



Agencia Andaluza de la Energía
CONSEJERÍA DE INNOVACIÓN, CIENCIA Y EMPRESA



BOOSTING GREEN ELECTRICITY IN 11 EUROPEAN REGIONS PROJECT: RES-E REGIONS.

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**WORKPACKAGE 2 : ADMINISTRATIVE PROCEDURES OF RENEWABLE
ENERGIES INSTALLATIONS CONNECTED TO THE GRID IN ANDALUSIA
TRANSPOSITION REPORT.**

Seville, October 10th 2005

1. Introduction

This work is developed as a part of the contribution of the **Andalusian Energy Agency** to the RES-e region project “Boosting green electricity in 11 European regions”. The project aims at boosting electricity in 11 European regions by defining concrete regional RES-e targets and developing and implementing regional RES-e strategies. These will identify the main barriers (such as administrative obstacles, public opposition, grid access, lack of information, frequent changes in funding regimes) and address them by well targeted information and promotion activities, thereby significantly increasing regional RES-e shares.

Local action is essential to achieve the targets set by the RES-e directive: not only are many initiatives for new RES-e installations started on local level but also some of the main obstacles can only be overcome regionally and locally. The project will ideally complement the legal action taken by Member States in implementing the RES-e directive (Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market).

The Andalusian Energy Agency presents its report concerning WP 2: “ Grid Access and Administrative Procedures”.

The RES-e directive recognises that the access to the grid and administrative procedures represent important barriers in RES-e market implementation and therefore, places specific obligations on the Members States in these respects.

Therefore the WP aims at analysing and describing the day to day situation regarding the authorisation procedures and the grid access for the different RES-e technology in each region, and give a feedback to the European level on the actual transposition of the directive. In addition to that, it will also work closely with the relevant bodies on overcoming a number of the barriers that have their root on regional or local level.

By analysing the administrative procedures and grid access practices in each region, the project will pro-actively provide different stakeholders with up-dated information and thereby, help to speed up the process of real-life implementation of the directive. The analysis will be summarised in a report and made available to the relevant Commission services as well as the national regulators and their European network. WP 2 will reveal possible barriers in the permission procedures which will be addressed in the information activities for local governments carried out in WP 3.

The electricity generation from renewable energy sources has to combine on one hand, the availability of the resources and on the other, the access to the connection to the grid. The linking of these elements doesn't always assure the success of the projects. Therefore, an important number of factors influence on the starting up of the projects (suitable surface, type of area where the project is

set up, technology used, technical features of the plant, social impact caused etc).

This updating document will be focus on analyzing the situation of the grid connection issues , especially those problems dealing with renewable energy sources installations in Spain and in particular in the **Autonomous Community of Andalusia**.

2. Electric Power Generation from Renewable Energy

Since the year 1997, when the **Electricity Law 54/97** was published in November 27th, it had been developed the liberalization of the electric sector in Spain, affecting so much the distribution , transport and trade sectors, as those ones concerning to the electric power generation. Nevertheless, this liberalization preserves some special promoting sectors, at least partially, as compensation to the social and structural requirements of the system, and also to the benefits that are not counted on the bills results of the companies. This is the case of the well known Special Regime.

The Special Regime encloses those installations that produce electricity by using renewable energy sources, waste or cogeneration and whose installed power does not exceed of 50 MW. The advantages of these installations are remarkable, and therefore, they acquire a different treatment as follows:

- They facilitate distributed generation systems.
- They reduce the consumption of fossil fuels.
- They avoid emissions derived of generation power installations with fossil fuels.
- They improve the development of new energy sectors (wind, solar, biomass, etc) and auxiliary industries.
- They allow the growth of industrial activities in rural areas.
- They favour the growth of employment in rural areas.

For this reason, the decision-makers of energy matters from the European Union have opted for the increasing of these technologies. The Spanish case is not different, but in first place, it is necessary to analyze the situation concerning to the distribution of responsibilities on these types of technologies.

The competence on the management of the installations in Special Regime, and the electric power distribution , energy transport and general legislation (with some exceptions) is reserved to the Central Government into the Spanish framework .

In the specific case of Andalusia, the Andalusian government has carried out its energy planning for the period 2003-2006 promoting the electric generation from renewable sources -connected and isolated- with the following objectives:

- Photovoltaic solar energy: 10.500 kWp
- Thermosolar: 100 MW

- Wind energy: 2.700 MW
- Small hydro: 102 MW
- Biomass: 164 MW

The success of the accomplishment of these objectives is based on different aspects:

- Availability of resources
- Availability of accession points to the electricity grid
- Availability of an adequate legislative framework for a fair remuneration of the electricity operated.
- Availability of an administrative procedure that facilitate the development of RES-e projects.
- Availability of technology

In Andalusia, the resources are guaranteed in order to fulfil the objectives. However, the rest of the mentioned aspects have a different solution and even the achievement of some of the objectives can interfere in the achievement of others.

The production of electricity in “Special Regime” is regulated on the Royal Decree 436/2004 of March 12, which establishes that the producers in special regime, have the right to connect their generator set to the electric grid in parallel and also to transfer their energy surplus to the same one (under appropriate technical conditions), whenever it is possible its absorption through the network.

The retribution system is also regulated in the previous Decree, and it establishes two options:

- a) To sell the electricity production to the distributing company observing a retribution by means of a regulated tariff.
- b) To sell the electricity freely and directly in the daily market, observing in this case the price negotiated in the market plus an incentive for participating in it and a premium. This incentive and premium is also defined generically as a percentage of the average or reference electricity tariff.

The transport, distribution, trade and supply activities are regulated at national level by the Royal Decree 1955/2000. It establishes that the right to the grid access by producers will be only restricted by the lack of electricity power which will be exclusively due to the security, regularity or quality of the supply .

The Junta de Andalucía (Andalusian Regional Government) is carrying out a specific and interesting legislation for the arrangement of the Special Regime, especially for the solution of different problems:

- **The Andalusian Order of 30 September 2002 of land planning defines the Electricity Evacuation Areas (ZEDE Order) and it is regulated to prioritize the access and connection to the electric grid supplied with renewable energy sources, waste and co-generation.**

The objective of this Order is to give solution to the existing blocking in the access to the grid due to the lack of electrical capacity for all installed energy power. This Order also establishes the procedure of valuation for the presented projects.

An Electric Area of Evacuation (ZEDE) is defined as a group of Special Regime installations that need to share common evacuation infrastructures for the production of energy, or in other words, that the global access capacity applied for, might be considered superior to the evacuation capacity valued by the operator of the system, transport agent of the Spanish network (Red Eléctrica Española, S.A) or the local distribution agent of the area.

- Resolution of June 5th 2003 of the General Directorate of Industry, Energy and Mines where Huelva ZEDE is defined and it is carried out a call for proposals .
- Resolution of June 5th 2003 of the General Directorate of Industry, Energy and Mines where Huenéja ZEDE is defined and it is carried out a call for proposals
- Resolution of June 5th 2003 of the General Directorate of Industry, Energy and Mines where Granada ZEDE is defined and it is carried out a call for proposals .
- Resolution of June 5th 2003 of the General Directorate of Industry, Energy and Mines where Arcos de la Frontera ZEDE is defined and it is carried out a call for proposals.
- Resolution of June 5th 2003 of the General Directorate of Industry, Energy and Mines where Tajo de la Encantada-Campillos ZEDE is defined and it is carried out a call for proposals.

In these resolutions were just defined 5 Areas, assigning to each one, a maximum evacuation capacity. It was also specified whether that limit was due to the load flux or otherwise, to the short circuit capacity in the installations. By this way, it was limited the number of special regime available installations (High Temperature Thermal Solar, Biomass and Cogenerations) in each area. At the moment, the power related with these resolutions is already assigned.

Nowadays, new problems have been derived from ZEDE Order which are being analised and solved, among them, it has been highlighted the following ones:

1. The distribution made in ZEDE areas, limits the power that could be derived of new proposals in the affected zones. Therefore, it is difficult to give solution to those new installations that can appear until the installations consigned by this Order would not be closed.
2. Even some projects for installations out of those areas, could become affected for being electrically connected. The ZEDE Order, in fact, what allows is whatever the Law doesn't authorize expressly, that is, the power reserve for a generator.
3. The ZEDE procedure makes the starting of the projects goes slowly, since it bears a complex administrative procedure.

- **Instruction of January 21st 2004, of the General Directorate of Industry, Energy and Mines, of the Andalusian Regional Government (Junta de Andalucía) on the procedures of photovoltaic installations connected to the grid (BOJA N° 26 of February 9th 2004).**
- **Resolution of February 23rd, of the Directorate of Industry, Energy and Mines, by which complementary rules are settled down for the connection of certain generating installations of electric energy in special regime and also, groups of installations connected to the distribution network by low tension (BOJA N° 57, March 22nd 2005).**

This resolution clarifies that the groups of generators with a capacity that do not exceed of 100 KW , located in urban or rustic parcels and promoted by different holders, will be able to design a common structure in LT (low tension) starting from an installation of MT (medium tension) of the distribution company. By means of the incorporation to this last one of a transformation substation MT-LT in whose side of low tension will be installed the delivery point of energy of each producer. The common evacuation part will be transferred to the electricity company. These groups will not be able to exceed a generation capacity of 1890 kW.

This resolution is established due to the necessity of solving the conflict presented by groups of photovoltaic installations of less than 100 kW called "Solar Green Fields" that take advantage of the suitable remuneration of these installations (Royal Decree 436/2004).

3. Administrative Procedure

The administrative procedures or steps that are necessary to carry out the setting and exploitation of a photovoltaic installation connected to the grid, are the following ones:

a) Starting up

To set up an installation from renewable energy sources connected to the grid, is necessary to make an administrative procedure to connect the installation to the high/low tension network. In addition to this, it is also important to include this installation as a generating installation in special regime, just for its exploitation. Therefore, it might be considered a series of aspects with the purpose of guaranteeing the technical and economic viability of the project.

The steps to take into account are as follows:

1. To contact with the distribution network operator (Red Eléctrica de España) or with the local electricity distributor, In order to know the total power of the installation presented, specifying whether it is an installation or a group of installations.

2. To contact with the Provincial Delegation of the Regional Ministry of Innovation, Science and Enterprise (Andalusian Regional Government), in order to know if it has just been defined a ZEDE area in the location where we want to place the installation.
3. Definition of the project (previous technical report) and technical-economical feasibility study.
4. Application form of inclusion of the installation into the Special Regime system and pre-registration in the registry located at the Provincial Delegation of the Regional Ministry of Innovation, Science and Enterprise.
5. Application form of the access point to the network by presenting the report of the project to the electrical company.
6. Application form of administrative authorization and declaration of public interest of the installation at the Provincial Delegation of the Regional Ministry of Innovation, Science and Enterprise .
7. Application form of the point to the grid connection. This application should be accompanied by the administrative authorization and the project itself (in the case of being part of ZEDE area, it will be necessary to wait for the resolution concerning the ZEDE made by the General Direction of Industry of the Ministry of Innovation, Science and Enterprise)
8. Application form of approval of the implementation of the project and closure.
9. Building licence by the Town Halls that are directly affected.
10. Building up and assembly of the installation.
11. Presentation of the Certificate of the installation signed by the authorized installer at the Provincial Delegation of the Regional Ministry of Innovation, Science and Enterprise once the installation has been built.
12. Establishment of the “sale contract” of energy with the electricity company. It is a document with the option of sale of electricity. Moreover, it is required an application of pre-checking for the expedition of the certificate of reading of the installation by the electricity company.
13. Application form of the definitive registration of the installation at the Provincial Delegation of the Regional Ministry of Innovation, Science and Enterprise.
14. Definitive registration at the registry of Special Regime installations which will be remitted by the Provincial Delegations to the General Direction. It would be considered as the legal date for the definitive registration the following day of the month when the act of starting up of the installation or service was given.
15. Invoicing of the energy injected to the local electricity company counted since it is effective the definitive registration.

16. Payment of the energy injected to the grid according to the elected modality in 30 days after the reception of the corresponding invoice.

b) Exploitation of the Installation

The activity of generating energy with an installation of renewable energy connected to the grid, implies the own management by oneself of a resource of production, with the advantage of obtaining a benefit. Then, this activity could be classified as an economical activity as any other one, and therefore, it would be subject to some fiscal rules. In this sense, the management all holder should carry out for the exploitation of his renewable installation connected to the grid is as follows:

- The holder should be registered in the tax roll of economic activities. In the epigraph 151.4 of the I.A.E. (Economic Activity Tax) corresponding to energy production.
- The holder has to make declarations of I.V.A. (Added Value Tax), model 300, each 3 months.
- The holder is subject quarterly to the retention or fractional payment of the I.R.P.F. (Personal Income Tax), model 130.
- The holder should carry out the annual declaration of operations with third people when they have been carried out electricity sales of more than 3.000€/yearly to the selling electricity company.
- The holder should carry out an annual summary of I.V.A.(Added Value Tax), model 390.

4. Weak and strong aspects of the procedure

a) Weak aspects/negative aspects

- Long procedure and with great amount of documents to be provided by the owner.
- Non existence of an unique public attention desk: different organisms involved (the Regional Administration, the Electrical Company , and several temporary steps).
- Linked procedures not allowing in between none of these until the previous ones have finished.
- Saturation of the electric network capacity in some parts of Andalusia, with the consequence of not being able to be connected to the network.
- Lack of technical-administrative regulation of some aspects of the grid connection in medium –high tension.

b) Strong aspects/positive aspects

- Favourable regulation of the retribution system to the electricity power injection through photovoltaic installations (Royal Decree 436/2004)
- Regulation of the technical-administrative aspects, as well as the documents to deliver for the building up, grid connection and starting up of photovoltaic installations connected to the grid.
- Regional regulations in Andalusia highlighting and complementing the National regulations.
- Regional and National administration support to renewable energy installations.
- Support of the business sector involved with the public administration to the continuous improvement of the technical-administrative procedure to the RES-e installations connected to the grid .

5. Special Conditions for these technologies

Up to now, it has been dealt with all renewable technologies, but it would be appropriate to deepen in each of them, since all have different elements.

5.1 Wind energy

In this case, it is necessary to differentiate wind park installations of high – medium power and those installations of low power. In general, it could be say that wind technology presents a high technological development and this allows the exploitation of the installations with certain guarantees for the investor. In addition, these types of installations are supported by a sufficient remuneration able to assure the profitability of medium and high power wind parks. In the case of smaller installations (<50 kW), the technology used cannot include the advances of high power installations.

For this reason, small installations in the majority of cases are not sufficiently attractive for investors.

In Andalusia, the problems related to the grid connection can be summarized as follows:

- Insufficient retribution for small power installations. The defined premiums taking into account big wind farm costs, do not cover totally the expenses of small technologies connected to the grid.
- Difficulty for the development of small/low power installations (0,05-3 MW). On one hand, they would contribute to the distribution of the electric generation and on the other, they would facilitate the considerable increase of wind electrical power in Andalusia.
- The maximum capacity of wind installations on the part of the transport network, is limited at national level, and the Central Government has no the intention of making a power reserve by

the Autonomous Communities. On the contrary, it is seeking protection saying that the management of the Special Regime is not of its competence. Therefore, the region that advances quickly in wind installations will limit those ones that go slowly. This limitation complicates the possibility to specify the power it can be disposed in a community in a planning at regional level, mainly due to critical conditions that cannot be controlled.

- The industrial investment has been carried out in the communities that first have developed its installations, so they have become exporters of goods and technology at regional level.

5.2 Photovoltaic energy

The framework of remuneration of the electricity energy coming from photovoltaic installations has produced a remarkable increase of the demand of this energy. On one hand, the development is braked for the connection difficulties to the grid and on the other, for the worldwide supply of photovoltaic modulus.

In general, in relation to the conditions for the grid connection that make this market can not be further developed are:

- Different remuneration framework for the installations of 100 kW or smaller than those of superior power, keeping in mind that the structure of costs from each other is not very different.
- Necessity to evacuate in medium-low tension, so the availability of power is limited.
- Administrative procedures are not homogeneous.
- Rise of the installations price due to the proposed connection solution that diminish the viability of the projects.
- Difficulty to arrange the projects into ZEDE areas .

5.3 Bioelectricity

From the legal framework established, there is a group of problems that affects the development of biomass plants and it puts in danger the possibility of the fulfillment of the objectives of the PLEAN.

The quantity of the established premiums for biomass plants, together with the inherent barriers to this energy source (dispersed fuel, seasonal, necessity of big investments, etc.), are braking the development of the plants of electric power generation with biomass in Andalusia.

However, the current system of premiums has achieved an important development for other renewable energies, especially in the case of wind energy. Therefore, wind parks together with the combined cycle plants have surrounded a great part of the ZEDEs in Andalusia. This will suppose that in the future, if it would take place an increase of the premiums and an improvement of the technology of the installations of biomass, these plants will suffer the

difficulty of the evacuation from the electric energy. This puts in danger the achievement of the objectives that the PLEAN settles down for biomass.

5.4 Small Hydro

Andalusia doesn't have a high potential on this energy and it is difficult that new exploitations enter in operation. It is foreseen that installations in rehabilitation might be incorporated into the Andalusia energy system. The connection conditions for this energy is similar to those ones previously mentioned, but it is important to make special attention to the isolation of these type of installations from the network.

5.5 Thermosolar

These technologies are at present time in development and they are beginning to be implemented at the region. There are two new projects foreseen in construction with a total power of 61 MW. The connection difficulties are similar to that of the rest of technologies.