e promoters in high grade.

The most common barriers to the RES-e development are that many parts of the electricity grid have little capacity available for grid connection of large scale Res-e power plants. On the other hand administrative barriers seem to be indicating as the most severe type of barrier caused by the long lead-times to obtain the compulsory permissions, certificates..., the high number of authorities involved and the lack of coordination among them.

Despite of the barriers renewable electricity generation seems to be a good option for business in the Castilla y León region.

The long term targets establish in the Castilla y León region is appreciated by stakeholders as an important element of creating a stable environment for investments in renewable energy electricity.

A Summary schedule of Renewable Energy Progress in Castilla y León Region is showed in the chart below, where the number of installations, the Installed Power Capacity and the amount of RE-e generation, which have increased meaningfully during the last 10 years:

SUMMARY EVOLUTION 1996-2004 OF SPECIAL REGIME IN CASTILLA Y LEÓN

	TOTAL NUMBER OF INSTALLATIONS			INSTALLED POWER CAPACITY (kW)			ENERGY GENERATION (MWh)		
	1996	2004	Δ	1996	2004	Δ	1996	2004	Δ
CO-GENERATION	26	60	131%	232	461	99%	1.007	2.502	149%
BIOMASS AND RESIDUES	3	15	400%	14	95	564%	44	558	1158%
WIND POWER	0	70	----	0	1.451	----	0	2.409	----
SMALL HYDRO POWER	89	148	66%	116	192	65%	377	572	52%
SOLAR POWER	0	193	----	0	1	----	0	1	----
TOTAL	118	486	312%	363	2.200	507%	1.428	6.042	323%

Source: EREN

Although the main objective of the EU is to increase about 22.1% electricity generation from renewable energies in the gross consumption of electricity in 2010, Castilla y León strategies will reach a 32 % of the electricity production from renewable energy sources by 2010 (not including Large Hydro electricity production).