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# ADMINISTRATIVE HANDBOOK

The installation of ground PV plants: EU regulations, procedures and main country differences

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## The installation of ground PV plants: EU regulations, procedures and main country differences

### PVs in Bloom Project– A new challenge for land valorisation within a strategic eco-sustainable approach to local development

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# INDEX

# Introduction

There are many untapped opportunities to save energy and encourage the use of renewable energy sources in Europe, but market conditions do not always help and the collaboration in international projects can always constitute a way to intensify them.

The PVs in Bloom Project - "Farming photovoltaic flowers: a new challenge for land valorisation within a strategic eco-sustainable approach to local development", belongs to the Intelligent Energy Program, the EU's tool for funding action to improve these conditions and move us towards a more energy intelligent Europe.

The Project is managed by an international consortium, led by Unioncamere del Veneto (the Regional Union of Chambers of Commerce of Veneto, North-East Italy) and composed by 9 partners from 6 EU countries:

- Energy Agency of Sassari Province (Italy),
- Chamber of Commerce Development Company of Central Macedonia (Greece),
- Development Company of Municipality of Milies (Greece),
- University of Jaén ( Spain ),
- Chamber of Commerce, Industry and Shipping of Valencia (Spain),
- Institute of Physics of the Lublin University of Technology (Poland),
- Innovation Region Styria (Austria),
- Italian-Slovak Chamber of Commerce (Slovakia).

PVPPs is the acronym developed in the framework of the PVs in BLOOM project to define small and medium sized ground Photovoltaic Plantations, ranging from 50 kWp to 2-3 MWp, installed on marginal terrains.

The main objective of the Bloom project is to promote the intelligent diffusion of PVPPs across Europe according to functional and environment-friendly criteria, and increase the awareness and the knowledge in public and private sectors of the benefits of installing small plants of photovoltaic panels in order to produce sustainable electricity.

In addition it has a strong strategic connotation, within the general aim, it is specially oriented to the re-qualification of marginal or sterile rural areas or of other degraded sites.

Among other activities, within the framework of PVs in Bloom project is carried out data collection and development of documents and practical tools, among which is the present handbook, whose main purpose is to facilitate understanding of the procedures required

for the construction of PVPPs and highlight the administrative obstacles in the "path of photovoltaic authorization".

Most of the countries of the European Union and its surroundings have since years regulatory and administrative tools to regulate the installation of PVPPs. However, the implementation of administrative procedures has been identified as one of the main difficulties of undertaking such projects.

The specific case of installations on degraded lands, goal of the PV's in Bloom project, is one of the best ways of harnessing solar energy and this is accompanied by the enhancement of territories difficult to seize by other means. However there are still few examples of facilitation the use of these lands through administrative procedures or special regulations.

The present document is intended to serve as a handy reference for the installation of PVPPs, especially in marginal lands, and also as a tool of reflection to the authorities and bodies responsible for establishing and enforcing administrative and economic policies.

The main objectives of this handbook are:

- Provide a handy reference regarding the administrative steps to be followed and the major administrative difficulties to overcome for anyone interested in investing in a photovoltaic system in the participating countries.

- To highlight the strengths and weaknesses found in administrative procedures of the different countries by comparing them for benchmarking in terms of best administrative practices.

- Facilitate cross-references on the opportunities and economic conditions that exist in different countries, relating to the obtaining of any public aid and conditions of sale of electricity in the markets.

- Identify and describe the cases in which the main difficulties in the promotion of photovoltaic solar energy derives from the policies followed by governments, or arise from the evolution of energy markets in recent years.

- Provide practical examples of administrative and regulatory initiatives taken to facilitate the installation of PVPPs on degraded lands.

# Part 1: Overview of PVPPs authorizations

## 1.1) PVPP Authorizations: procedures in 7 regions of 5 EU representative countries.

The main goal of this overview of PVPPs authorizations is to serve as a reference on structural conditions existing at the time of carrying out the PVPP projects in the regions that participate in the PVs in Bloom Project, facilitate comparison between conditions and in different countries, analyse these differences and finally make suggestions for improvement.

1.1) PVPP Authorizations: For each participating region the following sections are included

1. Localization
2. General overview on PVPP authorization procedures
3. Applicable Feed in Tariff
4. Authorization scheme for grid connected PVPPs
5. Legislative documents
6. Institutions involved
7. Standard or foreseen durations of intermediate phases
8. Main Milestones in the authorization process
9. Criticalities
10. Financial taxation and VAT regime
11. Local point of information & support promoted by PVs in Bloom

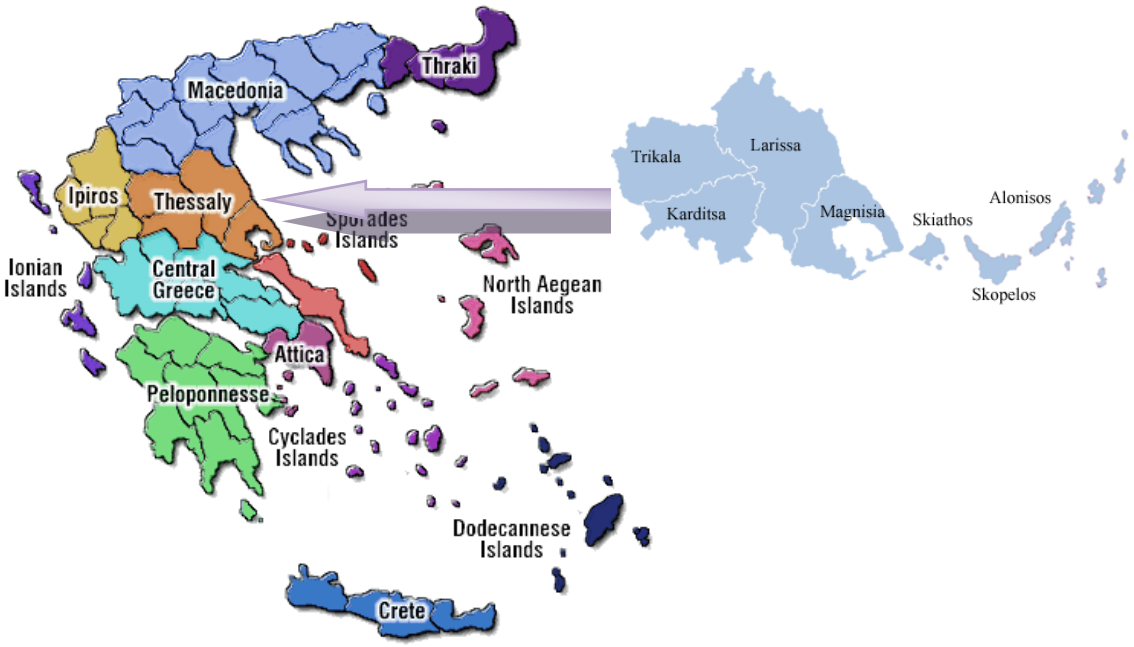
1.2) Comparative summary of the conditions for approval of PVPPs.

1.3) Analysis and Conclusions.

# Greece – Thessaly Region

# Greece – Thessaly Region

## 1. Localization



## Greece – Thessaly Region
## 2. General overview on PVPP authorization procedures

The authorization process on photovoltaic power plants in the Thessaly Region is based essentially on the fulfillment by the owner of the plant of the requests stated by:

- The administrative offices (Regional and local)
- The Greek Public Power Corporation (PPC)
- The authority for Energy (RAE)
- The Energy Transportation Operator (HTSO)

Before starting the construction process of an electric power plant, several authorizations and requirements must be fulfilled, depending on the installation peak power range and the place of installation.

1. Installation on roofs of houses and small businesses to 10kWp
   - Notification to PPC about the start of the installation works
   - Application for determination of the connection terms to the system (PPC)
   - Contract with power purchase agreement (PPC)
2. Installation on roofs from 10kWp to 100MWp
   - Notification to PPC about the start of the installation works
   - Application for determination of the connection terms to the system (PPC)
   - Contract with power purchase agreement (HTSO)
3. Installation on roofs from 10kWp to 100MWp
   - Small scale works approval (local authority - Municipality)
   - Application for determination of the connection terms to the system (PPC)
   - Contract with power purchase agreement (HTSO)
4. Installation on ground to 500kWp
   - Exemption from the obligation of publication of Approval of Environmental Conditions (AEC) – (Region)
   - Small scale works approval (local authority - Municipality)
   - Application for determination of the connection terms to the system (PPC)

- Contract with power purchase agreement (HTSO)

5. Installation on ground from 500kWp to 1MWp

   - Publication of Approval of Environmental Conditions (AEC) or exemption from publication in installation on organized industrial arias.
   - Small scale works approval (local authority - Municipality)
   - Application for determination of the connection terms to the system (PPC)
   - Contract with power purchase agreement (HTSO)

6. Installation on ground and roofs from 1MWp

   - Application for granting Electricity Production License (RAE)
   - Publication of Approval of Environmental Conditions (AEC) – (Region)
   - Installation License (Region)
   - Small scale works approval (local authority - Municipality)
   - Application for determination of the connection terms to the system (PPC)
   - Contract with power purchase agreement (HTSO)
   - Operation License (Region)

All the costs of the procedures and materials required to achieve the complete procedure are to be incurred of the owner of the plant.

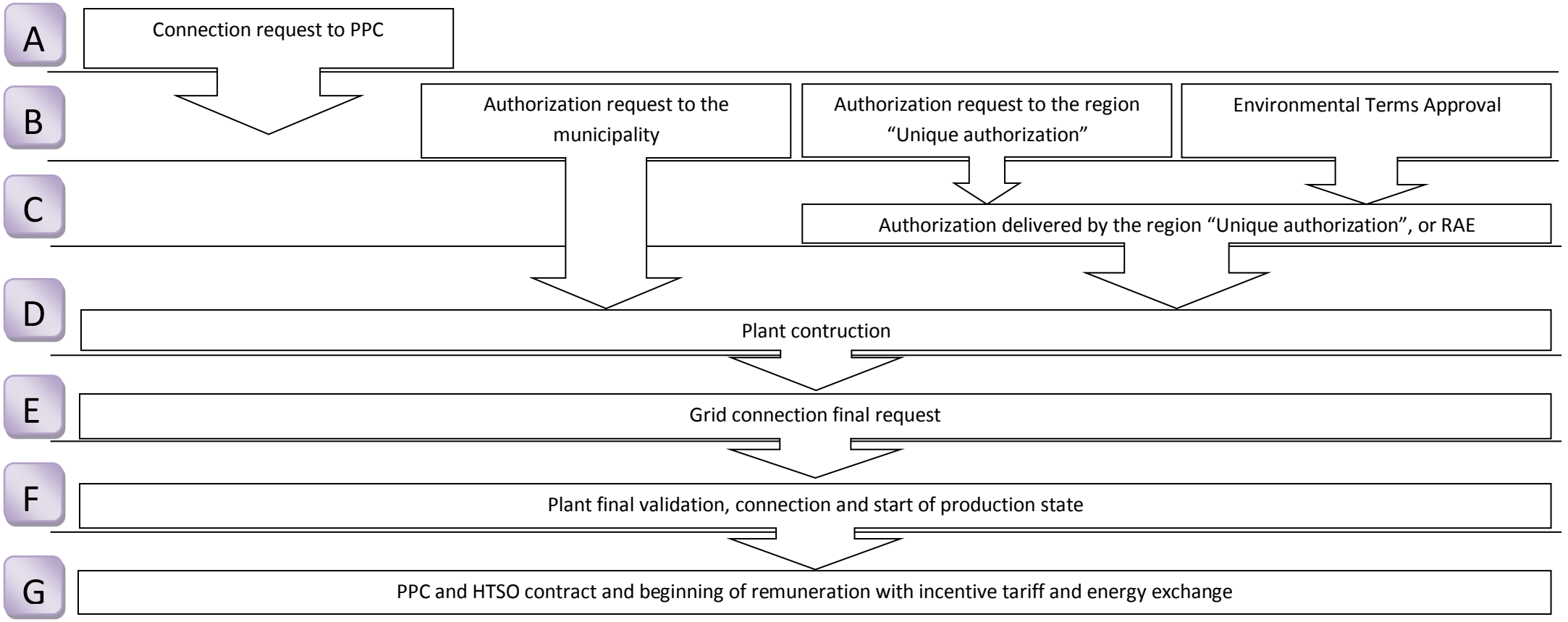
## Greece – Thessaly Region
## 3. Applicable Feed in Tariff

| **Greek Feed-In Tariff for the next years** | | | | |
|---|---|---|---|---|
| Year Month | Houses and commercial buildings Roofs ≤10KWp (€/MWh) | Ground Installations | | |
| | | Connected (€/MWh) | | Not Connected (€/MWh) |
| | | A (>100Kw) | B (<=100kW) | C (unlimited power) |
| 2010 August | 550,00 | 392,04 | 441,05 | 441,05 |
| 2011 February | | 372,83 | 419,43 | 419,43 |
| 2011 August | | 351,01 | 394,89 | 394,89 |
| 2012 February | 522,50 | 333,81 | 375,54 | 375,54 |
| 2012 August | | 314,27 | 353,55 | 353,55 |
| 2013 February | 496,38 | 298,87 | 336,23 | 336,23 |
| 2013 August | | 281,38 | 316,55 | 316,55 |
| 2014 February | 471,56 | 268,94 | 302,56 | 302,56 |
| 2014 August | | 260,97 | 293,59 | 293,59 |
| For each year n from 2015 and afterwards | -5% annually | 1,3xmOTΣn-1 | 1,4xmOTΣn-1 | 1,4xmOTΣn-1 |
| Contract Duration | 25 Years | 20 Years | | |

- [mOTSn]−1: Medium Marginal Price of System at the previous year [n]−1"
- The prices that are determined in the above table are rehabilitated each year, at percentage of 25% of indicator of prices of consumer of previous year, as this is determined by the Bank of Greece.

## Greece – Thessaly Region

## 4. Authorization scheme for grid connected PVPPs



## Greece – Thessaly Region

## 5. Legislative documents

| Document | Issued by | Date of issue | Main topics | Rif. In scheme |
|---|---|---|---|---|
| **Law 3851/2010** | Greek Government | 4-6-2010 | Accelerating the development of Renewable Energy Sources | A,B,C. |
| **Ministerial degree Official Gazette 1556/2010** | Greek Government | 22-9-2010 | Details for installation outside the areas of cities | A,B,C |
| **Ministerial degree Official Gazette 376/2010** | Greek Government | 6-9-2010 | Details for installation outside the areas of cities | A,B,C |
| **2009/28/EU** | Europe | 2009 | Directive on simplification of authorization procedure for RES | A,B,C |
| **Law 3468** | Greek Government | 27-6-2010 | Energy Production from RES | A,B,C |
| **Ministerial degree Official Gazette 1557b** | Greek Government | 22-09-2010 | Photovoltaic installation in roofs | |

## Greece – Thessaly Region
## 6. Institutions involved

| Institution | Dept./Office | Ref. in scheme |
|---|---|---|
| **PPC** | Energy Dispatch | A, E, F,G |
| **Municipality** | Private Building dept. | B |
| **Thessaly Region** | Environmental Impact Assessment Dept. | B |
| **Thessaly Region** | Urban office | B,C |
| **RAE (Greek Energy)** | Electricity Production License Dept. | B,C |
| **HTSO** | Photovoltaic Dept. | G |

## Greece – Thessaly Region

## 7. Standard or foreseen durations of intermediate phases

| Phase | Institutions | Duration | Ref. in scheme |
|---|---|---|---|
| **Connection request** | PPC | 120 days (standard) | A |
| **Plant authorization (<1MWp)** | Municipality | 60 days (foreseen) | B |
| **Plant authorization- implementation license (>=1MWp)** | Region | 30 days (foreseen) | B |
| **Env. Terms Approval** | Region | 120 days | B |
| **Exception** | | 20 days | B |
| **Electricity Production License (RAE)** | Energy Authority | 60 days | C |
| **Plant construction** | Owner | It depends on size and type | D |
| **Grid connection** | PPC, Customs Agency | 20/30/45 days<br>it depends on power | F |
| **PPC or HTSO subscription** | PPC, HTSO | 60 days, but the revenue begins since the validation time | G |

## Greece – Thessaly Region

## 8. Main Milestones in the authorization process

| Milestone | Main responsibility | Ref. in scheme |
|---|---|---|
| **Electrical (grid connection) feasibility** | PPC | A |
| **Administrative authorizations' achievement** | Municipality, region or RAE | B, C |
| **Plant completion (successfully tested)** | Owner | D |
| **Plant connection to electric grid** | Owner, PPC, HTSO, Customs Agency | E, F, G |

# Greece – Thessaly Region
## 9. Criticalities

**PHASE A**

1. **Availability of Electrical network and electrical power lines**

   It is important firstly to investigate if the installation area isn't characterized as saturated for electrical network by the PPC. After that check the availability of the electrical power lines, low voltage for plants to 100 Kw and medium for up to 100 Kw, and also the distance between the power lines and the photovoltaic plant, because in some cases a new power line must be designed, authorized and built. In these cases you have to collaborate with PPC and you also have to spend money and time.

**PHASE B**

1. **Authorization requests and Environmental term approval**

   The land for photovoltaic installation should not be in a national park or in an area declared forest land or protected habitats and environmentally protected areas, respectively. Furthermore, unsuitable parcels are located in areas where the Housing Control Zone (EEZs) has banned the construction of PV plants. Problems arise, also because of the incompatibility between archaeological legislation and the Renewable Energy legislation. All this make difficult the authorization from municipality or region and would be needed a lot of time and papers to succeed the approval with special terms of course

**PHASE C**

1. **Documentation preparation**

   Special attention must be given to documentation preparation in order to not fail the fulfillment of Regional and local commissions requests. This can result in additional integration requested by the Regional commission introducing further delays

**PHASE D**

1. **Consideration of area and photovoltaic company**

   The installation area must have South orientation without shadows and not passes through by watercourse at winder also must know that rocky ground

needs more time for preparation. Because of the high growth of photovoltaics a lot of companies raised, so you have to search for reliable company and equipment, to see some of their projects in order to success quick and right installation.

**PHASE E**

1. **Energy provider (PPC) or HTSO connection congestion**

   At the end of the installation phase, it is important to promptly start the connection phase. This includes the validation and tuning of the measurements' equipments', of the protections apparatus, the complete validation of the plant. The local customs agency must be involved in order to sign the registers, to tune the measurement equipments. It is important to find an agreement with the local offices in order to speed up the process. In this period of time, a final check for the entire documentation prepared could save a lot of time.

# Greece – Thessaly Region
# 10. Financial taxation and VAT regime

**I.- CORPORATE TAX and INCOME TAX**

Local Municipalities are not in the status of the deduction of 3% tax when they are connected to the grid for sale, as other producers of renewable energy.

**II.- VALUE-ADDED TAX (V.A.T.):**

| **OUTPUT V.A.T.** | **INPUT V.A.T.** |
|---|---|
| PV producer will pass on a 23% percent V.A.T. in the bills issued for the sale of electricity to the distribution company. | The promoter and photovoltaic installer issued a series of invoices from the photovoltaic producer shall receive payment for the installation and maintenance costs, thereby supporting a V.A.T 23%. |
| **OUTPUT V.A.T. MINUS INPUT V.A.T.** | **V.A.T. REFUND** |
| PV producer accounting incorporates all invoices received, analyzing INPUT V.A.T. and OUTPUT V.A.T. each quarter. | PV producer, once started his business, and accounting purposes to verify INPUT V.A.T., is far superior to OUTPUT V.A.T., may request the State Agency for Tax Administration, the V.A.T. refund. |

**III.- SPECIAL TAX AS ELECTRIC FACTORY:**

"The producers of electrical energy from photovoltaic systems are exempt from payment of the special tax".

**IV.- OPTIONAL BONUS BY THE TOWN COUNCIL TO ACTIVITIES AND SYSTEMS FOR UTILIZATION OF THERMAL OR ELECTRICAL ENERGY FROM THE SUN.**

A) ACTIVITY TAX:

There is no bonus to property tax.

B) TAX ON BUILDINGS, FACILITIES:

Up to 100% of Tax on construction and panels.

The tax is paid during the construction phase and after a procedure with the tax agency all the amount of tax money get back to the producer.

C) PROPERTY TAX

There is no bonus to property tax.

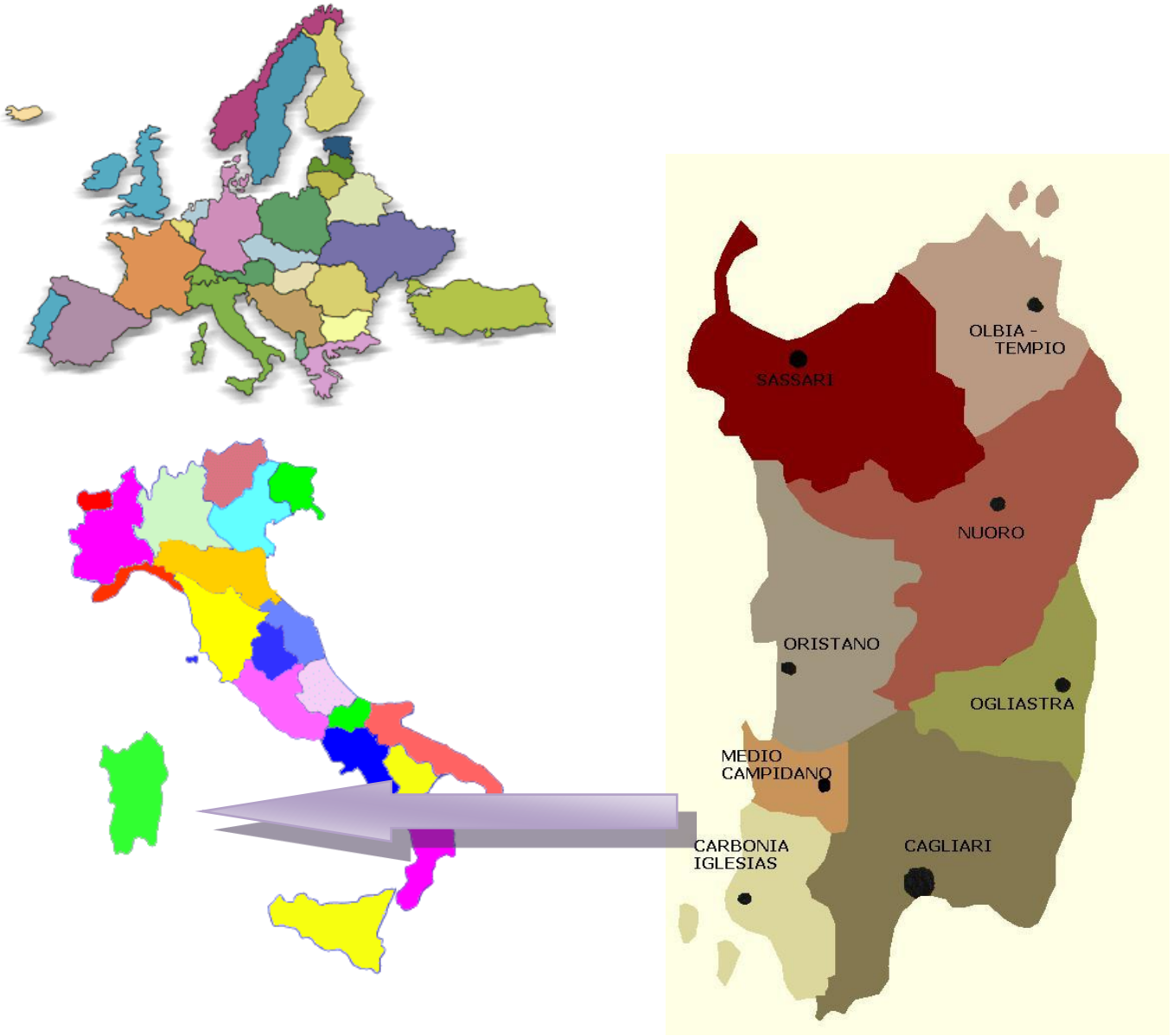
## Greece – Thessaly Region

## 11. Local point of information & support promoted by PVs In Bloom

| Municipal Development Company of Milies<br>( Tel +30 24230 86204 Fax +30 24230 86892)<br>Where to find helpful contacts for PVPP implementation | | |
|---|---|---|
| **Konstantinos Lampadaris** | **Project Manager PVs in BLOOM** | **klampadaris@mailbox.gr**<br>**Tel. +30 24230 22937** |
| **Dimitris Paralikis** | **Senior advisor PVs in BLOOM** | **dparalikis@yahoo.gr**<br>**Tel. +30 24210 27922** |
| **George Agrigiannis** | **Expert PVs in BLOOM** | **gagrig@eapilio.gr**<br>**Tel. +30 24210 78391-5** |

# Italy – Sardinia Region

## Italy – Sardinia Region
## 1. Localization



## Italy – Sardinia Region
## 2. General overview on PVPP authorization procedures

The authorization process on photovoltaic power plants in the Sardinia Region is based essentially on the fulfillment by the owner of the plant of the requests stated by : -the Unique Authorization (Regional), -the Italian Electric Company (as ENEL); -the authority for the electric services (GSE).

Before starting the construction process of a PV electric power plant, several authorizations and requirements must be fulfilled.

The very first action for implementing the project must be the request for the connection with the existing power grid to ENEL: during this phase, a design of the plant must be provided to the Italian Electric Company. With these details, the electric company evaluates the best solution for the insertion of the electric power in the existing grid. The solution can be extremely easy (in the case of enough existing power lines available) or more sophisticated (new lines must be provided). In the first case the electric company analyzes the situation and it computes the link costs on the electric grids. In the other case the realization of the new line must be realized by the owner of the PV plant.

The cost of this operation varies depending on the Power installed as shown above:

| **Power (kW)** | **Budget Cost** |
|---|---|
| Under 50 kW | 120 Euros |
| Between 50 and 100 kW | 240 Euros |
| Between 100 and 500 kW | 600 Euros |
| Between 500 and 1000 kW | 1800 Euros |
| Over 1000 kW | 3000 Euros |

The result is a relation about the “minimal technical solution”, which is necessary for the PV plant installation and for the “Unique Authorization”.

At the same time, an authorization must be obtained from the public administration.

1. For a low power level: a power plant with dimension below 20 kWp in the territory of a single municipality placed on the roof (with the exclusion of bound areas);

   In this case, a dispatch in low voltage (380V) can be used and it's enough a simple communication to the municipality offices.

2. For a low power level: a power plant with dimension below 20 kWp in the territory of a single municipality placed on other sites ; in this case the authorization must be given from the local administration (the municipality offices).

3. For every power level: a power plant in the territory of a single municipality placed in existing buildings without modification of the roof profile; in this case a simple communication must be given to the local administration (the municipality offices).

4. For a low power level: a power plant with dimension under 20kWp placed on the ground ; in this case the authorization must be given from the local administration (the municipality offices).

5. For a medium and high power level: a power plant with dimension over 20kWp placed on the ground; in this case the authorization must be given from the regional administration (the Unique Authorization). In this case, a dispatch in low or high voltage can be used but the authorization must be given directly from the Regional Administration with the “Unique Authorization” .This process generally requires an Environmental Impact Assessment and an high number of bodies must be involved in the authorization process. The documents requested are, beyond the “minimal technical solution”: the financial assurance to guarantee the recovery work area at the end of the plant life and the attestation of financial institution to the PV plant project realization.

In the very final process of the authorization, a definitive design of the entire plant must be provided to ENEL and the GSE in order to connect the plant to the existing grid. All the costs of the procedures and materials required to achieve the complete procedure are to be incurred from the owner of the plant.

## Italy – Sardinia Region
## 3. Applicable Feed in Tariff

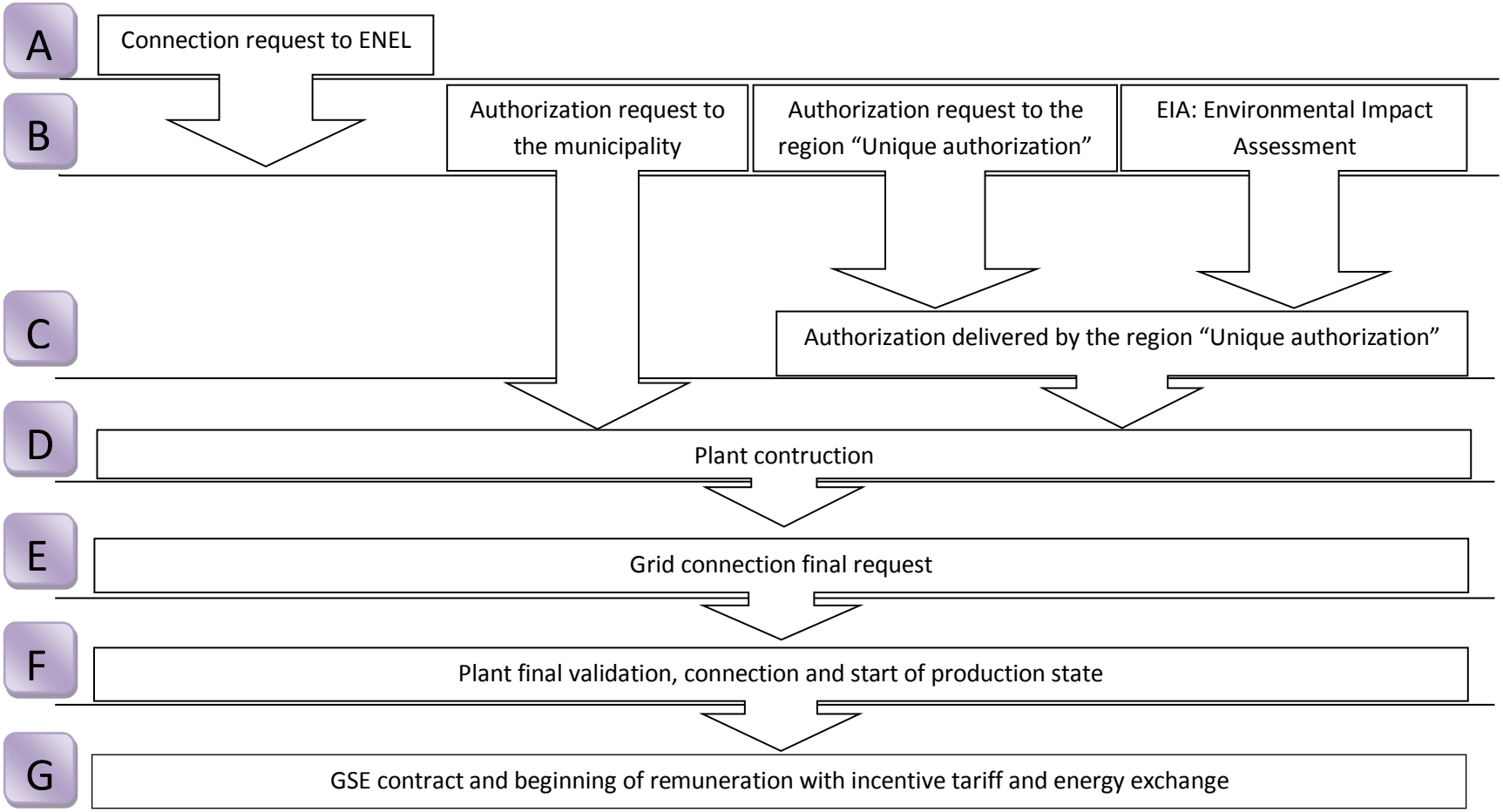
| Italian Feed-In Tariff for 2011 | | | | | | |
|---|---|---|---|---|---|---|
| Plant Power Intervals | January, 1– April, 30 2011 | | May, 1 – August, 30 2011 | | September, 1 - December, 31 2011 | |
| | Installations on the roof | Ground installations | Installations on the roof | Ground installations | Installations on the roof | Ground installations |
| kW | €/kWh | €/kWh | €/kWh | €/kWh | €/kWh | €/kWh |
| 1≤P≤3 | 0,402 | 0,362 | 0,391 | 0,347 | 0,380 | 0,333 |
| 3≤P≤20 | 0,377 | 0,339 | 0,360 | 0,322 | 0,342 | 0,304 |
| 20≤P≤200 | 0,358 | 0,321 | 0,341 | 0,309 | 0,323 | 0,285 |
| 200≤P≤1000 | 0,355 | 0,314 | 0,335 | 0,303 | 0,314 | 0,266 |
| P>1000 | 0,351 | 0,313 | 0,327 | 0,289 | 0,302 | 0,264 |

| Italian Feed-In Tariff for 2012 -2013 | | | | |
|---|---|---|---|---|
| Plant Power Intervals | 2012 | | 2013 | |
| | Installations on the roof | Ground installations | Installations on the roof | Ground installations |
| kW | €/kWh | €/kWh | €/kWh | €/kWh |
| 1≤P≤3 | 0,357 | 0,313 | 0,336 | 0,294 |
| 3≤P≤20 | 0,321 | 0,286 | 0,302 | 0,269 |
| 20≤P≤200 | 0,304 | 0,268 | 0,285 | 0,252 |
| 200≤P≤1000 | 0,295 | 0,250 | 0,277 | 0,235 |
| P>1000 | 0,284 | 0,248 | 0,267 | 0,233 |

The Italian FIT (Conto Energia III Approved in July 2010 (Unified Conference State-Regions) and published in the O.J.: 24 August 2010 (Gazzetta Ufficiale), foresees also premiums for:

- PV systems associated to efficient use of energy (max + 30% on the awarded tariff)
- **PV systems in commercial, industrial or degraded areas (+5% on the awarded tariff)**
- PV Systems for Municipalities with less than 5000 inhabitants (+5% on the awarded tariff)
- PV used in substitution of asbestos roofs and covers (+10% on the awarded tariff)
- PV systems allowing predictable input (+20% on the awarded tariff)

## Italy – Sardinia Region
## 4. Authorization scheme for grid connected PVPPs



## Italy – Sardinia Region
## 5. Legislative documents

| Document | Issued by | Date of issue | Main topics | Rif. In scheme |
|---|---|---|---|---|
| **DGLS 387/2003** | Italian Government | 19-12-2003 | General norms on the administrative procedures for RES plants authorizations | A,B,C. |
| **L. 7/8/1990 n.241** | Italian Government | 7-08-1990 | Details for application of unified procedure for RES authorization | A,B,C |
| **Region Resolution 25/40 of 1/07/2010** | Sardinia | 2010 | Guidelines for RES and photovoltaic plants | A,B,C |
| **2009/28/EU** | Europe | 2009 | Directive on simplification of authorization procedure for RES | A,B,C |
| **Acting Aeeg nr. 99/08, – Integrated Text of active connections (Tica).** | Italian Government | 23-7-2008 | Technical conditions, regulations and clarifications concerning grid connection | A,E |
| **Decree Law 6 August 2010 . Photovoltaic new incentive for Energy production** | Italian Government | 6-10-2010 | New feed in tariff for period 2011-2013 | |

## Italy – Sardinia Region
## 6. Institutions involved

| Institution | Dept./Office | Ref. in scheme |
|---|---|---|
| **ENEL (province)** | Energy Dispatch | A, E, F |
| **Municipality** | Private Building dept. | B |
| **Sardinia Region** | Regional Office (for service conference and Environmental Impact Assessment) | B |
| **Sardinia Region** | Urban office | B,C |
| **GSE (Italian Energy Service)** | Photovoltaic “feed in tariff” office | G |

## Italy – Sardinia Region

## 7. Standard or foreseen durations of intermediate phases

| Phase | Institutions | Duration | Ref. in scheme |
|---|---|---|---|
| **Connection request** | ENEL | 45 days<br>(standard) | A |
| **Plant authorization (<20kWp)** | Municipality | 30 days<br>(foreseen) | B |
| **Plant authorization-screening (>20kWp)** | Region | 90 days<br>(foreseen) | B |
| **VIA (Env. Impact Assessment)** | Region | 180 days | B |
| **Public expositions (BUR)** | Region | 30 days | C |
| **Plant construction** | Owner | It depends on size and type | D |
| **Grid connection** | ENEL, Customs Agency | 30/45/60 days<br>it depends on power | F |
| **GSE subscription** | GSE | 60 days, but the revenue begins since the validation time | G |

## Italy – Sardinia Region

## 8. Main Milestones in the authorization process

| Milestone | Main responsibility | Ref. in scheme |
|---|---|---|
| **Electrical (grid connection) feasibility** | ENEL | A |
| **Administrative authorizations' achievement** | Municipality or region ( up to 13 different organisms involved) | B, C |
| **Plant completion (successfully tested)** | Owner | D |
| **Plant connection to electric grid** | Owner, ENEL, GSE, Customs Agency | E, F, G |

# Italy – Sardinia Region
## 9. Criticalities

**PHASE A**

1. **There are local constraints in the municipality in order to install PVPP**

   It is important to investigate if in the local administration there are constraints in order to install big power plants or if there are limits regarding the classification of the lands that could affect the PVPP. In this case there are no possibilities to find a solution and another place must be chosen. In fact, this criticality should be considered first of all (even before the ENEL request).

2. **The electrical power line is not yet available for the amount of power requested.**

   In these cases, a new power line must be designed, authorized and built. This can represent an increment of job only in Medium Voltage lines. In fact, for the low voltage lines, they are automatically authorized and the installation must be done by ENEL.
   For the Medium voltage, there is a regional law (L.R. n° 43/1989 art. 8) that provides what to do in this case: the realization of a document for the Productive Activities Office . It includes all the projects needed for the ENEL, Province, Regional Office environment (ARPAS), Navy and Air Force command (4 requests) and Ministry of Economic Development and Communications authorizations. The authorization request must be sent to the others offices involved, e.g. if the line crosses the railways and highways. This can require up to 30 days for the documentation, up to 90 days for the approval and 30 days for the public exhibition of the results. This involves authorizations for the constructions and for the maintenance of the line. After that the construction process of the line can start.

3. **The "unique Authorization" procedure is very expensive for the PV plants owner**

   The procedure for the PV plant build authorization involves 8 public institutions and others 15 that it depends by the area in which the plant will born. Many of these offices haven't the staff trained to know how work the unique authorization. In many cases, the procedure for the authorization has been blocked by staff of the municipalities involved.

**PHASE B**

1. **<u>There are constraints on the utilization of the surface for the PVPP.</u>**

   If there are environmental constraints, urban destination limits, or other limits, it is important to explore them and to visit the appropriate offices. The regional authority can request a EIA or additional explorations and documentation in order to realize the service conference where all the authorities involved in the authorization will be joint together and must give their consent or refuse the construction of the plant. It is important to visit previously the municipality offices in order to explore if there are such limits or not.

**PHASE C**

1. **<u>Too hasty submission of the request for VIA screening</u>**

   Land owners often require screening procedure to determine by the competent organs of the Region if the project is likely to be subject to EIA.

   Too much self trust or the will to push luck make sometime PVPP designers to improperly design the inclusion of the PVPP plant in the territorial context. If this is the case, several months could be lost to reiterate the EIAprocess.

2. **<u>Submission of incomplete documentation or not sufficiently exhaustive to overcome environmental assessments</u>**

   Special attention must be given to documentation preparation in order to not fail the fulfillment of Regional and local commissions requests. This can result in additional integration requested by the Regional commission introducing further delays.

**PHASE D**

1. **<u>Weather considerations</u>**

   Very often, some plants or installation techniques, require well defined procedures, timings and climate conditions. These things must be considered especially when the practical activities follows a critical authorization path in order to avoid the necessity to waste up to one year waiting for optimal installation conditions (examples could be some glues over the roofs, wet days for installation over a grass or laminations pools, etc…).

**PHASE E**

1. **<u>Energy provider (ENEL) or Customs Agency connection congestion</u>**

At the end of the installation phase, it is important to promptly start the connection phase. This includes the validation and tuning of the measurements' equipments', of the protections apparatus, the complete validation of the plant. The local customs agency must be involved in order to sign the registers, to tune the measurement equipments. It is important to reach an agreement with the local offices in order to speed up the process.

In this period of time, a final check for the entire documentation prepared could save a lot of time.

2. **Administrative energy provider details**

Usually, especially for big total- selling plants, the owner must inject the power into the grid at medium voltage rate (20kV). This includes a transformer with very high power. This transformer usually draws energy **from the grid** during the inactivity periods of the PVPP. This energy must be bought from the energy provider and an appropriate contract must be done. It is important to perform this activity with a high level of attention because some mistake could affect the entire parallel process. The most important thing is to properly evaluate the amount of power required and to realize the contract using the same POD number as the total-sell connection as assigned by ENEL in the connection reply in phase A.

**PHASE F**

1. **Energy measurements**

Especially with big plants that uses a big power transformer to rise the voltage to 20kV, the incentive tariff measurer could be installed in between the converters and the transformer. This allows to be rewarded even on the losses on the transformer. This introduces a criticality: the measurements must be done by the owner of the plant and another set of equipments must be installed and the readings must be inserted manually on the GSE portal. All these measures must be performed using certified and calibrated meters. The calibration must be performed every two years by the local custom agency.

## Italy – Sardinia Region
## 10. Financial taxation and VAT regime

The financial taxation and VAT regime is as described by the VENETO REGION. In brief:

Financial taxation and VAT regime for the installation of photovoltaic power plants depends on the entity of the legal person.

If the producer is a company which it creates a “Electric works”:

- The Power plant installation is subject to the VAT regime, which is the 10% of the full cost.
- During the Photovoltaic production, the incentive received by the user is not subject to financial taxation. The Internal Revenue Service (with the n°46/E document of 19/07/2007) has determined that the incentive is technically a fee to cover the initial investment and therefore is not subject to any tax. The same situation is about the VAT regime.

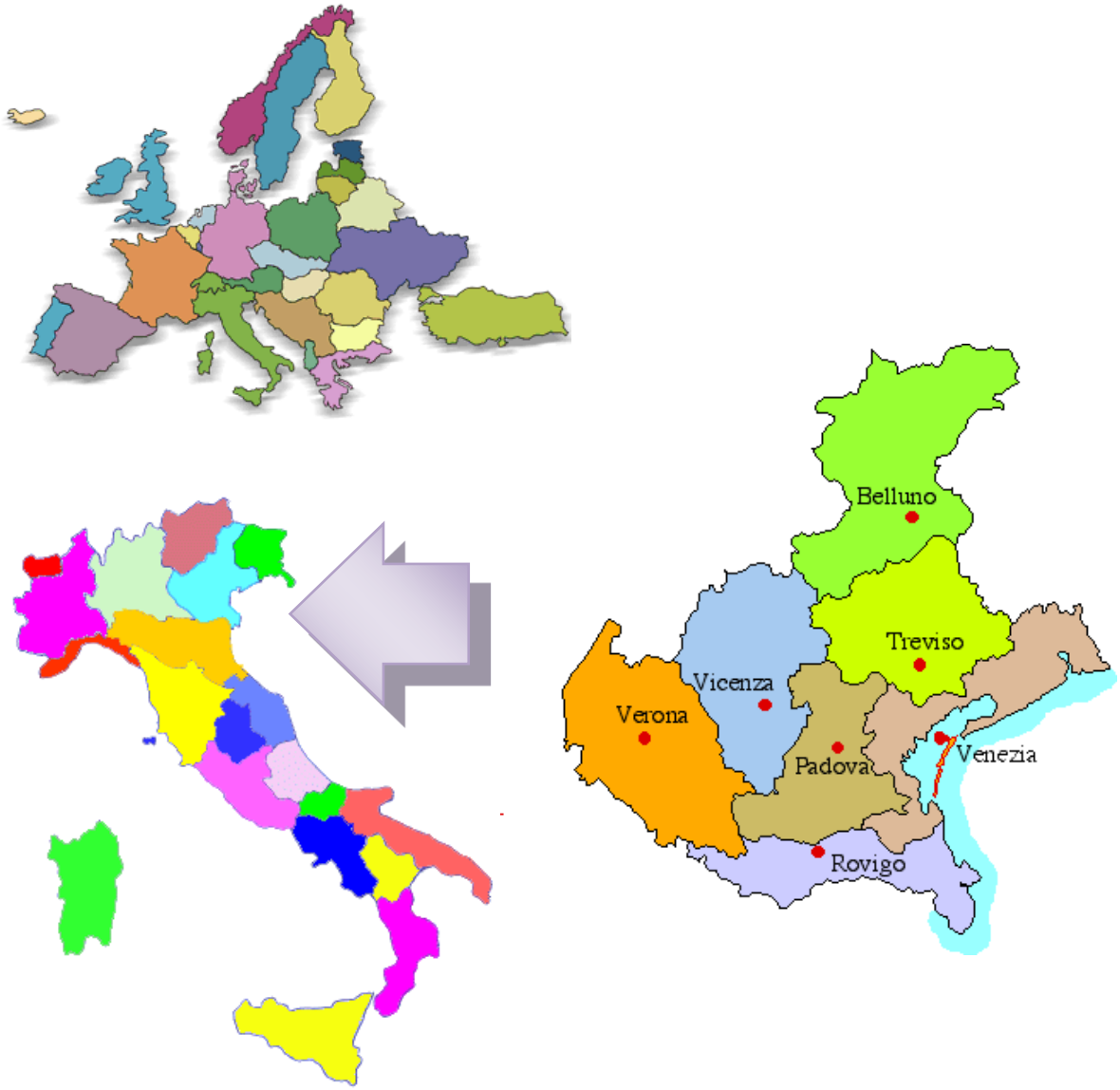
## 11. Local point of information & support promoted by PVs In Bloom

| **Multiss S.p.A. - Punto Energia Provincia di Sassari**<br>**( Tel +39 079 3026029 Fax +39 079 3026212 )**<br>**Where to find helpful contacts for PVPP implementation** | | |
|---|---|---|
| **Rassu Giovanni Antonio** | **Senior advisov PVs in BLOOM** | **direttore@puntoenergiass.com**<br>**Tel. +39 079 3026029** |
| **Vinicio dr. Eng. Demurtas** | **Area Manager PVs in BLOOM** | **vinicio.demurtas@multissspa.com**<br>**Tel. +39 079 3026029** |

# Italy – Veneto Region

## Italy – Veneto Region

## 1. Localization



# Italy – Veneto Region
## 2. General overview on PVPP authorization procedures

The authorization process on photovoltaic power plants in the Veneto Region is based essentially on the fulfillment by the owner of the plant of the requests stated by : -the administrative offices(Regional and local), -the Italian Electric Company (ENEL); -the authority for the electric services (GSE).

Before starting the construction process of an electric power plant with a peak power in the range 50kWp – 10 MWp, several authorizations and requirements must be fulfilled.

The very first action for implementing the project must be the request for the connection with the existing power grid to ENEL: during this phase, a design of the plant must be provided to the Italian Electric Company. With these details, the electric company evaluates the best solution for the insertion of the electric power in the existing grid. The solution can be extremely easy (in the case of enough existing power lines available) or more sophisticated (new lines must be provided).

At the same time, a three level of complexity authorization must be obtained from the public administration.

1. For a low power level: a power plant with dimension below 200kWp in the territory of a single municipality;
   In this case, a dispatch in low voltage (380V) can be used and the authorization can be given from the local administration (the municipality offices) directly.

2. For a medium power level: a power plant with dimension 200kWp – 1MWp in a single municipality territory;
   In this case it is required to build a medium voltage dispatch (20kV) but the authorization can be given directly with a building permission requested to the local administration (Municipality).

3. For the upper power level: a power plant of dimension above 1MWp in the territory of a single or more municipalities;
   In this case it is required to build a medium voltage dispatch (20kV) but the authorization can be given directly with a mechanism called “Unique Authorization” given by the regional authority. This process generally requires an Environmental Impact Assessment and an high number of bodies must be involved in the authorization process.

In the very final process of the authorization, a definitive design of the entire plant must be provided to ENEL and the GSE in order to connect the plant to the existing grid.

All the costs of the procedures and materials required to achieve the complete procedure are to be incurred by the owner of the plant.

## Italy – Veneto Region

## 3. Applicable Feed in Tariff

| Italian Feed-In Tariff for 2011 | | | | | | |
|---|---|---|---|---|---|---|
| Plant Power Intervals | January, 1– April, 30 2011 | | May, 1 – August, 30 2011 | | September, 1 - December, 31 2011 | |
| | Installations on the roof | Ground installations | Installations on the roof | Ground installations | Installations on the roof | Ground installations |
| kW | €/kWh | €/kWh | €/kWh | €/kWh | €/kWh | €/kWh |
| 1≤P≤3 | 0,402 | 0,362 | 0,391 | 0,347 | 0,380 | 0,333 |
| 3≤P≤20 | 0,377 | 0,339 | 0,360 | 0,322 | 0,342 | 0,304 |
| 20≤P≤200 | 0,358 | 0,321 | 0,341 | 0,309 | 0,323 | 0,285 |
| 200≤P≤1000 | 0,355 | 0,314 | 0,335 | 0,303 | 0,314 | 0,266 |
| P>1000 | 0,351 | 0,313 | 0,327 | 0,289 | 0,302 | 0,264 |

| Italian Feed-In Tariff for 2012 -2013 | | | | |
|---|---|---|---|---|
| Plant Power Intervals | 2012 | | 2013 | |
| | Installations on the roof | Ground installations | Installations on the roof | Ground installations |
| kW | €/kWh | €/kWh | €/kWh | €/kWh |
| 1≤P≤3 | 0,357 | 0,313 | 0,336 | 0,294 |
| 3≤P≤20 | 0,321 | 0,286 | 0,302 | 0,269 |
| 20≤P≤200 | 0,304 | 0,268 | 0,285 | 0,252 |
| 200≤P≤1000 | 0,295 | 0,250 | 0,277 | 0,235 |
| P>1000 | 0,284 | 0,248 | 0,267 | 0,233 |

The Italian FIT (Conto Energia III Approved in July 2010 (Unified Conference State-Regions) and published in the O.J.: 24 August 2010 (Gazzetta Ufficiale), foresees also premiums for:

- PV systems associated to efficient use of energy (max + 30% on the awarded tariff)
- **PV systems in commercial, industrial or degraded areas (+5% on the awarded tariff)**
- PV Systems for Municipalities with less than 5000 inhabitants (+5% on the awarded tariff)
- PV used in substitution of asbestos roofs and covers (+10% on the awarded tariff)
- PV systems allowing predictable input (+20% on the awarded tariff)

* Italy has maintained, since the introduction of the FIT scheme, one of the most attractive FIT schemes in Europe, that ensured the economic viability of PV projects. On the 3rd of March 2011 however, the Italian Government has approved a new Act on Renewable Energies, the so called "Decree Romani". The measure isn't a resolute cut of the Tariffs as feared by many Italian and foreign stakeholders, but it does entail a reduction of the incentives and a certain degree of uncertainty. From the 1st of June 2011 in fact, the FIT system will be governed by an ad-hoc decree that has to be adopted by the government before the 30th of April 2011 and will determine, among others:

- an annual ceiling to the supportable electric power
- the reduction of tariffs according to the reduction of costs of technologies and plants and of the FIT systems in force in the EU
- different tariffs according to the type of areas interested by the installation.

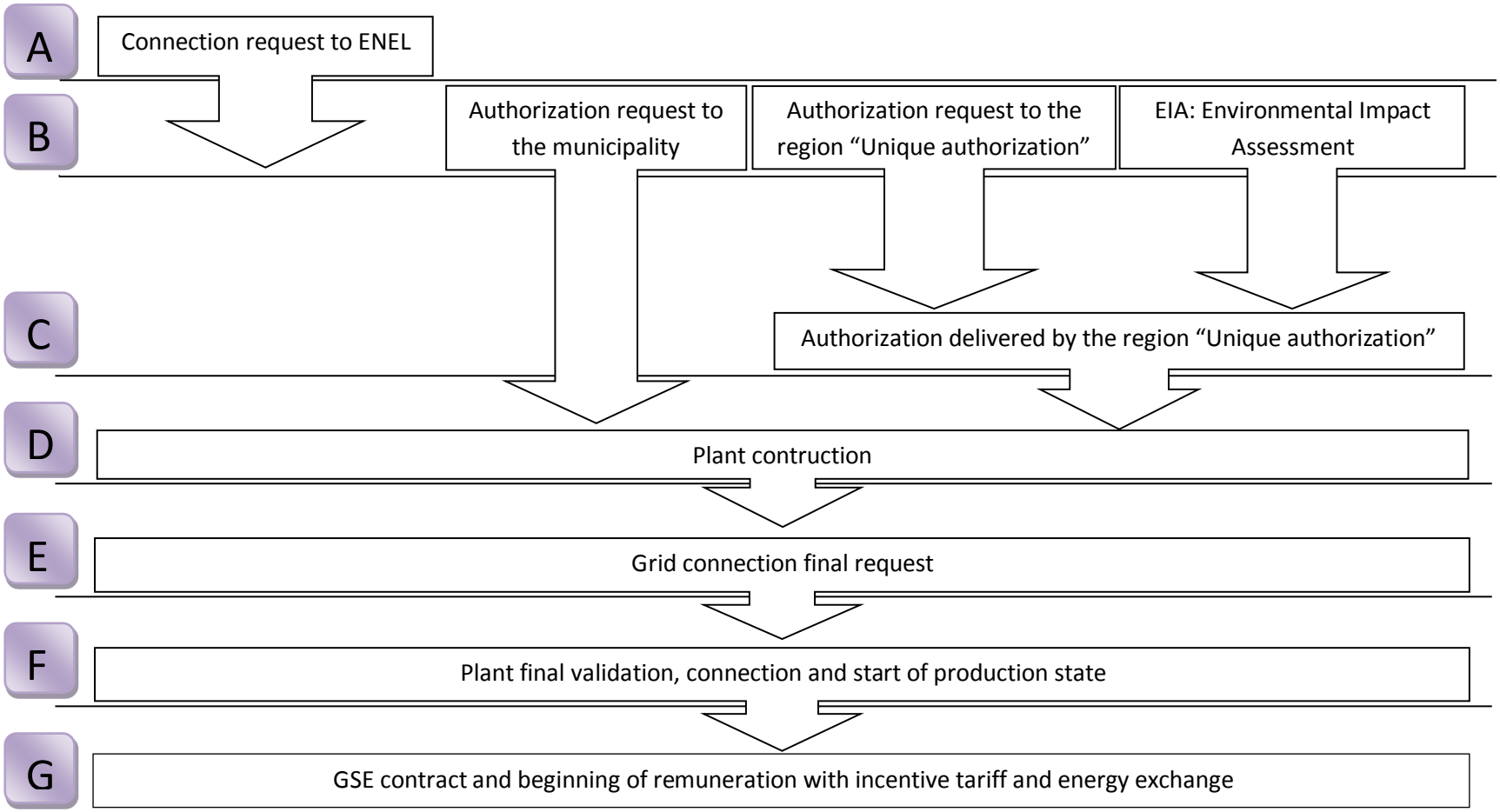
The Attachment 2 to the Decree dedicated to "Technical specifications of RES plants for having access to national incentives" establishes that PV plants can receive the FIT as long as they comply with the following conditions:

- the components of the plant respect the minimum technical requirements foreseen by the provisions regulating the FIT granting criteria;
- from a year after the enforcement of this Decree the modules are guaranteed for at least 10 years.

The Decree Romani actually means that the FIT scheme provided above could vary starting from June 2011. The specific changes are not however known yet, and clarifications will be linked to the introduction of the ad-hoc decree that has to be adopted by the government before the 30th of April 2011.

## Italy – Veneto Region

## 4. Authorization scheme for grid connected PVPPs



# Italy – Veneto Region
## 5. Legislative documents

| Document | Issued by | Date of issue | Main topics | Rif. In scheme |
|---|---|---|---|---|
| **DGLS 387/2003** | Italian Government | 19-12-2003 | General norms on the administrative procedures for RES plants authorizations | A,B,C. |
| **L. 7/8/1990 n.241** | Italian Government | 7-08-1990 | Details for application of unified procedure for RES authorization | A,B,C |
| **Region Law 10/2010** | Veneto region | 2010 | Authorization and incentives for photovoltaic plants | A,B,C |
| **2009/28/EU** | Europe | 2009 | Directive on simplification of authorization procedure for RES | A,B,C |
| **Acting Aeeg nr. 99/08, – Integrated Text of active connections (Tica).** | Italian Government | 23-7-2008 | Technical conditions, regulations and clarifications concerning grid connection | A,E |
| **Decree Law 6 August 2010 . Photovoltaic new incentive for Energy production** | Italian Government | 6-10-2010 | New feed in tariff for period 2011-2013 | |

## Italy – Veneto Region

## 6. Institutions involved

| Institution | Dept./Office | Ref. in scheme |
|---|---|---|
| **ENEL (province)** | Energy Dispatch | A, E, F |
| **Municipality** | Private Building dept. | B |
| **Veneto Region** | EIA (Environmental Impact Assessment) Dept. | B |
| **Veneto Region** | Urban office | B, C |
| **GSE (Italian Energy Service)** | Photovoltaic "feed in tariff" office | G |

## 7. Standard or foreseen durations of intermediate phases

| Phase | Institutions | Duration | Ref. in scheme |
|---|---|---|---|
| **Connection request** | ENEL | 45 days<br>(standard) | A |
| **Plant authorization (<1MWp)** | Municipality | 60 days<br>(foreseen) | B |
| **Plant authorization-screening (>=1MWp)** | Region | 90 days<br>(foreseen) | B |
| **EIA (Env. Impact Assessment)** | Region | 180 days | B |
| **Public exhibitions (BUR)** | Region | 30 days | C |
| **Plant construction** | Owner | It depends on size and type | D |
| **Grid connection** | ENEL, Customs Agency | 30/45/60 days<br>it depends on power | F |

## Italy – Veneto Region

## 8. Main Milestones in the authorization process

| Milestone | Main responsibility | Ref. in scheme |
|---|---|---|
| **Electrical (grid connection) feasibility** | ENEL | A |
| **Administrative authorizations' achievement** | Municipality or region (up to 13 different organisms involved) | B, C |
| **Plant completion (successfully tested)** | Owner | D |
| **Plant connection to electric grid** | Owner, ENEL, GSE, Customs Agency | E, F, G |

# Italy – Veneto Region
## 9. Criticalities

**PHASE A**

1. **There are local constraints in the municipality in order to install PVPP**

   It is important to investigate if in the local administration there are constraints in order to install big power plants or if there are limits regarding the classification of the lands that could affect the PVPP. In this case there are no possibilities to find a solution and another place must be chosen. In fact, this criticality should be considered first of all (even before the ENEL request).

2. **The electrical power line is not yet available for the amount of power requested.**

   In these cases, a new power line must be designed, authorized and built. This can represent an increment of job only in Medium Voltage lines. In fact, for the low voltage lines, they are automatically authorized and the installation must be done by ENEL.

   For the Medium voltage and only if the line must cross more than one territory, there is a regional law (L24/1997) that states what to do in this case: a project for the line must be prepared by the owner, presented to ENEL for a first approval, sent to the region and to 13 different offices (military, aeronautic, communication minister, etc…) for their agreement on this job. This can require up to 30 days for the documentation, up to 60 days for the regional approval and 30 days for the public exhibition of the results. This involves authorizations for the constructions and for the maintenance of the line. After that the construction process of the line can start. If the line can exist on only one municipality territory, the municipal authority can approve the job (only with the approval of the 13 different offices and without the region).

3. **Land owners limit in order to build the power line to connect the PVPP to the grid**

   If a new power line must be built and the track is to be designed over different owners' lands, it is important to reach an agreement in order to speed-up the ENEL procedure. If such agreement can't be reached, a new track must be designed and some time could be wasted.

**PHASE B**

1. **<u>There are constraints on the utilization of the surface for the PVPP.</u>**

   If there are environmental constraints, urban destination limits, or other limits, it is important to explore them and to visit the appropriate offices. The regional authority can request a Environmental Impact Assessment or additional explorations and documentation in order to realize the service conference where all the authorities involved in the authorization will be joint together and must give their agreement or refuse the construction of the plant. It is important to visit previously the municipality offices in order to explore if there are such limits or not.

**PHASE C**

1. **<u>Too hasty submission of the request for environmental impact assessment screening</u>**

   Land owners often require screening procedure to be determined by the competent organs of the Region if the project is likely to be subject to EIA.

   Too much self trust or the will to push luck make sometime PVPP designers to improperly design the inclusion of the PVPP plant in the territorial context. If this is the case, several months could be lost to reiterate the EIAprocess.

2. **<u>Submission of incomplete documentation or not sufficiently exhaustive to overcome environmental assessments</u>**

   Special attention must be given to documentation preparation in order to not fail the fulfillment of Regional and local commissions requests. This can result in additional integration requested by the Regional commission introducing further delays.

**PHASE D**

1. **<u>Weather considerations</u>**

   Very often, some plants or installation techniques, require well defined procedures, timings and climate conditions. These things must be considered especially when the practical activities follows a critical authorization path in order to avoid the necessity to waste up to one year waiting for optimal installation conditions (examples could be some glues over the roofs, wet days for installation over a grass or laminations pools, etc…).

**PHASE E**

1. **Energy provider (ENEL) or Customs Agency connection congestion**

   At the end of the installation phase, it is important to promptly start the connection phase. This includes the validation and tuning of the measurements' equipments', of the protections apparatus, the complete validation of the plant. The local customs agency must be involved in order to sign the registers, to tune the measurement equipments. It is important to reach an agreement with the local offices in order to speed up the process.

   In this period of time, a final check for the entire documentation prepared could save a lot of time.

2. **Administrative energy provider details**

   Usually, especially for big total- selling plants, the owner must inject the power into the grid at medium voltage rate (20kV). This includes a transformer with very high power. This transformer usually draws energy **from the grid** during the inactivity periods of the PVPP. This energy must be bought from the energy provider and an appropriate contract must be done. It is important to perform this activity with a high level of attention because some mistake could affect the entire parallel process. The most important thing is to properly evaluate the amount of power required and to realize the contract using the same POD number as the total-sell connection as assigned by ENEL in the connection reply in phase A.

**PHASE E**

1. **Energy measurements**

   Especially with big plants that uses a big power transformer to rise the voltage to 20kV, the incentive tariff measurer could be installed in between the converters and the transformer. This allows to be rewarded even on the losses on the transformer. This introduces a criticality: the measurements must be done by the owner of the plant and another set of equipments must be installed and the readings must be inserted manually on the GSE portal. All these measures must be performed using certified and calibrated meters. The calibration must be performed every two years by the local custom agency.

# Italy – Veneto Region
## 10. Financial taxation and VAT regime

The Italian taxation and VAT for the PV field is regulated by the official document 46E/2007. This document contains all the information related to the taxation and the fiscal considerations for the PV field and is entirely based on the Decree 387 12-29-2007 – Art7.2 "**Fiscal aspects regarding PV systems**".

For a complete description of the fiscal aspects, it is be necessary to review that document, since the fiscal aspects are very specific and should be analyzed taking into account the plant owner status (citizen, group of citizens, business activities, etc.).

Summarizing the document, it is possible to distinguish the following specific features of taxation:

**PV Energy produced by natural persons or holders of non-commercial organizations (which do not hold a VAT registration) through PV plants smaller that 20kWp**
Only for plants below 20 kWp and owned by the subjects above mentioned, the electrical energy produced and put into the grid because not consumed by the producer is not subjected to VAT. Anyhow, the Feed In Tariff will be considered in the calculation of the taxes on the income of the natural person or holder, adding up to the other income resources which the tax-payer declares to the Tax Agency.
The amounts received as FIT, will be considered anyhow as a payment and not as a contribution, hence they will not be subjected to the withholding tax of 4% when the money is distributed to the holder from the GSE.

**Energy produced by the holders of a VAT number, by commercial/agricultural entrepreneurs or holders of plants superior to 20kWp, or holders of plants lower than 20 kWp which are not producing energy for the main consumption of the house or premises of the organization linked to the plant**
In this case the production of electrical energy is considered as commercial activity producing income and will be subjected to VAT. The VAT regime is 10% instead of the usual 20% applied to many other commercial activities (according to Resolution 88/E of the Tax Agency).

In any case, the request for receiving the FIT from the GSE must be done once the plant has started operating.

**Surface leasehold for the installation of a ground PV plant**
The right to use a surface (Surface leasehold) is regulated by article 952 of the Italian Civil Code and includes the right of installing and maintaining a construction over or beneath the ground surface owner by a third party. Usually the duration of the leasehold is 30 or 20 years. The leasehold of a surface generates value, which must be subjected to taxes. The taxes will be different according to the kind of beneficiary (could be IRPEF-Regional tax on natural persons, IRES- Regional tax on company income, or Registration tax).

**Municipal tax on buildings (ICI)**

Currently the need to pay or not pay the municipal tax on buildings for a PV plant is controversial in Italy. The orientation today is to consider a PV plant as a “factory”, hence falling within the cadastral category D1. The ICI tax will hence be applied according to the provisions for this cadastral category.

## Italy – Veneto Region

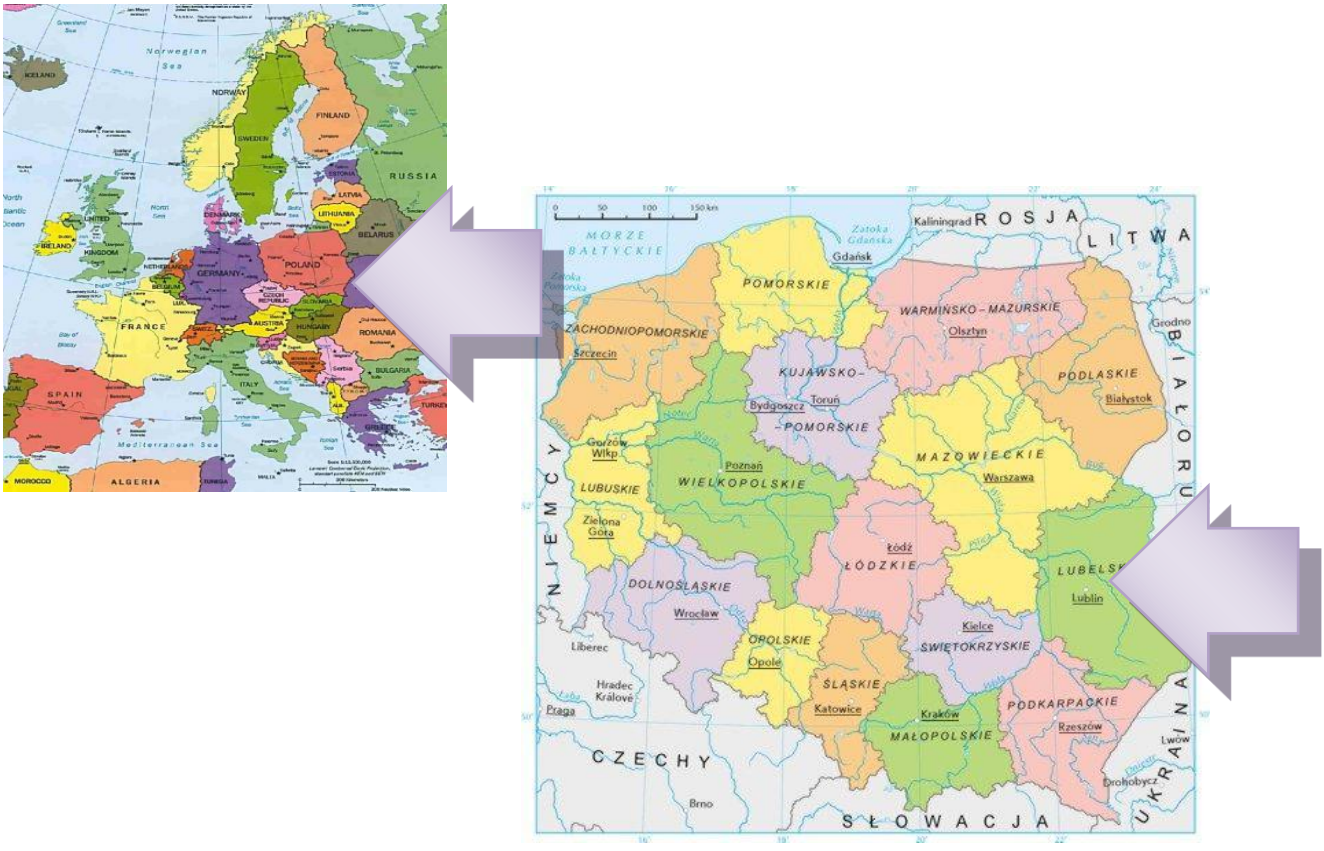
## 11. Local point of information & support promoted by PVs In Bloom

| Unioncamere del Veneto<br>( Tel +39 0410999412 Fax +39 0410999401 )<br>Where to find helpful contacts for PVPP implementation | | |
|---|---|---|
| **Erica dr Holland** | **Project Manager PVs in BLOOM** | **erica.holland@eurosportelloveneto.it**<br>**Tel. +39 041 0999411** |
| **Donato prof ing Bedin** | **Senior advisor PVs in BLOOM** | **dbedin@alice.it**<br>**Tel. +39 041 0999411** |
| **Mauro ing Marani** | **Enea RES Manager (PVPP Technical Working Group)** | **mauro.marani@enea.it**<br>**Tel. +39 041 5226674** |
| **Alessandro ing Chies** | **Representative of "Veneto Municipality Reference Group"** | **alessandro.chies@libero.it**<br>**Mob. +39 348 47 52 936** |
| **Laura dr Speranza** | **"PVPP multiplier" (Invitalia spa)** | **speranzalaura@yahoo.com**<br>**Mob: + 39 349 4629446** |

# Poland – Lublin Region

# Poland – Lublin Region

## 1. Localization



# Poland – Lublin Region

## 2. General overview on PVPP authorization procedures

Poland, is one of the few EU countries that does not provide for the introduction of strategic plans for energy photovoltaic sector. As drafted the document "Polish Energy Strategy to 2030" [6] states that the problem of generating energy using PV does not occur. Furthermore, in Poland there is a strong lobby of carbon, which probably sees competition among manufacturers of renewable energy. Lack of regulations to facilitate investment in RES significantly impedes the process of promoting clean energy technologies.

The Ministry of Economy has realized that the existing support for the development of photovoltaics is not sufficient to potential producers of solar energy. For this reason, the Ministry plans to introduce a series of legislative changes to ensure greater support for the sector. The pillar of the new legal regime for renewable energy will present a new draft law on renewable energy. This will act comprehensively regulating the basic problems connected with the promotion of energy from renewable sources and to ensure this sector an appropriate support system for development. In view of the fact that the technology of photovoltaic cells continue to be considered as innovative, it was not included in the Operational Programme Infrastructure and Environment (POIiŚ), which supports mainly the production of renewable energy technologies that are ready for commercial application on a large scale (such as wind, solar, biogas, hydroelectric). At the same time due to the high interest from environmental producer of renewable energy, the Ministry of Economy helps to broad inclusion of photovoltaic cells in the resources available within POIiŚ. For this purpose, appropriate design changes were made to POIiŚ, which was made in January this year, by the Department of European Funds, who is leading in this regard the Ministry of Economy.

The specific role of financial support for projects related to renewable energy sources in Poland has a National Fund for Environmental Protection and Water Management (NFOŚiGW) and Provincial Funds for Environmental Protection and Water Management (WFOŚiGW). Amendment to the energetic low have foreseen an introduction of the FiT, but at the end no decisions have been made on the governmental level. NFOŚiGW implements program for projects in the renewable energy and high-efficiency cogeneration facilities in which WFOŚiGW provide financial loans to 75% of eligible costs. The program covers the total cost of the project from 0.5 to 10 million zloty. Fixed interest rate of 3% per year, and the financing period lasts for 10 years from payment of the first tranche of the loan.

In addition, Provincial Funds for Environmental Protection and Water Management, allow use of the funding of investments in renewable energy, including energy from photovoltaic cells. Such projects are considered individually in each of WFOŚiGW.

Currently, the main sources for obtaining financial support for the construction of small photovoltaic systems may also be involved in the Regional Operational Programmes of Structural Funds support for the development of solar energy. Such support shall ensure all provinces, except the Lower Silesia.

Another program dealing with EU funds for investments in RES is the Rural Development Programme (PROW). In action 1.2.1 - Modernisation of agricultural companies - assistance is provided, inter alia, for investment in the production and use of renewable energy for the pursuit of agricultural production. The beneficiaries of this action may be either individuals (who have not reached retirement age), legal persons and partnerships engaged in agricultural activities in the production of plants or animals. The aid takes the form of reimbursement of eligible costs of the operation. Action 3.2.1 PROW - Basic services for the rural economy and population - regarding the possibility of financial assistance primarily for projects in the making or distribution of energy from renewable sources, such as the sun. The purpose of this action is to improve the technical infrastructure of the village and contributes to improving living conditions in rural areas. The scope of assistance includes capital costs, in particular: the purchase of materials and execution of construction - assembly, purchasing necessary equipment.

Assistance may be granted for:

- Project in the village belonging to the rural municipality or municipal urban-rural, with the exception of cities with more than five thousand inhabitants or the municipality, excluding villages of over five thousand inhabitants
- Project that satisfy the requirements under existing laws, which apply to this project.

The beneficiaries of the 3.2.1 action may be a municipality or organizational unit for which is organized by the local authority carries out the tasks set out for assistance. The level of assistance from the RDP is a maximum of 75% of the eligible costs of investment, and the maximum amount for projects in the making or distribution of renewable energy in one municipality during the implementation of the program may not exceed 3 000 000 zł. The biggest Polish bank-oriented projects in the wider sense the environment in the renewable energy sources is the Bank of Environmental Protection (BOS SA). This Bank treats specifically investments in renewable energy and provides for the purpose of preferential credits. BOS SA carries a line of credit from the

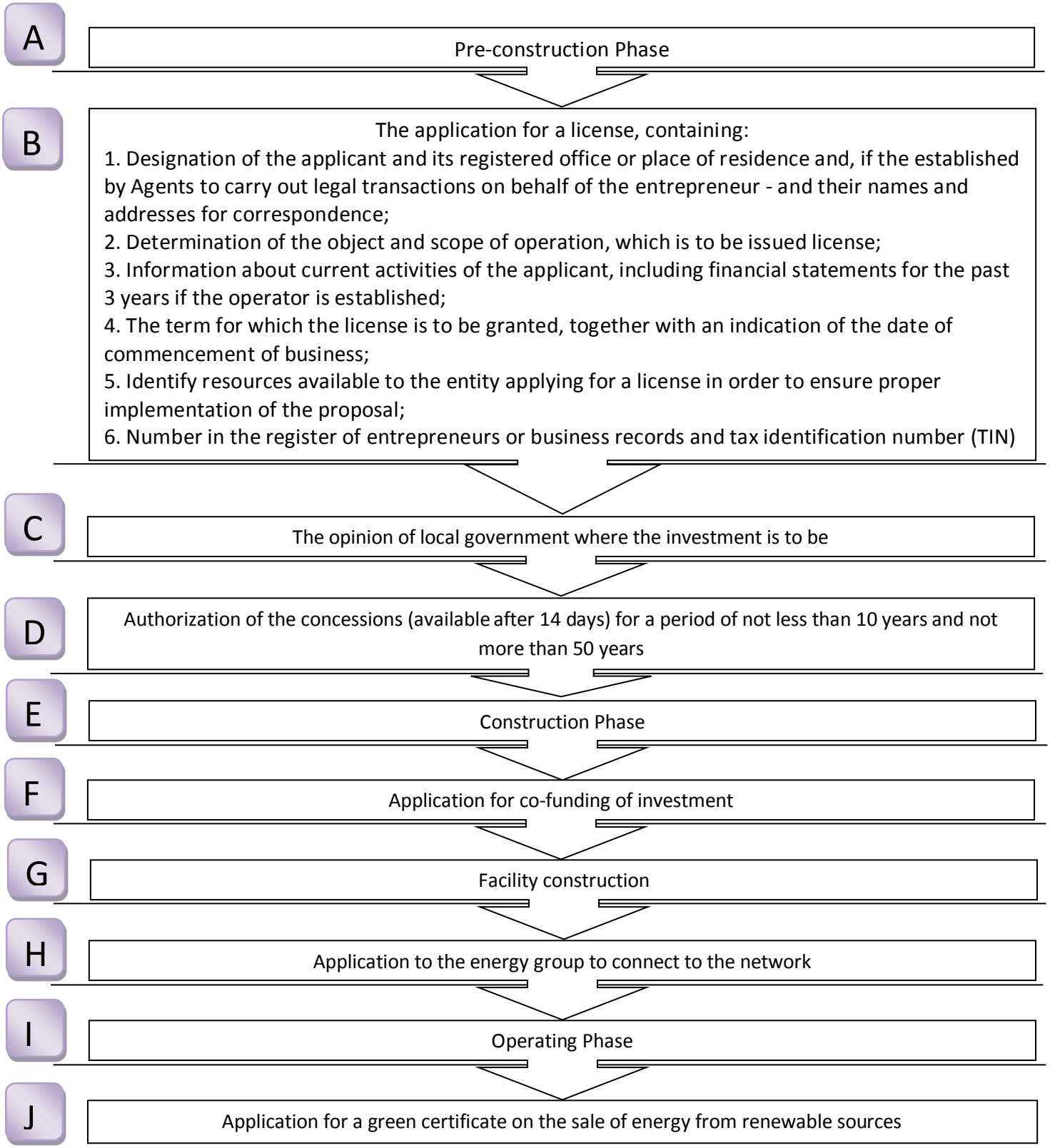
European Investment Bank. Parties authorized to apply for such a loan are all entities that make the investment associated with RES in the sectors of environmental protection and energy efficiency. The object of the credit refers to the investment projects in the sectors of environmental protection, energy efficiency and co-financed projects funded from EU funds. Following in the wake of the existing legislative solutions succeeded in our region to engage the private sector, which is finalizing the construction of formal questions in the pilot farms PV power around 0.5MWp.

## Poland – Lublin Region
## 3. Applicable Feed in Tariff

In most European countries PV industry is developing very dynamically, this is due to the introduction of FIT. In Poland, the lack of this facility is a major hurdle in persuading investors to invest in this sector, because the return of investment time is too long. It should be noted, however, that the action taken by our lobbying team for the project has the positive effect of legislative and administrative solutions. At the national level the Ministry of Economy finally appreciated the potential importance of photovoltaics in the balance of renewable energy by 2020.

## Poland – Lublin Region

## 4. Authorization scheme for grid connected PVPPs



## Poland – Lublin Region
## 5. Legislative documents

| Document | Issued by | Date of issue | Main topics | Ref. in scheme |
|---|---|---|---|---|
| **Resolution of the Council of Ministers nr 202/2009 about the Polish Energy Policy until 2030** | The Council of Ministers RP | 10 November 2009 | - Energy Policy of Poland until 2030<br>- Appendix 1: Assessment of implementation of energy policy from 2005 onwards<br>- Appendix 2: Projection of demand for fuels and energy until 2030<br>- Appendix 3: Action plan for the years 2009–2012<br>- Appendix 4: Conclusions from the strategic environmental impact assessment of energy policy<br>- Report of the results of public consultation the draft Polish Energy Policy until 2030<br>- Strategic Environmental Assessment of Polish Energy Policy until 2030<br>- The list of questions and comments from interested persons and entities during the public consultation<br>- Environmental impact assessment of Polish Energy Policy until 2030 | A - J |

## Poland – Lublin Region

## 6. Institutions involved

| Institution | Dept./Office | Ref. in scheme |
|---|---|---|
| **Energy Regulatory Office** | Chairman | B |
| **Municipality Office (according to the location of investment)** | Province's Marshal | C |
| **Energy Group (according to the location of investment),** | In case of Lublin Region - Lublin power company *LUBZEL* | B, C |

## 7. Standard or foreseen durations of intermediate phases

| Phase | Institutions | Duration | Ref. in scheme |
|---|---|---|---|
| **Permission for power generation** | The Energy Regulatory Office | Minimum of 14 days | D |
| **Decision of Region's Marshal** | Marshal Office | 1 month | E - H |

## 8. Main Milestones in the authorization process

| Milestone | Main responsibility | Ref. in scheme |
|---|---|---|
| **Address to the President of the Energy Regulatory Authority for permission to produce energy from PV** | President of the Energy Regulatory | B |
| **Marshal Office's Decision** | Marshal of the Region | C - F |
| **Obtaining a building permit for PVPPs** | Construction Supervision | E |
| **Obtaining conditions for connecting to the grid** | Power Company LUBZEL | H |
| **Sales of green certificates** | Power Exchange Market | J |

## Poland – Lublin Region
## 9. Criticalities

In the current situation, Poland lacks the fundamentals necessary for the development of PVPPs. The absence of a regulatory framework for the sector, capable of facilitating the connection of the facilities to the power grid and to establish a system of FIT, prevents the photovoltaic energy source is developed in an energy market, dominated by the coal sector.

In Poland there are some support measures to promote renewable energy sources in general: tax exemptions, soft loans and non-repayable grants. But there are not specific measures to support photovoltaics.

So far Poland has not considered the photovoltaic production, within its energy strategy, among the renewable energy sources capables of develope a commercial activity, since it is considered that photovoltaic technology is still in an incipient status of innovation. In fact Poland does not foresee the contribution of photovoltaics to achieve the goal of a 15% of renewables in the total national energy consumption in 2020.

The Polish government has realized that the existing support for the development of photovoltaic energy is insufficient and plans to introduce a series of legislative changes to ensure greater support for the sector. A new draft law on renewable energy will be the pillar of the new legal regime for renewable energy.

## 10. Financial taxation and VAT regime

In Poland, the lack of a regulated Feed in Tariff system makes that really it doesn't exist a photovoltaic electricity market. Nobody can sell electricity from PVPP's in Poland.

Regarding the value of the VAT, it's 23% from 2011. This is the VAT applicable to the transactions of buying and selling construction equipment for photovoltaic facilities.

## Poland – Lublin Region

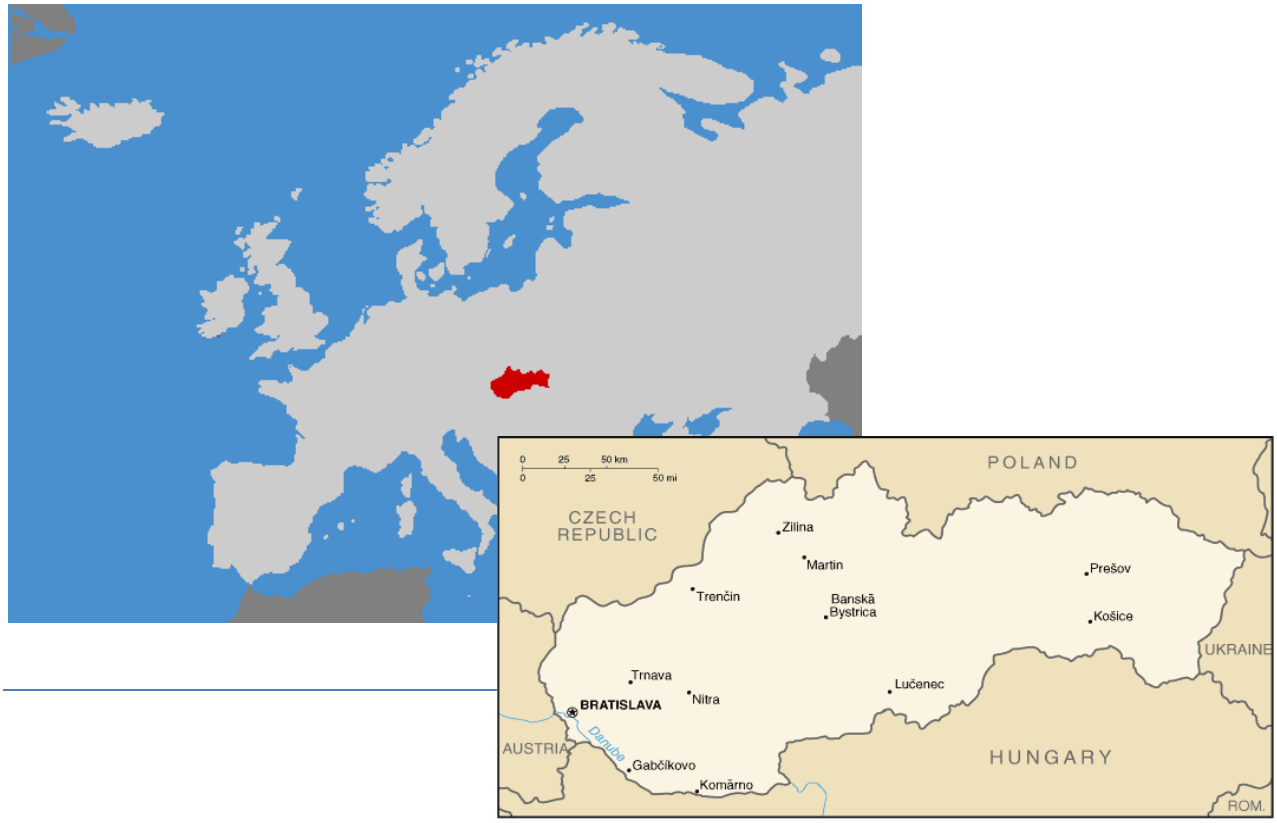
## 11. Local point of information & support promoted by PVs In Bloom

| Lublin University of Technology<br>( Tel +48 81 5384701 Fax +48 81 5384700)<br>Where to find helpful contacts for PVPP implementation | | |
|---|---|---|
| Prof. Jan M. Olchowik | Project Manager PVs in BLOOM | j.olchowik@pollub.pl |
| Dr Graziano Monastero | | info@mgpoland.pl |
| Mgr Piotr Dragan | PV promoter | piotr.dragan@wisznice.pl |
| Dr Krystian Cieślak | Expert PVs in BLOOM | k.cieslak@pollub.pl |

# Slovakia

# Slovakia

## 1. Localization



# Slovakia

## 2. General overview on PVPP authorization procedures

The authorization process on photovoltaic power plants in the Slovakia is based essentially on the fulfillment by the owner of the plant of the requests stated by :

- The administrative offices (Regional and local);

- The distribution Electric Company of the Region (Three regional companies carry out electricity distribution to final consumers in Slovakia: ZSE-Distribúcia (www.zse.sk) - SSE-Distribúcia (www.sse.sk) - VSE-Distribúcia (www.vsds.sk);

- The authority for transmission system (SEPS - www.sepas.sk).

Before starting the construction process of an electric power plant with a peak power in the range >= 100kWp, authorization must be fulfilled from the Ministry of Economy and the authority for transmission system SEPS. The first step is to prepare a certified connection study where is possible to verify that in that place there is available capacity to give energy to the existing power grid and to reserve the capacity needed from the distribution electric company of the Region: during this phase, a design of the plant must be provided to the

Electric Distribution company of the Region. The electric distribution company evaluates the best solution for the insertion of the electric power in the existing grid. The solution can be extremely easy (in the case of enough existing power lines available) or more sophisticated (new lines must be provided). With these two things is possible to ask the authorizations to build to the Ministry of Economy and the authority for transmission system SEPS. For a low power level plant with dimension below 100kWp authorization from the Ministry of Economy and Seps is not needed but is required to reserve the capacity needed from the distribution electric company of the Region preparing a study of connection and a design of the plant.

Before constructing a building, first a planning permit (also known as a zoning permit) and then a construction permit must be obtained. Once construction is finished, a use permit is required before the building can be put into use.

Planning permits are issued by the local Building Office and are valid for two years after they come into force (although they do remain valid after two years where an application for a construction permit has been submitted). The applicant does not need to own the land but must have some right over it, such as a long lease.

Planning permits set out the permitted scope of the proposed building project, including conditions for its construction, the location where the building should be constructed and any requirements for project documentation. Conditions can also be attached, to protect the public interest and, in particular, the planning and zoning objectives of the municipality or state. These include a time schedule, measures protecting environmental, architectural and planning interests and any issues raised during the planning process (e.g. by a third party accepted as a participant by the Building Office).

The entire process has to be begun again if there are any changes to the project documentation or to the purpose of the intended construction. These are known as change proceedings. However, minor changes can be dealt with in the construction permit process as long as they comply with the conditions imposed in the original planning permit.

Extensive consultation is required during the process of obtaining both planning and construction permits. Consents may also need to be obtained. The precise requirements depend on the type and location of the building. The bodies most commonly involved in consultation and consent are:

- State Agency for Administration of Water
- Agency for Air Protection
- Agency for Monumental Protection
- Agency for the State Administration of Forestry Management
- State Labour Inspectorate
- Ministry of the Defence
- State Administration Agency for Terrestrial Communications
- Civil Protection Agency
- State Veterinary Agency
- Ministry of the Environment
- Energy distributors, such as SPP (gas)
- Agency for the protection of the environment and countryside protection
- Agency for Waste Management
- Agency for Fire Protection
- Agency for the Protection of Food Management
- State Administration Agency for Civil Aviation
- Railway track administrators
- State Agency for Electronic Communications
- Health and Safety Agency
- State Agency for the Protection of Minerals
- Telecommunication Companies (Telekom, T-mobile, Orange)
- Utilities

Construction permits are issued by the Building Office to allow construction work to be undertaken. They must be applied for within the two-year window of the planning permit. The construction permit will lapse where the builder does not begin construction within two years after it comes into force. Once issued, it is possible to amend them without having to repeat the process. Construction permits set out:

- The conditions for the construction and use of the building;
- General technical requirements;
- Relevant legislative and technical standards;
- Conditions imposed by relevant authorities;
- Issues raised during the planning proceedings (e.g. by third parties);
- Conditions for the protection of the public interest, health and environment;
- The time period for the building to be completed;
- Any other issues affecting the project;

In the very final process of the authorization, a definitive design of the entire plant must be provided to the distribution company and they must approve it.

Use permits are issued once construction of the PV plant is finished, to confirm that the Building Office is satisfied that the building process has been carried out correctly and that the building is suitable for its designated use. Buildings cannot be put into use without a valid use permit. The use permit is also the basis for acquiring the registration at the cadastral registry.

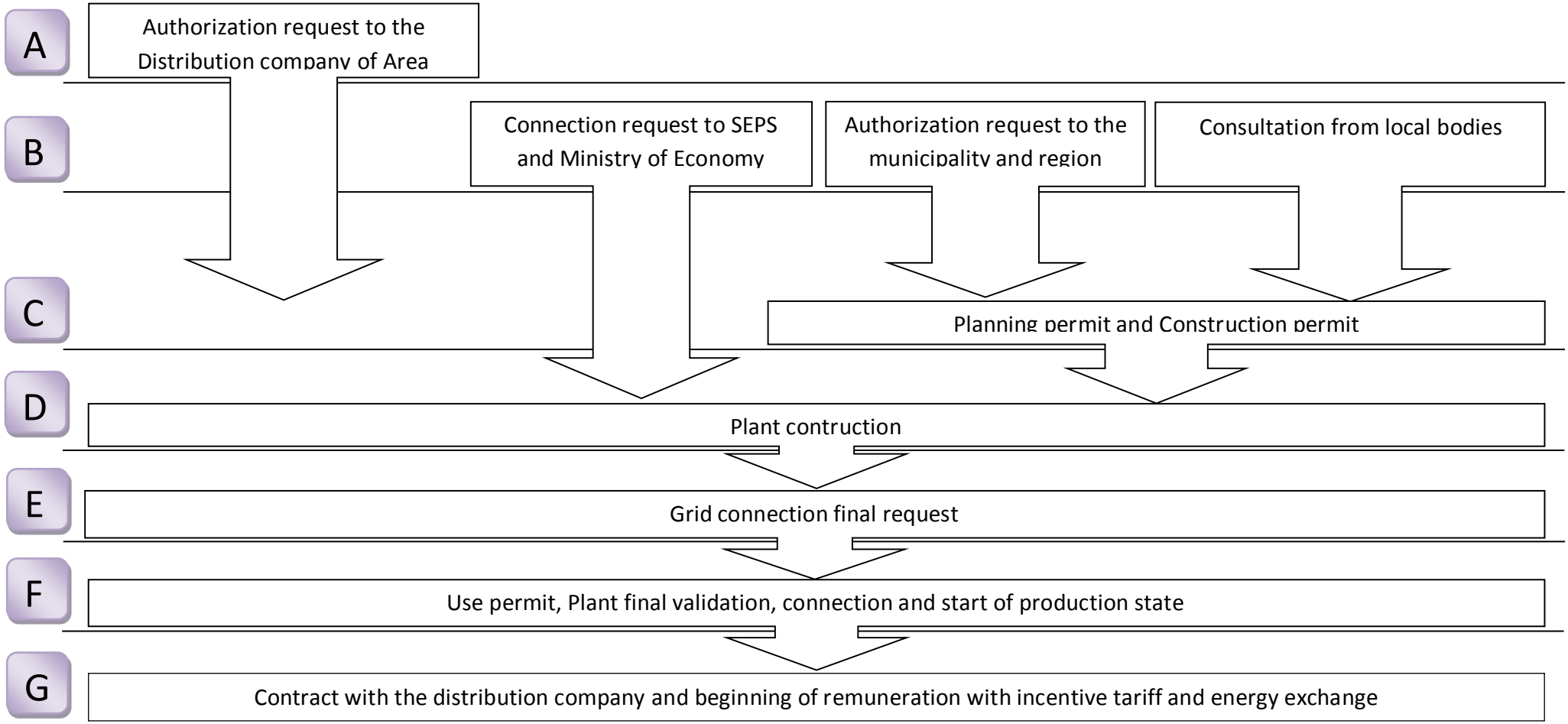
## Slovakia
## 3. Applicable Feed in Tariff

| Feed in Tariff 2011 | | | | |
|---|---|---|---|---|
| **Plant Power Intervals** | **January, 1– June, 30 2011** | | **July, 1 – December, 30 2011** | |
| | **Installations on the roof** | **Ground installations** | **Installations on the roof** | **Ground installations** |
| **kW** | **€/kWh** | **€/kWh** | **€/kWh** | **€/kWh** |
| **up to 100 kW** | 0,38765 | 0,38765 | 0,38765 | * |
| **more than 100 kW** | 0,38261 | 0,38261 | 0,38261 | * |
| **more than 1 MW included** | 0,38261 | 0,38261 | * | * |

Currently the prices are established each year by U.R.S.O. (The Slovak Regulatory Office for Network Industries). After 30 June 2011 only plants on the roof or wall integrated up to 100 kW will be permitted. All the Ground mounted plants not connected by 30 June 2011 will not receive FIT and the price of the energy will be the one of the market. Since February 2011 Municipalities in Slovakia are not permitted to release building permissions to Ground Installations.

## Slovakia

## 4. Authorization scheme for grid connected PVPPs



## Slovakia
## 5. Legislative documents

| Document | Issued by | Date of issue | Main topics | Rif. In scheme |
|---|---|---|---|---|
| **Law of the Energetics sector nr. 656/2004 Z.z.** | Slovak Government | 24/10/04 | Central law of Slovak energetic. Rights and responsibilities of market participants, public authorities and state control. Terms of doing business in energetic sector. | A,B |
| **Law of renewable energy production support nr.309/2009 Z.z.** | Slovak Government | 09/07/09 | General rules on the administrative procedures for RES plants authorizations, incentives and clarifications. | A,B. |
| **Law of regulatory for network industries** | Slovak Government | 14/06/01 | This law established URSO = The Slovak Regulatory Office for Network Industries | A,B |
| **VÝNOS 7/2009** | URSO | 09/09/09 | Feed in tariff | G |
| **2009/28/EU** | Europe | 2009 | Directive on simplification of authorization procedure for RES | A,B,C |

## Slovakia

## 6. Institutions involved

| Institution | Dept./Office | Ref. in scheme |
|---|---|---|
| **Distribution Company of the Region** | Energy Dispatch | A, E, F, G |
| **Municipality** | Private Building dept. | B, C, F |
| **Ministry of Economy** | Energy Section | B |
| **SEPS** | | B |
| **URSO** | Photovoltaic "feed in tariff" office | G |

## 7. Standard or foreseen durations of intermediate phases

| Phase | Institutions | Duration | Ref. in scheme |
|---|---|---|---|
| **Authorization request to the Distribution company of Area Capacity reservation** | Zse/Sse/Vsd | 45-90 days (standard) | A |
| **Plant authorization (<1MWp)** | Municipality | 30-60 days (foreseen) | B, C |
| **Plant authorization-screening (>=1MWp)** | Region | 30-60 days (foreseen) | B, C |
| **Connection request** | MoE and SEPS | 60 days | B |
| **Public expositions** | Municipality | 30 days | C |
| **Plant construction** | Owner | It depends on size and type | D |
| **Grid connection** | Distribution Company | 30 days it depends on power | E |
| **Use permit and final validation** | Municipality – Local building bureau | 30-60 days | F |
| **FIT validation** | URSO | 30 days | G |

## Slovakia

## 8. Main Milestones in the authorization process

| Milestone | Main responsibility | Ref. in scheme |
|---|---|---|
| **Authorization processes for grid connection** | Electric distribution Company of the Region (ZSE, SSE, VSD) Authority for transmission system (SEPS) Ministry of economy approval (MH SR) | A, B |
| **Authorization processes for planning and construction permit** | Regional land bureau, Local building bureau, Municipality and Local bodies | B, C |
| **Operating permits (Plant built and successfully tested)** | Electric distribution Company of the Region (ZSE, SSE, VSD), Slovak Regulatory Office for Network Industries (FIT validation contract) | E, F |

# Slovakia
## 9. Criticalities

**PHASE A** Authorization request to the Distribution company of Area from March 2010 started to be very complicated and in many cases impossible due to high number of requests to process.

**PHASE B** Regarding connection request
For plants with a peak capacity (>= 100kWp) the connection request must be done to SEPS. The last time SEPS authorized the construction of a PV plant was in December 2009. All the requests of 2010 are at the moment stopped. Then the request has to be sent to the Ministry of Economy, which is authorizing only plants previously authorized by SEPS. Authorization requests must be sent then to the municipality and region and submitted to the consultation from local bodies. Due to high number of requests of GRID connection, the time needed to connect might be delayed to over 120 days.

**PHASE C** Regarding planning permits and construction permits
A high number of authorities are involved to obtain the final authorization. Often many authorities are involved in both permitting as well as supporting related procedures for renewable energy projects. Responsible authorities usually comprise several administrative bodies at national, regional and local level.
Processing of permits requires a large amount of validations from the local bodies. Most of the times, local municipalities and involved authorities are not well instructed and aware of processes in such projects, which leads to misunderstandings or setting of obligations hard to justify. Furthermore, there is a lack of co-ordination between different authorities. In many cases project developers need to submit similar information multiple times to different authorities.
Time of final validation can be delayed by this fact or can lead to final rejection of appeals.

**PHASE E** Grid connection final request
The process to connect the plant to the grid is paricularly long. Is always better to have a study of connection in order to be sure from the beginng that the grid has the capacity to connect the plant. There are important differences between the various power companies' proceedings, and one of the biggest barriers is the inaccessibility of the people who manage the documentation. It would be advisable to improve communication with companies (including electronic means for submission of documentation), to standardize the procedures between the various companies, and meet strict deadlines.

Sometimes extreme conditions at the point of connection are required, with the obligation to make changes to the network at times hard to justify, with limited valid time for the connection points, except advance payment of the work. It would be advisable to increase the time allowed for carrying out the connections. Besides paying the costs of connection could be made after work and not before.

**PHASE F** Regarding use permits, plant final validation, connection and start of production state thereare somehow different procedures and criteria for each Municipality, this probably caused from different interpretations of the law.

**PHASE G** Contract with the distribution company and beginning of remuneration with incentive tariff and energy exchange.
The delay of the companies to perform the facilities verifications and processing the contracts turn out in direct losses for the owner, because it makes that all the electricity produced since obtaining the operating permit is not paid, delays other procedures, the guarantee recovery, etc.

**IMPORTANT:** All plants ground-mounted without building permission at the end of February 2011 will not receive any ermission due to modification of the legislation the new government approved at the end of December 2010. After 30 June 2011 only plants on the roof or wall integrated up to 100 kW will be permitted and will receive support from the government. All the ground-mounted plants, and roof installations over 100kW not connected by 30 June 2011 will not receive FIT and the price of the energy will be the one of the market.

# Slovakia
## 10. Financial taxation and VAT regime

**I.- CORPORATE TAX and INCOME TAX**

Slovakia's tax system is similar to those of other EU member states. Companies resident in Slovakia are subject to corporate income tax on their worldwide pre-tax profits. Non-resident companies are taxed on pre-tax profits earned in Slovakia. The tax rate on corporate income is 19%.

The business year is normally the calendar year but companies may adopt their parent company's business year. Only expenses incurred to generate, preserve and maintain the taxable income of a company are tax deductible. There is a detailed list containing examples of the types of expenses which are tax deductible and those which are not.

**II. – VALUE ADDED TAX (V.A.T.)**

The VAT system follows the EU model. The tax rate on VAT is 19% (excluding particular medical material and equipment, medication and reagents to which a 10% VAT rate applies). The threshold for VAT registration for persons with their seat or permanent address, place of business or permanent establishment in Slovakia, has a turnover amounting of € 49,790 on the previous 12 consecutive months. Voluntary VAT registration is possible below this threshold.

The VAT registration is compulsory for foreign entities before starting any activity subject to VAT in Slovakia.

**III. – MUNICIPALITY TAXES**

The system underwent fundamental change in 2005. Taxes on real estate include land tax, building tax and flat tax. Rates are set per square metre by the municipal authority responsible for the area where the real estate is located.

**IV. – INVESTMENTS INCENTIVES**

From 1 January 2008 the new Act on investment incentives came into force. Tax subjects who qualify for approved investment help in the nature of tax relief can apply for the right of exemption (in the form of a tax credit) if all the compliance conditions are satisfied. They can apply for this right in a maximum of five tax periods. There is no legal right to the tax credit, and the number of qualifying investments is limited depending on the particular region and amount of available relief under state aid legislation. In addition, the scope of the incentive is subject to approval by the European Commission.

The new government changed the legislation concerning solar power plants at the end of December 2010: after 30 June 2011 only plants on the roof or wall integrated up to 100 kW will be permitted. All the Ground mounted plants not connected by 30 June 2011 will not receive FIT and the price of the energy will be the one of the market. From February 2011 Municipalities in Slovakia are not permitted to release building permissions to Ground Installations.

Slovakia

## 11. Local point of information & support promoted by PVs in Bloom

| Italian – Slovak Chamber of Commerce<br><br>Tel +421 (0) 259103705 Fax +421 (0) 259103701<br><br>Where to find helpful contacts for PVPP implementation | | |
|---|---|---|
| **Giorgio Dovigi** | **Project Manager PVs in BLOOM** | **info@camitslovakia.sk**<br>**Tel. +421 (0) 259103705** |
| **Vratislav Koska** | **Senior Expert PVs in BLOOM** | **info@camitslovakia.sk**<br>**Tel. +421 (0) 259103705** |
| **Michele Bologna** | **Expert PVs in BLOOM** | **bologna.michele@seas.sk**<br>**Tel.: +421 2 5866 1111** |
| **Luciano Rossi** | **Expert PVs in BLOOM** | **luciano.rossi@slovakiagroup.com**<br>**Tel.: + 421 2 58100600** |

# Spain – Andalusian Community

# Spain – Andalusian Community

## 1. Localization

# Spain – Andalusian Community
## 2. General overview on PVPP authorization procedures

Due to the structure of Spain into autonomous regions that come with legislative autonomy and executive powers in all cases dealing with authorizations of PVPP's, there are certain formalities to be carried out in the central government, and others conducted in the regional government, in addition to those required at the municipal level.

The authorization procedures of PV systems in the Andalusian Community are almost the same for all kind of facilities. The first step is the deposit of a bond and the request of Inclusion in the Special Regime of Electricity Production (REPE, in Spanish). Then, a request of registration in the Retribution Pre-assignment Register (RPR) is needed: this is intended to ensure that there are no deviations on planning for the growth of installed capacity in Spain. This growth is set by annual power caps -but quarterly sufficed- so that the price of the feed-in tariff depends inversely on it.[1] The caps are divided among 3 types of facilities. The last power caps are:

| **Quaterly caps for the installation of new photovoltaic facilities** | | | |
|---|---|---|---|
| For the fourth quarter of 2010 | | For the first quarter of 2011 | |
| Type I (Facilities that are located on roofs or facades) | | Type I (Facilities that are located on roofs or facades) | |
| • Subtype I.1: Power not exceeding 20 kWp | **6.537 MW** | • Subtype I.1: Power not exceeding 20 kWp | **7,090 MW** |
| • Subtype I.2: Power exceeding 20 kWp | **60.401 MW** | • Subtype I.2: Power exceeding 20 kWp | **67,185 MW** |
| Type II: Facilities not located on roofs or facades | **52.288 MW** | Type II: Facilities not located on roofs or facades | **40,869 MW** |

[1] If at least 75% of a particular quarterly cap is exhausted, the tariff for the corresponding installation type is decreased by at most 2.5%, while at the same time the amount of available installable power is increased by the same amount.

If less than 50% of a cap is exhausted, the corresponding tariff increases, while the cap decreases by an equal amount (without consideration of addition power). If the cap is exhausted by between 50 and 75%, the tariffs and the amount of installable power remains the same. Adjustements for installable power will be made on an annual basis and the tariffs will be adjusted quarterly.

The PVPPs must also obtain the administrative authorization together with the provisional registration in the register of installations in the special production regime (RIPRE, in Spanish). Both procedures must be done in the Regional Ministry of Innovation, Science & Business. If the PVPP power is smaller than 10 kW, the provision of a technical project is not necessary: a technical memory of this PVPP suffices.

In addition, there are also other necessary permissions depending on the project characteristics:

- Building permits and environmental licenses or communications with the municipality.
- Additional environmental procedures in the case of facilities located on any plot of land, whether this plot is degraded or not. If the plot area does not exceed 2 hectares a permit must be requested to the municipality. Larger plot areas require a permit issued by the Regional Ministry of the Environment
- Request for access point, connection to the electrical grid, and contract with the Electric distribution company in the area.
- Obtaining a commissioning act, prior to feeding electricity into the grid
- Request of the ultimate registration in the RIPRE. This procedure must also be done in the Regional Ministry of Innovation, Science & Business
- Establishment of the Economic Activity Code (CAE, in Spanish) with the Regional Ministry of Economy and Inland Revenue.

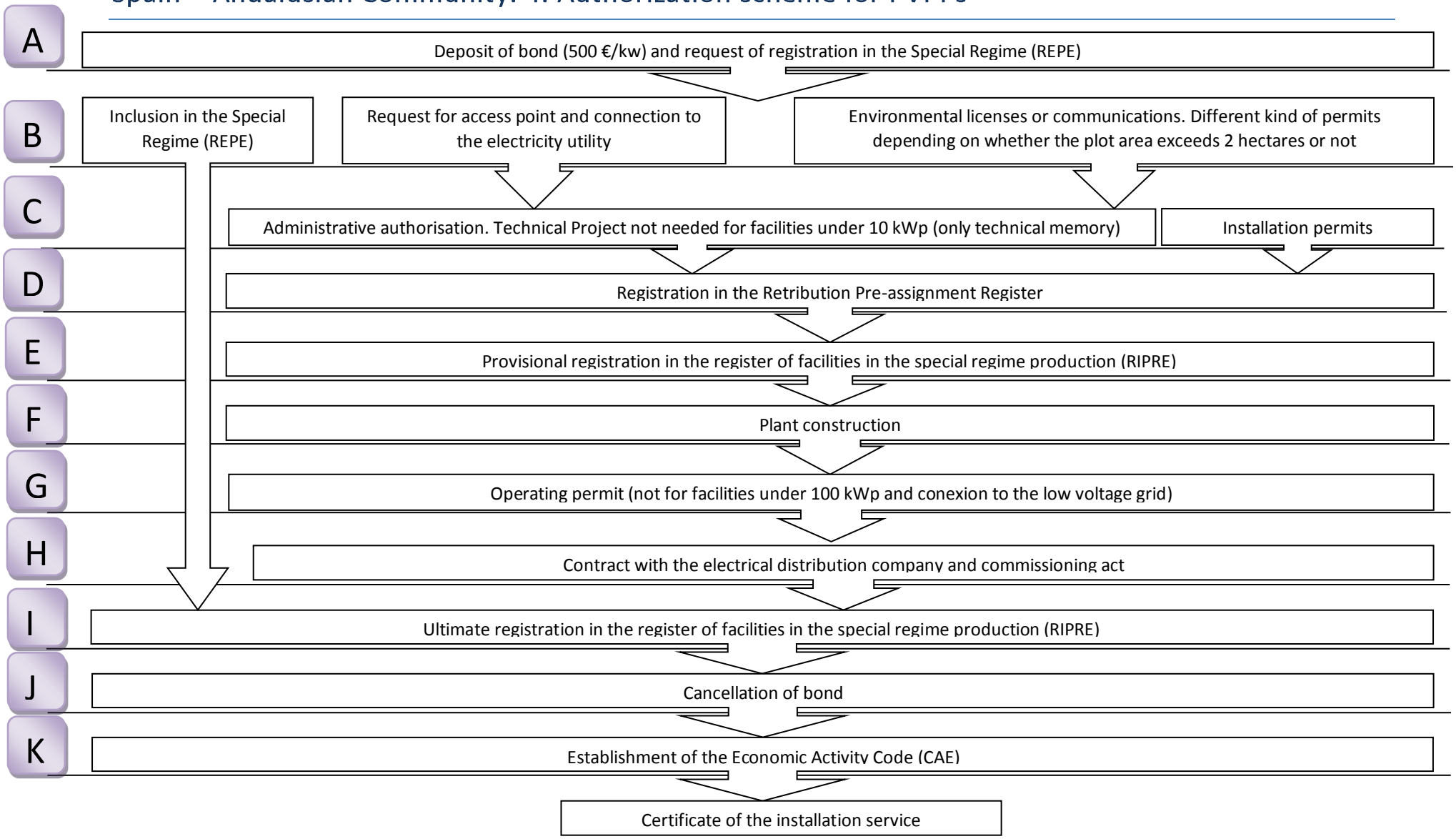
All the costs of the procedures and materials incurred to achieve the complete procedure are to be charged to the owner of the plant.

## Spain – Andalusian Community
## 3. Applicable Feed in Tariff

The price of the feed in tariff is set quarterly.

| Price of the feed in tariff of the fourth quarter of 2010 | | |
|---|---|---|
| **Type I** | | **Type II** |
| Subtype I.1: Facilities located on roofs or facades (power not exceeding 20 kWp) | Subtype I.2: Facilities located on roofs or facades (power exceeding 20 kWp) | Type II: Facilities not located on roofs or facades (include ground facilities) |
| 32.1967 c € / kWh | 28.6844 c € / kWh | 25.8602 c € / kWh |

## Spain – Andalusian Community. 4. Authorization scheme for PVPPs



# Spain – Andalusian Community
## 5. Legislative documents

| Document | Issued by | Date of issue | Main topics | Ref. in scheme |
|---|---|---|---|---|
| Law 54/1997, of the Electric Sector | Spanish Government | 27-11-1997 | Liberalisation of the electricity market. Sets:<br>- A special regime for Renewable Energies (<50 MW)<br>- Guaranteed access to the electrical grid.<br>- A target for Renewable Energies: 12% in 2010. | A- I |
| Royal Decree 661/2007 | Spanish Government | 25-05-2007 | Establishes the procedure for the inclusion in the Special Regime. Incorporates the need to provide a guarantee of 500 €/kW to arrange access to the electrical grid of transmission and distribution. | A, B, D, I |
| Royal Decree 1578/2008 | Spanish Government | 26-09-2008 | Establishes a procedure for pre-assignment of retribution for photovoltaic systems, and defines two types: installations in buildings and ground.<br>Defines annual power caps for each type of PV installation, quarterly sufffiiced, based on the date of the licenses, permits and endorsements[2] | D, H |

[2] If at least 75% of a particular quarterly cap is exhausted, the tariff for the corresponding installation type is decreased by at most 2.5%, while at the same time the amount of available installable power is increased by the same amount.

If less than 50% of a cap is exhausted, the corresponding tariff increases, while the cap decreases by an equal amount (without consideration of addition power). If the cap is exhausted by between 50 and 75%, the tariffs and the amount of installable power remains the same. Adjustements for installable power will be made on an annual basis and the tariffs will be adjusted quarterly.

| Document | Issued by | Date of issue | Main topics | Ref. in scheme |
|---|---|---|---|---|
| Royal Decree 1663/2000 | Spanish Government | 30-09-2000 | Establishes conditions for the connection of photovoltaic facilities not exceeding 100 kW and whose connection to the distribution network is carried out at low voltage (<1 kV). | C, F |
| Resolution of May 31, 2001 of the General Directorate of Energy Policy and Mines | Spanish Government | 21-06-2001 | Regulation of the standard contract and billing model for solar photovoltaic installations within the scope of RD 1663/2000. | H |
| Royal Decree 1955/2000 | Spanish Government | 01-12-2000 | Regulates the procedures for approval of power plants in general, for connection to high voltage. | B, F |
| Decree 50/2008 | Andalusian Regional Government | 19-02-2008 | Regulates the administrative procedures of implementation of PV systems in Andalusia. | B, D, I |
| Royal Decree 1165/1995 | Spanish Government | 07-07-1995 | Approves the regulation on special taxes | K |
| Law 7/2007 on the Integrated Management of Environmental Quality | Andalusian Regional Government | 09-07-2007 | Regulates the permit procedures existing in the Andalusian environment | B |
| Royal Decree 842/2002 | Spanish Government | 02-08-2002 | Provides technical instructions for low voltage installations | B, C, F, H |

# Spain – Andalusian Community
## 6. Institutions involved

| Institution | Dept./Office | Ref. in scheme |
|---|---|---|
| **Andalusian Government** | Regional Ministry of Economy and Inland Revenue | A, K |
| **Andalusian Government (depending on the size of the plot of land)** | Regional Ministry of the Environment | B, C |
| **Andalusian Government** | Regional Ministry of Innovation, Science & Business | A, B, D, I |
| **Inland Revenue** | Special taxes Delegation | J, K |
| **Municipality (depending on the size of the plot of land)** | Urban development and environment departments | B, C |

## Spain – Andalusian Community

## 7. Standard or foreseen durations of intermediate phases

| Phase | Institutions | Duration | Ref. in scheme |
|---|---|---|---|
| **Request for access point and connection to the electricity utility** | Electrical distribution company | 1 month | B |
| **Inclusion in the Special Regime** | Regional Ministry of Innovation, Science & Business | 1 month | B |
| **Environmental licenses and Installation permits** | Regional Ministry of the Environment | 3 months to 1 year | B, G |
| **Administrative authorisation** | Regional Ministry of Innovation, Science & Business | 6 months | C |
| **Registration in the Retribution Pre-assignment Register** | Ministry of industry, tourism and trade (General Directorate for Energy and Mines) | 2-3 years | D |
| **Provisional registration in the register of facilities in the special regime production** | Regional Ministry of Innovation, Science & Business | 1 month | E |
| **Plant construction** | Owner | It depends on size and type | F |
| **Operating permit** | Regional Ministry of Innovation, Science & Business | 1 month | G |
| **Contract with the electrical distribution company and commissioning act** | Electrical distribution company | 2 weeks | H |
| **Ultimate registration in the register of facilities in the special regime production** | Regional Ministry of Innovation, Science & Business | 1 month | I |

## Spain – Andalusian Community

## 8. Main Milestones in the authorization process

| Milestone | Main responsibility | Ref. in scheme |
|---|---|---|
| **Registration in the Retribution Pre-assignment Register** | Ministry of industry, tourism and trade (General Directorate for Energy and Mines) | A, D |
| **Administrative authorizations' achievement** | Municipality and Andalusian Government | B, G |
| **Operating permit (Plant built and successfully tested)** | Owner and Regional Ministry of Innovation, Science & Business | G |

# Spain – Andalusian Community
## 9. Criticalities

**PHASE B**

The request for access point and connection to the utility may turn into a difficult issue if the plot where the PVPP is to be installed is far away from the utility. In this case, all the expenses of the access to the grid are charged to the prospective owner. Besides, the required documentation is not proportional to the size of the facility. It is requested almost the same for small and large PVPPs.

Environmental licenses may turn into a problem if, despite being a degraded area, is close to a place with some historical or environmental interest.

**PHASE D**

The existence of the Retribution Pre-assignment Register introduces a high degree of uncertainty on when the PVPP will be installed since up to now the quarterly requested power has highly exceeded the cap power for each quarter. Then, the prospective owner of the PVPP cannot foresee accurately when his/her application will be successful. Further, the FIT also depends on the extent the cap power is sufficed. Hence, an important factor such as the profitability of the PVPP is difficult to ascertain with accuracy.

**PHASE F**

The expenses incurred during the erection of a PVPP may lead the installer to ask for a loan from a bank. The present economic slump has turned getting credit into a difficult task.

**PHASE H**

The commissioning act to test and verify the PVPP by the electric company may take some time which becomes direct losses for the owner, because it makes that all the electricity produced since the obtaining of the operating permit is not paid, delays other procedures, the guarantee recovery, etc.

# Spain – Andalusian Community
# 10. Financial taxation and VAT regime

**I.- CORPORATE TAX and INCOME TAX**

The business of solar energy production connected to the grid for sale to an electricity distribution company is entitled to a deduction of 2% share, for investment in environment, in the tax periods beginning on or after January 1, 2010.

**II.- VALUE-ADDED TAX (V.A.T.):**

| **OUTPUT V.A.T.** | **INPUT V.A.T.** |
|---|---|
| PV producer will pass on a 18% percent V.A.T. in the bills issued for the sale of electricity to the distribution company. | The promoter and photovoltaic installer issued a series of invoices from the photovoltaic producer which shall receive payment for the installation and maintenance costs, thereby supporting a V.A.T. |
| **OUTPUT V.A.T. MINUS INPUT V.A.T.** | **V.A.T. REFUND** |
| PV producer accounting incorporates all invoices received, analyzing INPUT V.A.T. and OUTPUT V.A.T. each quarter. | PV producer, once started his business, and accounting purposes to verify INPUT V.A.T., is far superior to OUTPUT V.A.T., may request the State Agency for Tax Administration, the V.A.T. refund. |

**III.- SPECIAL TAX AS ELECTRIC FACTORY:**

All facilities involved in the production of electricity are required to pay tax on electricity, is a 4.864% of the total production.

In addition the shares resulting from the application of the tax rate may not be less than the following amounts:

- 0.5 euros per megawatt hour (MWh), when electricity is supplied for industrial uses.
- 1 euro per megawatt hour (MWh), when the electricity is supplied for other uses.

**IV.- OPTIONAL BONUS BY THE TOWN COUNCIL TO ACTIVITIES AND SYSTEMS FOR UTILIZATION OF THERMAL OR ELECTRICAL ENERGY FROM THE SUN.**

| **A) ACTIVITY TAX:** | **B) TAX ON BUILDINGS, FACILITIES AND WORKS:** | **C) PROPERTY TAX** |
|---|---|---|
| Up to 50% of the Activity Tax "A bonus of up to 50% of the share for taxpayers who pay taxes and municipal fees and that use or produce energy from facilities for the use of renewable energy or cogeneration systems." | Up to 95% of Tax on Construction, Installations and Works. The tax is set by each municipality, but may not exceed 4%. | Up to 50% of Property Tax |

## Spain – Andalusian Community

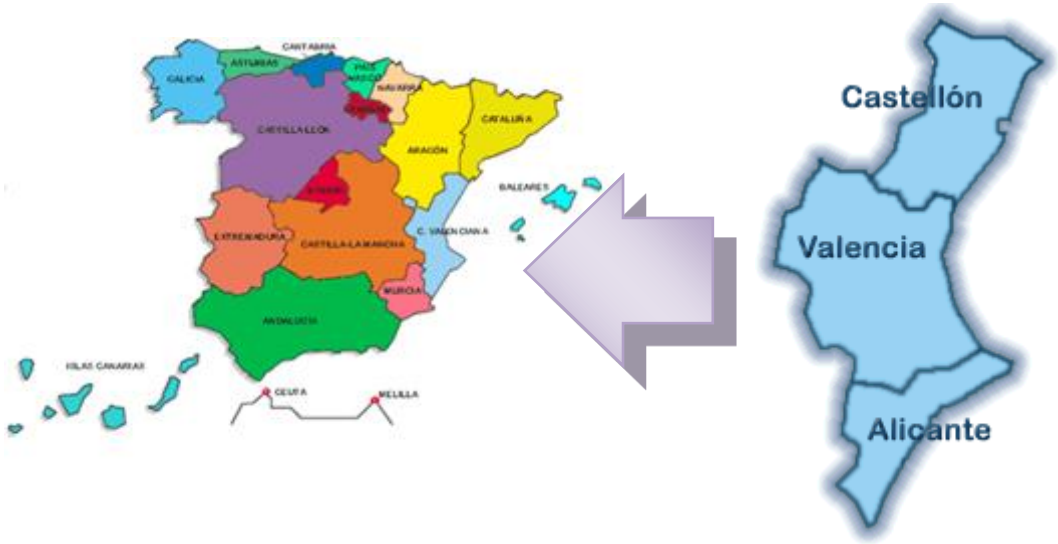
## 11. Local point of information & support promoted by PVs in Bloom

| Jaén University<br><br>Where to find helpful contacts for PVPP implementation | | |
|---|---|---|
| **Dr. Jorge Aguilera** | **Assistant professor UJA** | **aguilera@ujaen.es**<br><br>**Tel. +34 953 212803** |
| **Dr. Gustavo Nofuentes** | **Assistant professor UJA** | **gnofuen@ujaen.es**<br><br>**Tel. +34 953 212434** |
| **Dr. Julio Terrados** | **Assistant professor UJA** | **jcepeda@ujaen.es**<br><br>**Tel. +34 953 212825** |
| **Ing. Vicente Muñoz** | **Research UJA** | **jmunoz@ujaen.es**<br><br>**Tel. +34 953 213306** |

# Spain – Valencian Community

# Spain – Valencian Community

## 1. Localization



# Spain – Valencian Community
## 2. General overview on PVPP authorization procedures

The authorization procedures of ground PV systems in the Valencian Community are quite similar for all kind of facilities, despite its different sizes. The first step is the deposit of a bond and the request of registration in the Retribution Pre-assignment Register (RPR), the system that, each year, ensures that there are no deviations on planning for the growth of installed capacity in Spain. This growth depends inversely on the price of the feed in tariff, that is stablished quaterly, with quotas divided among 3 types of facilities. The quotas are lower and decrease gradually in the case of ground facilities. The last power caps are:

| **Quaterly caps for the installation of new photovoltaic facilities** | | | |
|---|---|---|---|
| For the fourth quarter of 2010 | | For the first quarter of 2011 | |
| Type I (Facilities that are located on roofs or facades) | | Type I (Facilities that are located on roofs or facades) | |
| • Subtype I.1: Power not exceeding 20 kWp | **6.537 MW** | • Subtype I.1: Power not exceeding 20 kWp | **7,090 MW** |
| • Subtype I.2: Power exceeding 20 kWp | **60.401 MW** | • Subtype I.2: Power exceeding 20 kWp | **67,185 MW** |
| Type II: Facilities not located on roofs or facades | **52.288 MW** | Type II: Facilities not located on roofs or facades | **40,869 MW** |

The PVPPs must also obtain the administrative authorization and the inclusion in the special regime of electricity production. Both procedures must be done in the Territorial Department of Energy of Valencia. In the case of facilities below 100 kWp and connected to the low voltage grid, the authorization is not necessary and the inclusion in the special regime is through a summary procedure. If the facility is below 10 kWp, the provision of a technical project will not be necessary.

In addition, there are also other necessary permissions depending on the project characteristics:

- Building permits and environmental communications with the municipality.
- Additional urban and environmental procedures in the case of facilities located on lands “not to be developed”. In this case a “Declaration of Community interest” may be necessary. The procedure is with the *Conselleria de Medi Ambient* of the Regional Government.
- Request for access point, connection to the electrical grid, and contract with the Electric distribution company in the area.

- Discharge the Activity and Establishment of C.A.E. (Special duty on electricity) with the Finance Agency.

All the costs of the procedures and materials required to achieve the complete procedure are to be incurred of the owner of the plant.

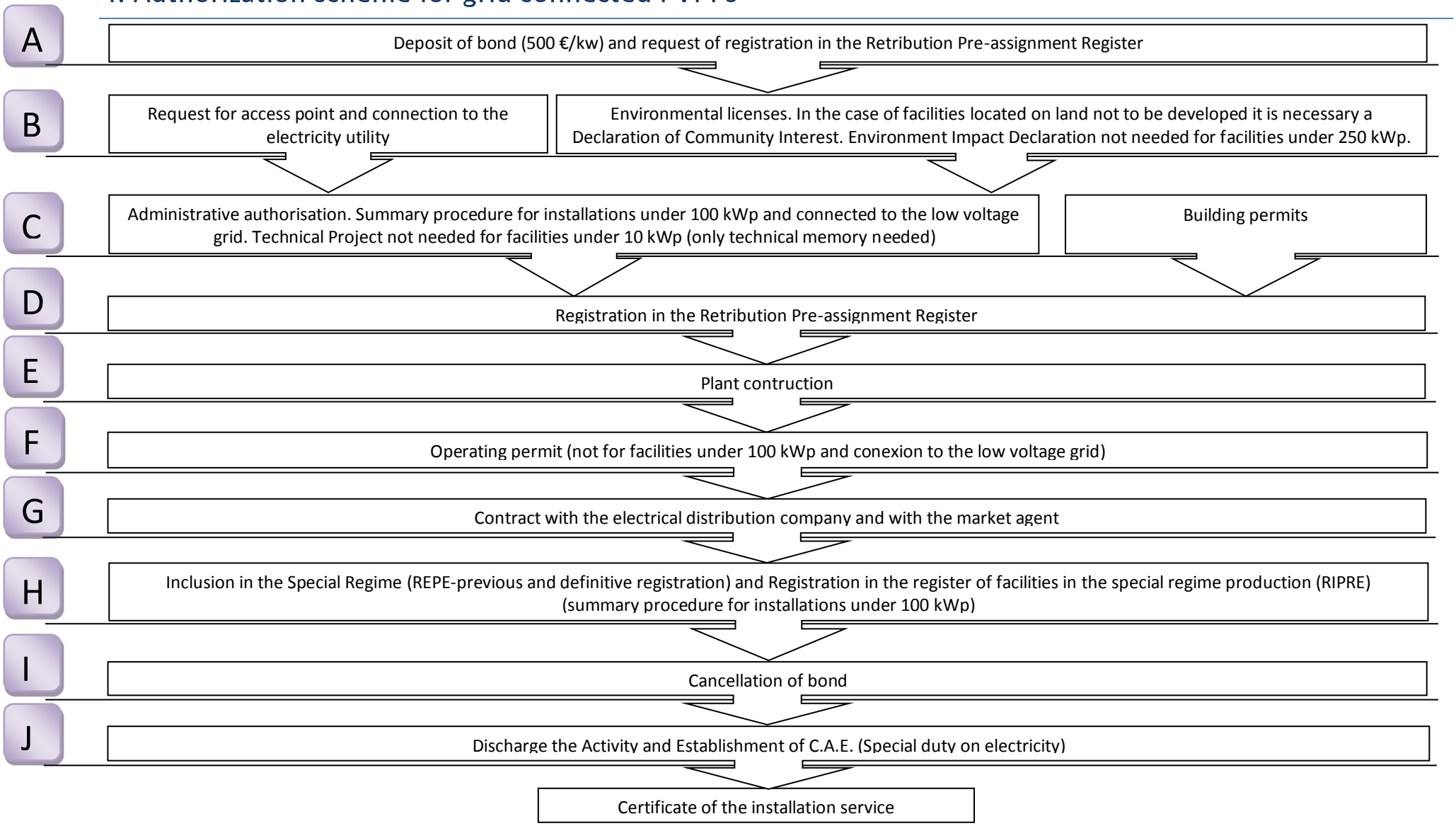
## Spain – Valencian Community
## 3. Applicable Feed in Tariff

The price of the feed in tariff is established quarterly.

| **Price of the feed in tariff of the fourth quarter of 2010** | | |
|---|---|---|
| **Type I** | | **Type II** |
| Subtype I.1: Facilities located on roofs or facades (power not exceeding 20 kWp) | Subtype I.2: Facilities located on roofs or facades (power exceeding 20 kWp) | Type II: Facilities not located on roofs or facades (include ground facilities) |
| 32.1967 c € / kWh | 28.6844 c € / kWh | 25.8602 c € / kWh |

## Spain – Valencian Community

## 4. Authorization scheme for grid connected PVPPs



## Spain – Valencian Community
## 5. Legislative documents

| Document | Issued by | Date of issue | Main topics | Ref. in scheme |
|---|---|---|---|---|
| Law 54/1997, of the Electric Sector | Spanish Government | 27-11-1997 | Liberalisation of the electricity market. Sets:<br>- A special regime for Renewable Energies (<50 MW)<br>- Guaranteed access to the electrical grid.<br>- A target for Renewable Energies: 12% in 2010. | G, H |
| Royal Decree 2818/1998 | Spanish Government | 23-12-1998 | Establishes requirements and procedures for the Special Regime, the registration procedures and conditions for delivery of power. | B, H |
| Royal Decree 661/2007 | Spanish Government | 25-05-2007 | Establishes the procedure for inclusion in the the Special Regime.<br>Incorporates the need to provide a guarantee of 500 €/kW to arrange access to the electrical grid of transmission and distribution. | A, H, I |
| Royal Decree 1578/2008 | Spanish Government | 26-09-2008 | Establishes a procedure for pre-assignment of retribution for photovoltaic systems, and defines two types: installations in buildings and ground.<br>Define annual quotas for each type, stablished quarterly, based on the date of the licenses, permits and endorsements.<br>Prices decreases, up to 10% a year for new installations.<br>Quotas increases at the same rate as prices decline. | A, D |

| Document | Issued by | Date of issue | Main topics | Ref. in scheme |
|---|---|---|---|---|
| Royal Decree 1663/2000 | Spanish Government | 30-09-2000 | Establishes conditions for the connection of photovoltaic facilities not exceeding 100 kWp and whose connection to the distribution network is carried out at low voltage (<1 kV). | C, H |
| Resolution of May 31, 2001 of the D.G.P.E.M. | Spanish Government | 21-06-2001 | Regulation of the standard contract and billing model for solar photovoltaic installations within the scope of RD 1663/2000. | G |
| Royal Decree 1955/2000 | Spanish Government | 01-12-2000 | Regulates the procedures for approval of power plants in general, for connection to high voltage. | C |
| Decree 177/2005 | Valencian Government | 18-11-2005 | Regulates the procedure of implementation of PV systems up to 100 kWp, connected to the grid in less than 1 kV voltage. | C, B, H |
| Royal Decree 1165/1995 | Spanish Government | 07-07-1995 | Approves the regulation on special taxes | J |
| Law 2/2006, of pollution prevention and environmental quality | Valencian Government | 05-05-2006 | Regulates the authorization procedure existing in the environmental system in Valencia | B |
| Law 10/2004 of the Generalitat, of undeveloped lands. | Valencian Government | 09-12-2004 | Sets the regime for undeveloped lands | B |
| Royal Decree 842/2002 | Spanish Government | 02-08-2002 | Provides technical instructions for low voltage installations | C, F, H |

## Spain – Valencian Community
## 6. Institutions involved

| Institution | Dept./Office | Ref. in scheme |
|---|---|---|
| **Valencian Government** | Territorial Directorate of the Ministry of Economy, Finance and Employment | A, I |
| **Valencian Government** | Energy Territorial Service of Valencia | B, C, H |
| **Valencian Government** | Land and Housing Council | B |
| **Ministry of industry, tourism and trade** | General Directorate for Energy and Mines | A, D |
| **Finance Agency** | Special taxes Delegation | J |
| **Municipality** | Urban development and environment departments | B, C |

## Spain – Valencian Community

## 7. Standard or foreseen durations of intermediate phases

| Phase | Institutions | Duration | Ref. in scheme |
|---|---|---|---|
| **Request for access point and connection to the electricity utility** | Electrical distribution company | 1 month | B |
| **Inclusion in the Special Regime** | Valencian Government (Energy Territorial Service of Valencia) | 1 month | H |
| **Environmental licenses and building permits** | Valencian Government (Land and Housing Council) and Municipality | 3 months to 1 year | B, C |
| **Administrative authorisation (<100 kWp)** | Valencian Government (Energy Territorial Service of Valencia) | 3 months | C |
| **Administrative authorisation (>100 kWp)** | Valencian Government (Energy Territorial Service of Valencia) | 6 months to 1 year | C |
| **Registration in the Retribution Pre-assignment Register** | Ministry of industry, tourism and trade (General Directorate for Energy and Mines) | 2-3 years | D |
| **Plant construction** | Owner | It depends on size and type | E |
| **Operating permit** | Valencian Government (Energy Territorial Service of Valencia) | 1 month | F |
| **Contract with the electrical distribution company** | Electrical distribution company | 2 weeks | G |
| **Registration in the register of facilities in the special regime production** | Valencian Government (Energy Territorial Service of Valencia) | 1 month | H |
| **Certificate of the installation service** | Valencian Government (Energy Territorial Service of Valencia) | 1 month | J |

## Spain – Valencian Community

## 8. Main Milestones in the authorization process

| Milestone | Main responsibility | Ref. in scheme |
|---|---|---|
| **Registration in the Retribution Pre-assignment Register** | Ministry of industry, tourism and trade (General Directorate for Energy and Mines) | A, D |
| **Administrative authorizations' achievement** | Municipality and Valencian Government | B, C |
| **Operating permit (Plant built and successfully tested)** | Owner and Energy Territorial Service of Valencia) | F |

# Spain – Valencian Community
## 9. Criticalities

**PHASE A**

The deposit of a guarantee of 500 €/kW is required to begin processing facilities and to request the connection points, but should be done without the assurance that the system has the capacity or not to incorporate the new facility eventually. With regard to the financial support there are serious difficulties to obtain it because the projects are carried out with indefinite dates. A good measure would be the elimination of this obligation for small-scale installations as they pose a disproportionate burden (For example, an installation of 20 kWp. must provide a guarantee of only 100 €, but also perform this procedure).

In order to request the Registration in the Retribution Pre-assignment Register, promotion expenses, lands, and very important licensing fees are needed, all this without being certain about the rate that will be applied, and also with waiting periods of up to 4 years.

**PHASE B**

Regarding the connection to the electricity utility:

The processing of connections to the grid requires a large amount of documentation to be submitted, which has increased in recent years and is required both by legal requirements as power companies. The required documentation is not proportional to the size of the facility. It is requested almost the same for small and large facilities.

There are important differences between the various power companies' proceedings, and one of the biggest barriers is the inaccessibility of the people who manage the documentation. It would be advisable to improve communication with companies (including electronic means for submission of documentation), to standardize the procedures between the various companies, and meet strict deadlines.

Sometimes extreme conditions at the point of connection are required, with the obligation to make changes to the network at times hard to justify, with limited valid time for the connection points, except advance payment of the work. It would be advisable to increase the time allowed for carrying out the connections. Besides paying the costs of connection could be made after work and not before.

It should also advance the introduction of Net metering of consumption, the possibility of connection to internal networks, and promote investment in distribution networks to facilitate the evacuation of renewable generating capacity, facilitating the production of electricity in the urban environment.

Regarding the Environmental and the Declaration of Community Interest proceedings:

Usually procedures extend far in time and often request further documentation that was not required at first.

**PHASE C**

Regarding the procedures to be performed with the Regional Government:

There are different procedures and criteria for each Autonomous Community, and multiple agencies in many cases with sealed operation, in which documents must be processed in parallel or successively. This makes it difficult to track the process, pre-set

deadlines for resolution are not established, and not always easy to contact with a responsible person.
It would be nice to establish uniform procedures for processing, legal and administrative improvements to buildings and low-voltage connection, simplify and streamline processes, set resolution deadlines for each part of the process, and allow greater visibility in monitoring files.

Regarding the procedures to be carried out with the municipalities:
There are discrepancies between the procedures, requirements and the cost of municipal taxes for obtaining licenses in the different municipalities.
In addition, procedures would be streamlined and would be at less risk for the companies if it does not need to pay the tax on buildings, facilities and works to get the Retribution Pre-assignment Register. Also machinery and equipment could be excluded of the tax base in order to calculate taxes.
It would be also nice to provide technical assistance to municipal officials to facilitate the processing, and promote among the councils that include renewable facilities among the activities that have subsidies through tax cuts.

**PHASE D**
The deadlines imposed by the Retribution system have led to the paralysis of the photovoltaic industry in Spain, with a drastic reduction in installations undertaken. The management of the Pre-assignment Register is rigid and can not anticipate the scenarios in the short-medium term, so as to promote a better forecast of investments.

**PHASE G**
The delay of the companies to perform the facilities verifications and processing the contracts turns out in direct losses for the owner, because it makes that all the electricity produced since obtaining the operating permit is not paid, delays other procedures, the guarantee recovery, etc.

# Spain – Valencian Community
# 10. Financial taxation and VAT regime

**I.- CORPORATE TAX and INCOME TAX**

The business of solar energy production connected to the grid for sale to an electricity distribution company is entitled to a deduction of 2% share, for investment in environment, in the tax periods beginning on or after January 1, 2010.

**II.- VALUE-ADDED TAX (V.A.T.):**

| **OUTPUT V.A.T.** | **INPUT V.A.T.** |
|---|---|
| PV producer will pass on a 18% percent V.A.T. in the bills issued for the sale of electricity to the distribution company. | The promoter and photovoltaic installer issued a series of invoices from the photovoltaic producer which shall receive payment for the installation and maintenance costs, thereby supporting a V.A.T. |
| **OUTPUT V.A.T. MINUS INPUT V.A.T.** | **V.A.T. REFUND** |
| PV producer accounting incorporates all invoices received, analyzing INPUT V.A.T. and OUTPUT V.A.T. each quarter. | PV producer, once started his business, and accounting purposes to verify INPUT V.A.T., is far superior to OUTPUT V.A.T., may request the State Agency for Tax Administration, the V.A.T. refund. |

**III.- SPECIAL TAX AS ELECTRIC FACTORY:**

All facilities involved in the production of electricity are required to pay tax on electricity, is a 4.864% of the total production.

In addition the shares resulting from the application of the tax rate may not be less than the following amounts:

- 0.5 euros per megawatt hour (MWh), when electricity is supplied for industrial uses.
- 1 euro per megawatt hour (MWh), when the electricity is supplied for other uses.

**IV.- OPTIONAL BONUS BY THE TOWN COUNCIL TO ACTIVITIES AND SYSTEMS FOR UTILIZATION OF THERMAL OR ELECTRICAL ENERGY FROM THE SUN.**

| **A) ACTIVITY TAX:** | **B) TAX ON BUILDINGS, FACILITIES AND WORKS:** | **C) PROPERTY TAX** |
|---|---|---|
| Up to 50% of the Activity Tax "A bonus of up to 50% of the share for taxpayers who pay taxes and municipal fees and that use or produce energy from facilities for the use of renewable energy or cogeneration systems." | Up to 95% of Tax on Construction, Installations and Works. The tax is set by each municipality, but may not exceed 4%. | Up to 50% of Property Tax |

## Spain – Valencian Community

## 11. Local point of information & support promoted by PVs in Bloom

| Chamber of Commerce, Industry and Shipping of Valencia<br>( Tel +34 96 310 39 00 Fax +34 96 351 63 49 )<br>Where to find helpful contacts for PVPP implementation | | |
|---|---|---|
| **Alberto Rodrigo** | **Project Manager PVs in BLOOM** | **albertorodrigo@camaravalencia.com**<br>**Tel. +34 96 310 39 43** |
| **Jose Enrique Sanchez** | **PVs in BLOOM promoter** | **correo@intercontrol.es**<br>**Tel. +34 902 468 266** |
| **José Tronch** | **Expert PVs in BLOOM** | **jtronch@camaravalencia.com**<br>**Tel. +34 96 310 39 04** |
| **Rafael Mossi** | **Expert PVs in BLOOM** | **rmossi@camaravalencia.com**<br>**Tel. +34 96 310 39 44** |

# Part 1: Overview of PVPPs authorizations

## 1.2) Comparative summary of the conditions for approval of PVPPs.

### Comparative of proceedings and criticalities:

According to the description of the administrative procedures followed in each studied region, and the criticalities that these procedures receive, we can find some difficulties and bottlenecks common in all cases, and others that are specific or most serious in specific cases. These criticalities imply some recommendations, both for potential investors to be taken into account to avoid problems in the procedures, as for the administrators of the various public and private bodies involved in the authorization, who may try to facilitate the proceedings.

Stands out above all others the case of Poland, which lacks a basic law that regulates the electrical grid connections and a FIT system. Without this basic laws in Poland only isolated solar power facilities can be constructed, and photovoltaics can not become part of the renewable energy sources that supply the country.

In the other regions highlights a problem that they all suffer in common: excessive complexity of the procedures necessary for the authorization of the facilities and the connexion to the electrical grid, which also involves excessive deadlines for facilities implementation.

The steps involve too many different administration bodies, both at national, regional and local level. In this regard the most extreme case is Italy, where in the case of installing a new power line to connect the facility may be necessary to carry out procedures against 13 different bodies.

Within the same country often there are different procedures, and even specific rules depending on the region concerned. At the municipal level there may be additional difficulties with councils that have different interpretations of the same rules, and sometimes with civil servants that have not received sufficient training or does not have sufficient technical assistance.

Procedures are simplified in some cases, for smaller power plants, but in general there is consensus that there is much room for the simplification of formalities.

The most extreme case of administrative difficulty is found in Spain, where the existence of the Registration in the Retribution Pre-assignment Register may delay the construction of the facility for years. This implies serious difficulties in obtaining financing, since it is necessary to make a deposit to begin the process, even in smaller facilities, and this process makes it difficult to determine exactly a factor as important as the profitability of the plant. Also in Spain the required documentation is not proportional to the size of the facility, being necessary almost the same for large and small PVPPs.

In any case it is always advisable to preliminarily investigate whether the regional and local governments have established environmental procedures, limitations for the installation of power plants or if there are limits to the classification of land that could be affected by PVPPs. Also, if you need a new electrical line to connect the facility to the grid and the construction affects lands of different owners, it is important to reach an agreement with them to expedite the proceedings.

Another critical point is the procedure for access to the grid with the electricity distribution company in the area. For example, in Slovakia big difficulties have been produced due to the backlog of applications submitted for processing.

The processing of grid connections to the power company requires in some cases a large amount of documentation to submit, required by legal requirements, but also required by the utilities themselves. In some cases, for example in Spain, the documentation required is not proportional to the size of the facility and also for these procedures is required about the same for small and large PVPPs.

Other criticisms are that there are important differences between the procedures of different utilities, sometimes with delays in processing times, and that there are difficulties in access to the people who manage the documentation. It would be desirable to standardize the procedures between the companies, establish and enforce strict deadlines on the processing, and improve communications with companies, even including electronic means for submission of documentation.

In the final stage, once the facility is built, when it comes to the latest measurements and procedures, the delays imply a direct economic loss for the company or the municipality that owns the facility, as at the time the plant is ready for pour energy into the grid. At this stage it is important to contact the bodies responsible of the last procedures and the review of the facility, to speed up the process. In addition a final review of all necessary documentation can save time.

With regard to the consideration of marginal lands as a special case, only the Italian law distinguishes them by establishing special FIT prices in these and other cases.

## Comparative of prices of feed in tariffs in the last and coming years:

In order to carry out the comparison of the FIT of the countries participating in the PV's in Bloom project have been taken the FIT prices for the month of February since 2010 to 2013 and, as a model, 3 different sizes of PVPPs (20, 200 and 2000 kWp).

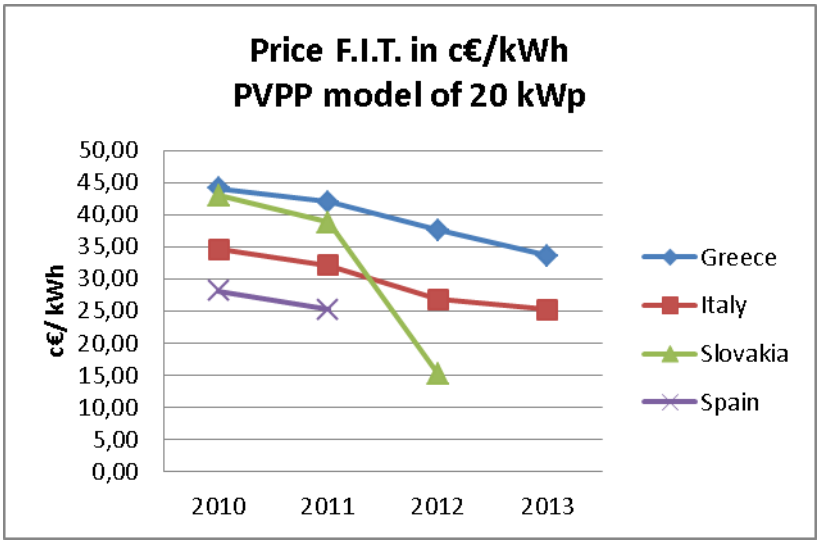
Only in the cases of Greece and Italy there are available data of all the period because in these countries the prices have been already set for the coming years. In the case of Poland, there is no system of FIT, in Slovakia the prices are set annually, and in Spain the prices are set quarterly.

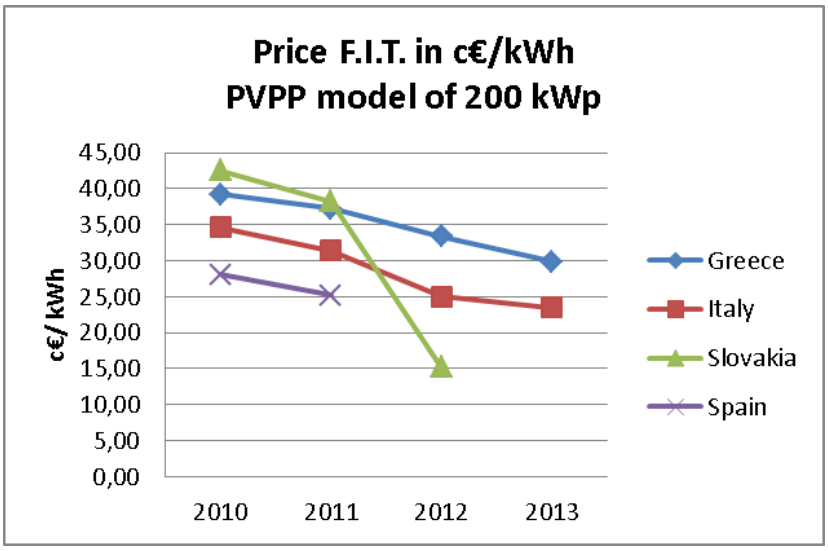
| Country | Time (February as month of reference) | Price F.I.T.in c€/kWh | | |
|---|---|---|---|---|
| | | PVPP model of 20 kWp | PVPP model of 200 kWp | PVPP model of 2000 kWp |
| Greece | 2010 | 44,10 | 39,20 | 39,20 |
| | 2011 | 41,94 | 37,28 | 37,28 |
| | 2012 | 37,55 | 33,38 | 33,38 |
| | 2013 | 33,62 | 29,88 | 29,88 |
| Italy | 2010 | 34,60 | 34,60 | 34,60 |
| | 2011 | 32,10 | 31,40 | 31,30 |
| | 2012 | 26,80 | 25,00 | 24,80 |
| | 2013 | 25,20 | 23,50 | 23,30 |
| Poland | FIT does not exist | | | |
| Slovakia | 2010 | 43,00 | 42,50 | 42,50 |
| | 2011 | 38,76 | 38,26 | 38,26 |
| | 2012 | 15,20 | 15,20 | 15,20 |
| Spain | 2010 | 28,10 | 28,10 | 28,10 |
| | 2011 | 25,17 | 25,17 | 25,17 |

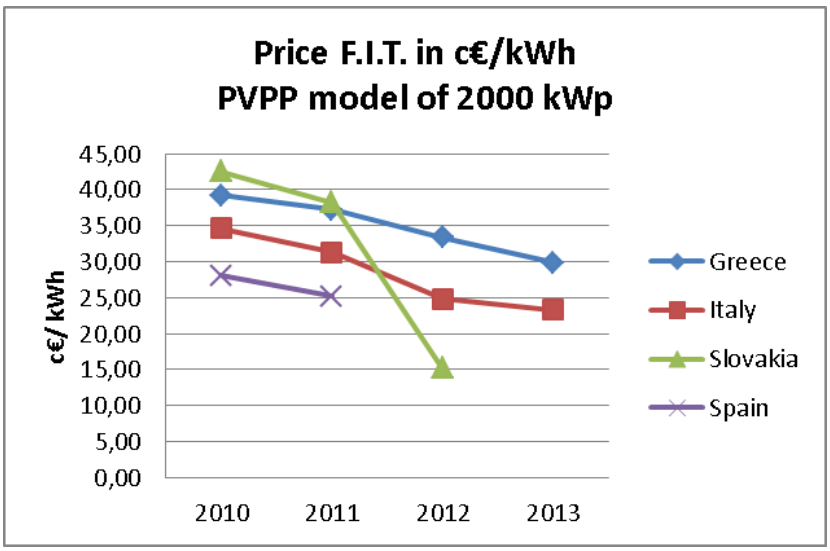
As the comparison table and graphics shows, the trend of prices is downward in all cases. We find the higher rates in Greece and Slovakia, countries in which the photovoltaic market is emerging, but in Slovakia a recent new legislation concerning solar power plants makes that all the ground mounted plants not connected by 30 June 2011 will not receive FIT and the price of the produced energy will be the market one. Until this coming change lower prices are found in Spain for all the models.

By sizes we can see that the prices are always higer for the small PVPP's and being the trend downward in the 3 considered models, although in most cases is slightly more accused for larger installations, which reflects the tendency to benefit small installations.

In Italy the present and foreseen FIT is the best suited to the different plant sizes, with different prices for the three models. In Greece and Slovakia (only until 30 June 2011) the prices are especially high for the small plants, with equal prices for medium and large plants. Only in Spain the prices are independent of the size of the installation, even for the small ones.

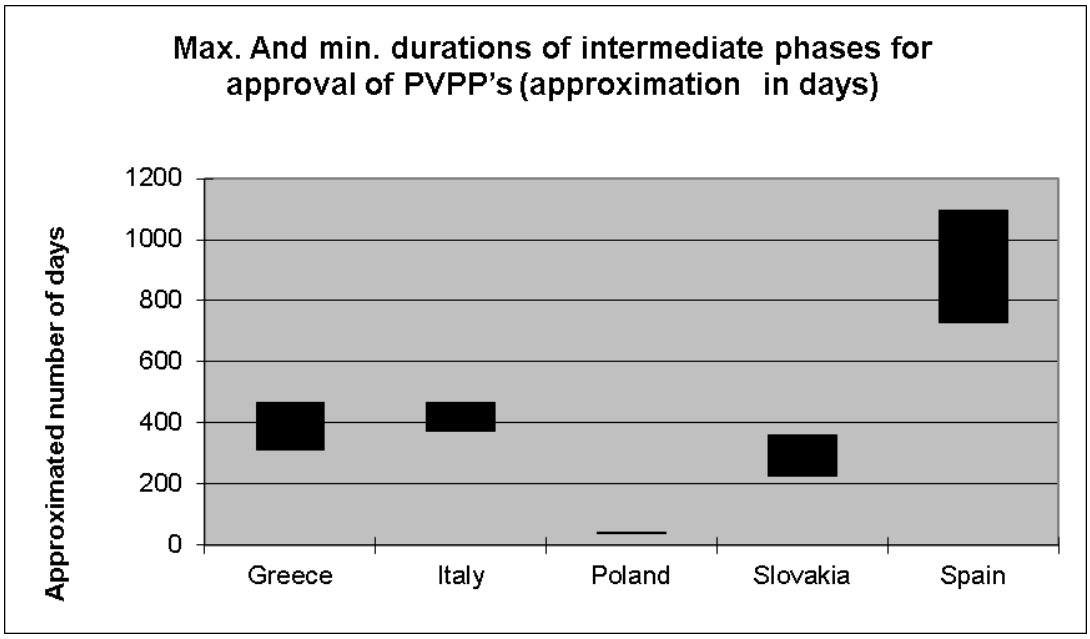


## Comparative of standard or foreseen durations of intermediate phases for approval of PVPP's:

The data proposed as indicator of the administrative difficulties which must be confronted in the construction of a photovoltaic installation is the estimated time to be investing since the first procedural step to the date in which the installation comes into operation, including the time required for its construction.




In this way the total estimated duration is compared by countries. The data included for each country are the largest and the shorter estimated number of days, regardless of type or size of the installation concerned.

| Country | Max. And min. durations of intermediate phases for approval of PVPP's (approximation in days) | |
|---|---|---|
| | Max. | Min. |
| **Greece** | 465 | 310 |
| **Italy** | 465 | 375 |
| **Poland** | 42 | 42 |
| **Slovakia** | 360 | 225 |
| **Spain** | 1095 | 730 |

As we can see there is a group whose values are intermediate: Greece, Italy and Slovakia and another whose values differ from previous and from the "average time", Spain and Poland. For Poland the data is not significant, photovoltaic authorizations

processing are uncommon and the sector even lacks the necessary regulation that does exist in other countries. In Spain the duration of the proceedings takes much longer than in other countries. Even in the most favorable cases the duration may be twice as much as in others, and reaches two-year.

Among countries with moderate durations Slovakia is offering faster, with a minimum near of 8 months, but Slovakia, Greece and Italy procedures can easily be up to a year.

# Part 1: Overview of PVPPs authorizations

## 1.3) Analysis and Conclusions.

As a general conclusion it should be noted that a worsening in the economic conditions, and also in almost all cases an excessive bureaucratic burden, are perceived as major obstacles. However there are disparities between the situations in different countries. By countries, the following can be drawn:

- Greece: Has one of the most advantageous FIT, a very good level of radiation, and the duration of the administrative procedures is of medium level. The legal uncertainty, with a legal stage subjected to changes, and the economic crisis, has slowed the construction of new photovoltaic installations in Greece up to now. However it is a country with great potential for photovoltaic development in the coming years.

- Italy: It is one of the countries with greater development of the PV market currently. The duration of administrative procedures is medium to high, with little difference between the minimum and maximum durations. This is an aspect that could be improved, particularly to facilitate the authorization of small installations for self-consumption of private stakeholders and municipalities. Italy has very good radiation levels, and has maintained for some years one of the most attractive FIT schemes in Europe, that ensured the economic viability of projects. On the 3rd of March 2011 however, the Italian Government approved a new Act on Renewable Energies, the so called "Decree Romani". The measure isn't a resolute cut of the Tariffs as feared, but of course it entails a reduction of the incentives and a certain degree of uncertainty. From the 1$^{st}$ of June 2011, the FIT system will be governed by an ad-hoc decree that has to be adopted by the government before the 30$^{th}$ of april 2011 and will determine among others an annual ceiling to the supportable electric power, the reduction of tariffs according to the reduction of costs of technologies and plants and of the FIT systems in force in the EU and different tariffs according to the type of areas interested by the installation.

- Poland: In its territory the radiation level is relatively low, and the duration of the proceedings is low, but because the authorizations are punctual, and there are few installations in a system that is not properly regulated. It is a new market but it still lacks even a regulated FIT and still require a lot of work to have a basic structure for the development of the PV sector.

- Slovakia: Radiation levels are not high. Until the end of 2010 an advantageous FIT and relatively rapid administrative procedures made Slovakia a country of great attractiveness for investment in photovoltaics. At the end of December 2010 the government changed the legislation concerning solar power plants: after 30 June 2011 only plants on the roof or wall integrated up to 100 kW will be permitted. All the ground mounted plants not connected by 30 June 2011 will not receive FIT and the price of the energy will be the market one. From February 2011 Municipalities in Slovakia are not permitted to release building permissions to ground installations.

- Spain: Spain lives a special situation, with a virtually paralyzed photovoltaic market, and which probably will require adjustments in the next years. Despite its good levels of radiation the FIT is the lowest in all cases and is not flexible in proportion to the power of authorized installation. The duration of the proceedings is the highest and the authorization in small installations is almost as complex as in the case of the large ones. In addition in Spain the caps that set quaterly the power that can be installed, progressively benefit more installations on rooftops in front of the facilities on ground, and this makes PVPPs building even more difficult.

  This situation is due to the adjustment suffered after a period of photovoltaic boom in 2008. The introduction of annual caps by a new regulation, caused an increase in the complexity of administrative procedures and, above all, long waiting periods for finally obtaining authorisations. The effects of the economic crisis on the possibilities of financing and the legal uncertainty, with policy changes that have affected retroactively the rates of installations already in service, have also helped to immobilize a market that will have to start a recovery process in the coming years.

Other important conclusions can be drawn. Currently the general trend is gradually decrease the incentives for photovoltaic systems, which can be observed in all studied cases.

The decrease has been especially intense in Spain, is planned in Slovakia, and may occur soon in Italy. Furthermore this trend is more restrictive as in the case of installations on the ground, as seen especially in cases like those of Spain and Slovakia. The strategy to encourage power generation in urban environments and distributed generation is certainly very positive. However we must not forget that PVPPs can play an important role not only as an energy source, but as a means for the use of another resource: the marginal areas.

Only in the case of Italy there is a regulation (Conto III) which benefit the installation of PVPP's in degraded lands. There are also several examples of this in Spain, but limited to regional development policies. In a situation where new facilities are limited, especially on the ground, a good measure would be to take into account the exceptions that clearly involve additional benefits. If in this moment the tendency of the market is to lower the selling price of electricity of photovoltaic origin, perhaps for this reason this is a good time to foster measures to maintain higher prices in the case of installations which carry those additional benefits, such as the recovery of marginal areas. This can be beneficial in all countries but especially in those which the photovoltaic market is growing now and those where its implementation is incipient or virtually inexistent, where further growth is expected in coming years.

Along with the economic circumstances, the stronger factors in the construction of photovoltaic installations are the administrative difficulties and legal certainty. In general the duration of the formalities and bureaucratic burden is too high in all countries. However, the fact that there are improvements to carry out here is also an opportunity to incorporate procedures and practices to encourage the recovery of marginal lands.

Anyway what should not happen in any case is that the rules of the game are not clear. Legal certainty is essential for the proper functioning of any business because without it is not possible to stimulate the investments.

To incorporate renewable energy sources in general, and photovoltaic solar energy in particular is a need for all European countries, and so in the best possible way will imply regulatory changes and administrative good practices, and at the same time other environmental aspects and management of the territory, as the recovery of marginal lands. The following section shows a series of exemplary experiences that can serve as a reference for this.

# Part 2: Cases of good legal and administrative practices in the implementation of PVPP's

In any sector of activity a well-planned and stable regulatory framework is essential, and perhaps even more in the field of photovoltaics. The energy sector is of strategic importance, and within it, renewable energy in general and photovoltaic sub-sector in particular is under pressure from interests of conventional energy sources, and because of the evolution of energy markets. The stable existence of an industry that competes in these conditions, and is driven in many cases by small companies, small investors and small municipalities, requires a fundamental way of legal certainty to attract investment from different economic agents in the production of photovoltaic solar energy.

In addition to requiring a stable policy based scenario, the PV industry can benefit from policy initiatives and administrative practices that can give an extra boost, as well as steering it to practices that add additional benefits in social and land management. A good example is the PVPP's covered by the project PV's in Bloom, in which the production of renewable energy is matched with the recovery and value of degraded or unproductive land for various reasons, which can hardly be profitable with other uses. There are examples of such initiatives in Europe, especially in countries where the sector is more mature, which can serve as a model for adoption elsewhere, especially those in which the photovoltaic industry is still nascent.

For this reason in this handbook have been collected a number of good practices, grouped into two categories. On one hand, there are a series of legal practices, which may serve as a model for adoption by governments and energy agencies responsible for regulating this activity. Furthermore, good management practices can be emulated by anyone who raises the possibility of investing in a PV ground system, whether it be private or public initiatives.

## 2.1) Cases of good legal practices adopted for facilitating installation projects of PVPPs.

The following are examples of measures taken by the administration, through various regulative figures or public calls, trying to facilitate the implementation of photovoltaic systems on ground, in general, and particularly in degraded lands. In cases of legal practices we can find:

a) Regulations that specifically promote the installation of solar plants in marginal or protected from urban development areas,

b) Regulations that economically favour plants installed in marginal areas,

c) Cases of public grants for the installation of PVPP's,

d) Cases of promotion of normative models favoring the implementation of renewable energy sources,

e) Cases of rules that grant tax exemption for renewable energy production,

f) Cases of exceptional administrative procedures for the recovery of degraded areas.

## a) Cases of normative regulations that favor the installation of PVPP's in marginal or protected from urban development areas:

The fact that the following rules set out the areas where the installation of photovoltaic plants is allowed, unravels many of the possible doubts about compliance with environmental regulations and urban planning, at the time of obtaining or granting permits for new facilities. In some cases these areas are set explicitly and in others not so explicitly, but in any case they set a framework in which investment in the above areas are carried out under conditions of legal certainty, this being useful for investors, public or private agencies to the licensing procedures.

| **Case of good practice** | **Guidelines for the identification of potential impacts of PV systems and the proper inclusion in the territory of Sardinia**  |
|---|---|
| **Standard Reference** | *Decree 19 February 2007: Criteria and methods to promote the production of electricity by photovoltaic conversion of solar energy, under Article 7 of Legislative Decree 29 December 2003, n. 387 (Gazzetta Ufficiale N. 45 of 23 Febbraio 2007)* |
| **Status** | Activated in 2007 and still active |
| **Description** | In 2007, the regional government of Sardinia published special regulations for the identification of potential impacts of PV systems and the proper inclusion in the territory. **The regulation clearly states in which marginal areas investors are allowed to install PVPPs**:<br>○ Areas belonging to the manufacturing plants to farms, water treatment plants, treatment, recovery and disposal of waste water pumping stations or service activities in general, so that the photovoltaic installation supplements or replaces the power conventional energy in a system of self-sufficiency.<br>○ Industrial or craft activity areas identified by public planning instruments and plans listed in productive activities, the industrial areas of regional or Industrial Development Areas<br>○ Areas at risk from the environmental point of view, including:<br>▪ Perimeters of the waste landfill.<br>▪ Perimeters of the exhausted quarries owned by public or private bodies. |

| Case of good practice | **Guidelines for the installation of ground PV systems a in the territory of Emilia Romagna**  |
|---|---|
| **Standard Reference** | *Deliberation 6 December 2010, n°28 of the Emilia Romagna regional Government* |
| **Status** | Activated in 2010 and still active |
| **Description** | In 2010, the regional government of Emilia Romagna published special regulation for reconciling the production of energy from Renewable Sources with the safeguard of the territory, agriculture and natural environment and landscape, favouring the diffusion of RES plants while limiting the consumption of soil.<br><br>The Regional Guidelines regulates the localization of biomass, wind, biogas, hydroelectric and PV plants on the regional territory. Concerning the installation of ground PV plants, the deliberation identifies two typologies of areas, with different levels of protection.<br><br>In particular, **the regulation grants a simplified procedure for the installation of PV plants over marginal areas, where any dimension and peak power is admitted, while instead it limits installation over agricultural land** ( only admitting plants of max 200 kWp - the limit within which the plant can be considered as device producing agricultural income for tax purposes - that covers a maximum of 10% of the available agricultural surface) **as well as landscape/environmentally protected areas** (as the Natura 2000 areas). Farmers will be allowed to complete the production of Dop, Igp, biologic, Doc and Igt products with the installation of ground PV plants within these limits. This will allow them to integrate the income from agriculture with the income from the production of RES energy.<br><br>In 2011, the regional government provided a complete and updated cartography of the areas suitable for the installation of ground PV plants over the regional territory.<br><br>The cartography, which reports the general localization criteria for PV plants is available to public on the website of the regional government (http://www.regione.emilia-romagna.it/wcm/geologia/canali/cartografia/cart_geotematica/cartogrfia_fotovoltaico.htm).<br><br>In every area the different levels of protection are indicated, according to natural, environmental, landscape regulations as well as the characteristics of the territory. |

| Case of good practice | **Regulation of the implementation of photovoltaic systems in Catalonia**  |
|---|---|
| **Standard Reference** | *Decree 147/2009 of 22 September, which regulates the administrative procedures for the implementation of wind farms and solar facilities in Catalonia.* |
| **Status** | Activated in 2009 and still active |
| **Description** | This Act **specifically encourages the use of marginal land through PVPPs**, as it establishes that the location of the photovoltaic system in Catalonia is made on grounds which meet any of the following conditions:<br>○ Lands classified as industrial by urban planning.<br>○ Land classified as undeveloped land which are not specially protected and comply with any of the following requirements:<br>▪ That are adjacent to industrial land, agricultural or livestock buildings and facilities, or buildings and facilities of public interest in undeveloped land.<br>▪ Lands whose natural state has been severely degraded by a past activity, without having made any restore operation and without it to be feasible in the medium term and where the implementation of a photovoltaic park is an improvement from its current state, provided they do not entail a benefit to anyone who has violated its obligation to restore, and excluding the land that has been affected by forest fires.<br>▪ Which have been deemed as suitable for the implementation of these facilities by a municipal or special Urban Plan.<br>○ Land which is a part of large infrastructure facilities or their service areas, and where conditions are suitable for solar use. |

| Case of good practice | **Regulating the use of rural land in the Balearic Islands**  |
|---|---|
| **Standard Reference** | *Law 6 / 1997 of 8 July, the rural land in the Balearic Islands* |
| **Status** | Activated in 1997 and still active |
| **Description** | The purpose of this Act, broadly speaking, is to protect the territory from the processes of urban development in the rural land on the islands, limiting and sorting processes of transformation faced. This Act regulates the activities which may be acceptable, the conditions of buildings and facilities related to them and the procedure for its approval. This type of legislation that protects the territory, may avoid the easy deployment of activities of renewable energy production, if they do not include specifically the case of these facilities.<br><br>For this reason this Act was amended in 2006 with an additional provision specific to the promotion of renewable energy. Under this amendment the regional government is empowered to regulate the procedure for authorization and may declare the solar PV installations connected to the electricity grid of the Balearic Islands as public utility energy.<br><br>This declaration of energetic public utility of an area, implies:<br><br>○ The declaration of general interest of the installation.<br>○ The authorization for the establishment or passage of the facility on public lands or lands of public use.<br>○ The exemption of municipal preventive control actions as being a supra-interest activity.<br>○ The exemption from licensing permits and reports.<br><br>These conditions apply to renewable energy installations (solar photovoltaic, wind, biomass and others) connected to the electricity grid of the Balearic Islands, apply to any type of ground, and greatly facilitate the processing of the authorization and processing facilities in urban areas of the territory in which, otherwise, land use approval would be very difficult. |

| Case of good practice | **Regulating the use of rural land in the Canary Islands**  |
|---|---|
| **Standard Reference** | *Law 6 / 2009, dated May 6, on urgent measures in spatial planning to revitalize the sector and tourism management* |
| **Status** | Activated in 2009 and still active |
| **Description** | Through this legislation the regulation of the protection of the territory in the Canary Islands is modified. In an insular environment, whose main activity is tourism, protection of the territory and the environment is essential, but at the same time, this protection must be flexible to allow for modernization and economic development.<br><br>As specific goal, and from a practical standpoint, this legislation providesa legal regime that allows the construction of facilities of production of private electricity energy projects from renewable sources on rural land with agricultural and farming activity. **Projects of renewable electricity production are configured as an exceptional use of rural land.** Farms may well include PVPP's on their land, as long as they comply with several limits and conditions:<br><br>○ The maximum power is 1.5 MWp.<br>○ The construction may not be expressly prohibited by another instrument of territorial protection.<br>○ The land occupied by the PVPP's shall not exceed a 10% of the total farm area and a 15% of the area actually cultivated.<br>○ As a condition for maintaining the activity of energy crop production can not be abandoned for a period exceeding two years.<br>○ It is established that the authorization of the activity requires the territorial license, but not the environmental impact statement in the case of facilities with less than 600 kW power.<br><br>This Law **creates a scenario in which investment in the PV system can be carried out under conditions of legal certainty**, facilitating the procedures for authorization. Besides, the Act streamlines the processing of files, since it sets estimatory silence effects. |

**b) Cases of economic regulation legislation favoring the installation of solar plants in marginal areas:**

The *feed in tariff systems,* which are widespread among most countries as a means of compensation for photovoltaic electricity plants discharging to the grid, can also be an encouragement for new facilities to be constructed so that other benefits to society and territory are promoted thanks to that, being introduce where, in addition to producing clean electricity, produce other kinds of additional wellness. These benefits may be the use of degraded or marginal areas, increasing efficiency and stability of networks and installations, the economic promotion of small towns, etc.

| **Case of good practice** | **Regulation of tariffs that are particularly beneficial in the cases of PV installations in commercial, industrial or degraded areas in Italy**  |
|---|---|
| **Standard Reference** | *Conto Energia III, approved in July 2010 (Unified State-Regions Conference) and published in the Official Journal: August 24, 2010 (Official Gazette)* |
| **Status** | Activated in 2010 and still active |
| **Description** | Before the adoption by the Italian Government of the "Decree Romani" on the 3rd of March 2011, which foresees a not yet defined change in the FIT scheme from the 1st of June 2011, the Italian most recent FIT scheme (Conto Energia III) established **special premiums** (for the exact tariffs see page 41 of this Handbook), **for the use of marginal areas**, in the measure of the 5% of the price awarded.<br><br>In particular, it applies to PV systems built on areas classified by the urban tools in force as:<br>▪ Commercial areas<br>▪ Exhausted Quarries or Landfills<br>▪ Industrial areas<br>▪ Landfill buffer areas<br>▪ Contaminated areas<br><br>Other premiums (not cumulables) can be summed up to the Marginal area one for the benefit of the investors:<br>○ Photovoltaic systems for municipalities with less than 5000 inhabitants (5% on the price given) if they are installed on buildings and operate under the net-metering regime.<br>○ PV systems that allow predictable production (20% of the rate granted)<br><br>There is also a special premium for concentration PV:<br>○ Concentration photovoltaic systems. A ceiling of 200 MW of total installed capacity is foreseen and also the reduction of the rate by 2% per year. |

## c) Cases of public grants for the installation of PVPP's:

Direct grant or aids through favorable financing conditions are set out measures for promoting the incorporation of solar energy in countries where this market is mature and in some cases impulse of new technologies or support to good practice such as the recovery of degraded lands, in countries where this source of energy is already well represented.

| Case of good practice | **Incentives for investments in solar power out of landfills in the region of Piedmont**  |
|---|---|
| **Description** | In 2008, the region of Piedmont, in the framework of **the Structural Funds (ERDF Regional Operational Programme 2007-2013) issued a call for funding the installation of plants producing solar energy in areas that had been landfills**. The call for promoting investment in photovoltaic systems in closed landfills and dumps that were in the process of post-operational management, with the following characteristics:<br>○ Areas used as landfills for inert waste or non-hazardous waste<br>○ Areas with a minimum size of 10,000 square meters<br>○ Areas located in the Piedmont region<br><br>In addition, projects to be funded, should take into account the need to minimize the impact of PV on the areas of action, while respecting their proper integration into the environment and landscape. |

| Case of good practice | **Line ICO-IDAE: grants for renewable energy projects**  |
|---|---|
| **Description** | Between 2000 and 2005 projects of installation of photovoltaic plants in Spain had the possibility of being financed and receive aid from the ICO-IDAE for renewable energy projects.<br><br>One of the keys to the success of this line, was the collaboration between the ICO, State financial Agency as the mediation institution, the credit institutions, which **assumed the initial risk in terms of ensuring the timely repayment of loans**, and the IDAE (Institute for Diversification and Saving of Energy) in the dual role of promoter of the sector and **guarantor of the quality of facilities.**<br><br>Thanks to this collaboration system, the technical quality of the facilities and business plans of the projects receiving aids, was ensured.<br><br>All projects were evaluated, so that should meet the requirements of a framework of strict technical and financial specifications were met. This system of evaluation of projects brought to market in this sector quality standards that were a key to its success.<br><br>A total of 9,243 photovoltaic projects, which supported by this line of support, meant the installation of 143.1 MWp were approved. |

**d) Cases of promotion of normative models favoring the implementation of renewable energy sources:**

One of the actions that can be carried out by governments and energy agencies is the drafting and dissemination of models of municipal energy ordinances that allow municipalities to have a solid starting point, which can be supplemented and adjusted in line with the local features, in order to introduce renewable energy and energy efficient technologies in the municipalities.

| **Case of good practice** | **Dissemination of models of municipal ordinances about energy**  |
|---|---|
| **Document Reference** | *Energy efficiency measures and renewable energy promotion in the municipalities of Spain* |
| **Description** | In 2003, in Spain, the IDAE (Institute for Diversification and Saving of Energy) and the FEMP (Spanish Federation of Municipalities and Provinces) published a series of techniques and models of tax ordinances for distribution to municipalities throughout the country.<br><br>The proposed model as "Fiscal Ordinance" proposed a text for the regulation of **municipal tax exemptions for some activities of solar energy capturing**, among others. In the case of the "Solar Ordinance" it proposed a text for the regulation of solar thermal systems, but this action may also serve as an example in the case of solar photovoltaic installations.<br><br>This document (http://www.idae.es/uploads/documentos/12549.pdf) and other similar interesting references are available at the IDAE website (http://www.idae.es) |

## e) Cases of rules that allow tax exemption for renewable energy production:

The tax exemption is one of the measures that national, regional and municipal governments can take to encourage investment in certain sectors. The renewable energy sector in general, and photovoltaic energy production in particular has been benefiting from these exemptions in the following cases.

<table>
<tr><th>Case of good practice</th><th>Tax credits of Corporate Tax and Income Tax of Individuals  </th></tr>
<tr><td>Standard Reference</td><td>Law 35/2006 of November 28, the Income Tax of Individuals and partial modification of the laws of the Company Tax on Nonresident Income and on Capital.</td></tr>
<tr><td>Status</td><td>Activated in 2006 and not yet active</td></tr>
<tr><td>Description</td><td>This Act has made possible in Spain for companies or individuals to deduct from their taxes a portion of investments in equipment to capture solar energy.<br><br>Having discharged the economic activity of production of grid-connected solar power for sale to an electricity distribution company, individuals can deduct a percentage of money spent on equipments in his annual statement of income, and companies can make this deduction on their corporation tax. Measures of this type serve as an incentive for the construction of new photovoltaic installations. Tax incentives have several clear advantages against the grants policies: are neutral, while grants favour companies, sectors and projects, are tailored to the characteristics of any facility (individuals, large companies, SMEs, etc...), protects the confidentiality of the project, is implemented by the company when it decides, and its financial effects are immediate.<br><br>Initially, in 2006, the deduction was up 10% of the amount invested. Each year individuals and companies, when declaring their taxes deducted this 10%, taking into account a maximum of a 35% in the sum of the deductions applied. Amounts not deducted in the first year, could be drawn, respecting the same limit, in the statements of the 10 fiscal years beyond. Thereafter, the amount which was possible to deduce was gradually reduced as follows:<br><br>
<table>
<tr><td>8% from January 1, 2007</td><td>6% from January 1, 2008</td></tr>
<tr><td>4% from January 1, 2009</td><td>2% from January 1, 2010</td></tr>
</table>
<br>An alternative to the application of this kind of measure could be the application of this tax deductions, or more advantageous conditions of the deductions, in cases where the facilities are carried out on marginal lands, so that at the same time the recovery of that terrains was being stimulated.</td></tr>
</table>

## f) Cases of exceptional administrative proceedings for the recovery of degraded areas

In some unfortunate cases the authorities are forced to take emergency measures due to accidents or natural disasters that cause the devastation in their territories. Cases such as large-scale dumping of toxic sludge in Aznalcollar, next to the Doñana National Park in Spain, or the latest release of "red mud" from aluminum production in Hungary, which affected the counties of Veszprem, Gyor- Moson-Sopron and Vas, require that the authorities take urgent administrative measures for the recovery of these areas. The actions that are planned for the restoration of these areas may include, as in the case of Aznalcollar, the installation of PVPP's.

| Case of good practice | **Photovoltaic park of Aznalcollar**  |
|---|---|
| **Standard Reference** | *Agreement of May 4, 1999, of the Governing Council, adopting the necessary actions for the implementation of the regeneration project and suitability for public use of the so-called Green Corridor, and urgent occupation of the farms affected by it for the purposes of mandatory expropriation is declared. (BOJA n º 59, 05/22/1999)* |
| **Status** | Activated in 2009 and still active |
| **Description** | In 1998, the region of Aznalcollar in Seville suffered a serious socio-economic and ecological crisis after the toxic spill occurred due to rupture of a retaining wall of a tailings pond and metal-laden acidic water produced by the processing of minerals. The incident made the Junta de Andalucía produce an administrative response in the form of a battery of laws, decrees and orders which were issued since May 5, 1998, to control and minimize the social, economic and environmental impacts generated by the discharge, culminating on May 4, 1999, with the approval of the necessary actions to implement the regeneration project and suitability for public use of the river Guadiamar. This action was called the "Green Corridor" and declared an urgent occupation, for the purpose of expropriation, of the farms affected by the disaster.<br><br>  <br>Aznalcollar toxic spill 25-4-1998<br><br>Source: Consejería de medio ambiente, Andalusian Regional Government.<br><br>All these administrative measures were designed to decontaminate ground, water and organisms, and to restore the ecosystem functionality, but also to improve the quality of life of the inhabitants of the area by promoting sustainable development strategies and serve as an integrated planning model that could be extrapolated to other areas and regions.<br><br>  <br>Aznalcollar solar park (1,9 MW)<br>Source: www.opde.net<br><br>Among the works of restoration of the area, and once the work of sealing the raft was completed, a solar park built within the new industrial estate Aznalcóllar was installed on it. |

## 2.2) Good management practices in the implementation of PVPP's

These are cases in which the installation of a solar garden has followed an administrative proceeding or a business model that is considered exemplary. In each case the procedure, the collaborative model or type of novel experience for which it is considered good administrative practice is described.

The following good management practices are:

a) Cases of business models based on the cooperation between different socio-economic agents.

b) Cases of PVPP's integrated in local sustainable development plans.

c) Cases of obtaining benefits through the division of the PVPP in lots less than 200 kWp owned by different municipalities

## a) Cases of business models based on collaboration between different socio-economic agents:

Photovoltaic energy production allows different operators to form alliances to carry out initiatives. Municipalities, governments, financial institutions, photovoltaic industry, associations and citizens can work together to create PVPP's, according to various models.

| Case good practice | **PVPP "La Villa", Villa de Don Fadrique, Toledo**  |
|---|---|
| **Installation** | • Power: 0.6 MW<br>• Details: 3,258 photovoltaic solar panels spread over 24 separate fixtures of various power ratings from 5 to 100 kWp<br>• Processing center 800 KVA.<br>• Processing center 50 KVA for auxiliary services.<br>  <br>Source: www.construible.es<br>• Annual production: 1,000,000 kWh / year<br>• Area: 21,700 m $^2$<br>• Location: low-productivity agricultural land<br>• Investment: 4 million euros<br>• Awards received: Solar Prize 2008 - Spanish Call, awarded by Eurosolar (European Association for Renewable Energy) |
| **Description of good practice** | A solar garden, or *huerto solar* in spanish, is a space in which **small photovoltaic systems of different operators share infrastructure and services**. The individual installations of small investors, produces small-scale energy to sell to the grid.<br><br>The *Huerta Solar La Villa II* was the first case in Spain where the collaboration between so disparate entities, like a bank, an environmental group and a company, joined to develop a photovoltaic power project.<br><br>The environmental group Ecologists in Action, the promotion, plant installation and sale of renewable energy generation company GEA Group, and Triodos Bank unveiled an agreement in 2008 to promote renewable energy and developing alternative and sustainable, socially responsible investment.<br><br>*Huerta Solar La Villa II*, located in low-productivity agricultural land is the result of this collaboration. There are 20 owners involved in the garden. Among them, besides other companies and individuals, is the organization Ecologists in Action, many of its members, and the bank Triodos Bank, who also funded much of the facility. |

| Case of good practice | **The "Fanega Solar" de Ochánduri, La Rioja**  |
|---|---|
| **Installation** |  Source: Fanega Solar project description. Luis Narvaez.<br>• Owners: residents of the municipality (64 installations of 6.3 kWp), Town Council (100.8 kWp) and co-owners of the land (two plants and a 50.4 kWp of 100.8 kWp)<br>• Power: 700 kWp , Size: 21.000 $m^2$<br>• Details: All facilities are equipped with structures of two-axis tracking and distributed in 28 trackers of 25 kW each.<br>• Location: low-productivity agricultural land<br>• Investment > 700,000 EUR<br>• Awards received: Sun and Peace Prize 2008 (Terra Foundation and the Science Park of Granada) |
| **Description of good practice** | A municipality, despite its small size and not having a large volume of investment, may undertake the project to carry out the installation of a solar plant. On December 5, 2007 this PVPP in the Ochánduri village, of only about 80 inhabitants was put into service. The project had to overcome some administrative and financial obstacles, but finally was made possible through the collaboration of citizens.<br><br>Initially the project provided that each participant had his own followertracker, with its own meter and its contract with the electric company, but the power company did not accept the evacuation infrastructure to be loaned, because they were connected at medium voltage, and if the infrastructure was in the hands of the proprietors, the Autonomous Government only issued a registration of producers in the special regime for each processor (for every 5 kW), which involved the installation of 68 transformers, making the project unviable. The solution was to package the facility in **units of 100 kW, participants in groups of 20 and four associations of participants were formed**. Each of these four associations installed the transformer, entered in the register of production, and contracted with the power company.<br><br>Funding for the project was carried out so that any resident, regardless of his economic status, could agree to participate. The financing was negotiated together, calling for a "contest" between the financial institutions that expressed their interest in participating. Finally the funding of two entities that offered not to ask for guarantees to the participants was accepted.<br><br>As for the land occupied by the facility, it is located in a low-productivity farmland near the town. Agreement was reached with the owners of the same pair to cede transfer it for free, in exchange for participation in the project with an installation (two plants and aof 50.4 kWp and one of 100.8 kWp). |

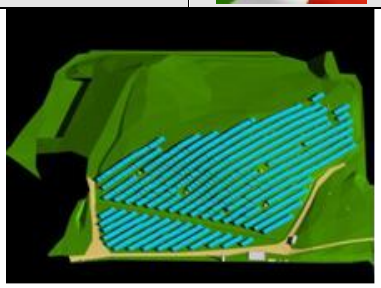
## b) Cases of PVPP's integrated in sustainable local development plans

Sometimes, in addition of examples of the construction of photovoltaic plants themselves, they combine renewable energy production using energy efficient technologies, such as in cases of efficient public lighting is the case in the following example in Barcelona, but also the Association of Campardo (page 131), shown as a case of division of facilities in various plants:

| Case of good practice | **PV Park 'Casimir Ventura', City of Mediona, Alt Penedès, Barcelona**  |
|---|---|
| **Installation** | • Developer and owner: City of Mediona<br>• Power: 96 kWp<br>• Details: 480 solar panels of 200 Wp each, distributed in 10 two-axis trackers<br>• Area: 10,000 m²<br>• Location: land adjacent to the municipal cemetery<br>• Investment: 1 million euros<br>• Grants received: Ministry of Industry, Trade and Tourism and the Generalitat of Catalonia.<br>• Awards received: Solar Prize 2008 - Spanish Call, awarded by Eurosolar (European Association for Renewable Energy)<br>  <br>Source: www.mediona.info |
| **Description of good practice** | On April 25, 2008 Mediona City Council launched the first power generation photovoltaic facility of municipal ownership in Spain, on the land adjacent to the municipal cemetery.<br><br>The town has several housing estates scattered throughout the township, consisting of isolated detached houses. This urban distribution model involves many miles of street lighting. **The PVPP was designed, in addition to yield electricity supply, to provide a new sustainable public lighting system, enabling greater energy savings**, using more efficient lighting technologies in the market. With the relevant revenue, the City anticipated to be able to reach up to a 90% of the annual cost of its street lighting.<br><br>Furthermore, the City prepared a manual on how to start and run a facility of this kind, to make it available to all municipalities and citizens who requested them, attracting numerous local governments. It is also noteworthy that the installation was accompanied by a project that allows schools to leverage data from the facility to expand knowledge on renewable energy.<br><br>The electricity production data of the facility can be followed in real time in: http://www.mediona.info/fotovoltaica/fotovoltaica.htm |

## c) Cases of obtaining benefits through the division of the PVPP in lots less than 200 kWp owned by different municipalities

Many photovoltaic installations on land actually consist of several different plants that share common facilities such as safety devices, connections for the exchange of electricity, etc. Thus, besides saving on shared facilities, each of the facilities as part of a larger plant is capitalizing on the economic or administrative requirements to be met.

| Case of good practice | The Campardo Investment model  |
|---|---|
| **Installation** | • Developer and owner: CIT, a consortium of 44 municipalities in the area of Godega S. Urbano, Veneto, North-East Italy<br>• Total Power to be installed: 1 MWp<br>• Details: Orchard divided into 50 solar installations up 20kWp each to generate electricity at low voltage. A single transformer and a single injection to the grid.<br>• Technology: standard polycrystalline silicon<br>• Area: 39,549 $m^2$<br>• Location: Exhausted landfill. South-facing panels arranged to allow access to the pumps and wells.<br>  <br>Source: The Campardo project |
| **Description of good practice** | The Campardo project foresees that each municipality member of their consortium CIT will become the owner of a lot of the ground photovoltaic plant, and each municipality will be entitled to use the energy produced in places that are different from the production site for their strategic needs (e.g. public lighting in each municipality). In fact Italian legislation, when the involved municipalities are small ones (less than 20.000 inhabitants), allows to consume the green energy in places far from where it was produced. The benefits for the small municipalities are high because they will be able to use free green energy produced by a plant whose costs will be entirely incurred by their Consortium, and whose administrative procedure will be dealt by the CIT as a sole plant procedure.<br><br>CIT will be delegated by each municipality on the basis of a special resolution to act as leasing agent for building a 1MWp PV-System and receive the FIT of € 0.377/kWh (includes a bonus of 5% for building of the PVPP on a marginal area and a 5% bonus for municipalities with less than 5.000 inhabitants);<br><br>Thanks to the Net metering measure (Amendment Vallardi), each Municipality will also benefit from an average saving of 0.18 € / kWh and receive the FIT and energy exchange quota. The FIT will be automatically re-routed to CIT to payoff the investment. This solution for landfill investments can become a standard recognized by local authorities and a guide for other public owners which want to repeat such investment sharing administrative and technical burdens with other municipalities/bodies. |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