

COMPARISON OF BUREAUCRATIC BARRIERS FOR SUCCESSFUL PV DEPLOYMENT IN EUROPE

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1. **ABSTRACT:** Experiences with regard to PV deployment in EU Member States show that feed-in tariffs are the most successful support scheme for PV market introduction. However, the implementation of feed-in tariffs does not guarantee for the creation of PV markets alone. Successful PV markets are dependent on the right framework conditions. There are several examples for countries, which implemented feed-in tariffs but administrative barriers prevent/delay a possible market uptake for PV. The purpose of this paper is to identify main barriers in European countries and show possible solutions to overcome those barriers. This will be done by taking into account the expertise of the members of the NNPVA network, the Network of National Photovoltaic Associations.

Keywords: Bureaucratic Barriers, PV Deployment, PV Associations.

1 NNPVA

1.1 What is NNPVA?

NNPVA is the Network of National Photovoltaic(PV) Associations. NNPVA was founded the 6th November 2007 by a group of National PV Associations: Asif, Assosolare, Bsw-Solar, Enerplan, Gifi, Ptpv. The network immediately enlarged with the participation of Epia, Ser and Svenssolenergi. The network is working within the framework and in closed cooperation with Epia, and it is coordinated by Assosolare and Bsw-Solar. Started at European level, NNPVA was enlarged at Global level the 13th June 2008.

1.2 Target of NNPVA

The target of NNPVA is to accelerate the development of PV markets worldwide. National PV associations play a crucial role in developing national PV markets. NNPVA is supporting the activities of the national PV associations by exchanging and transferring knowledge, best practice, experience and materials about a successful PV market build-up, fostering and maintaining suitable framework conditions for the PV deployment. The network will help to exchange market information and statistics or even set up certain methodologies to collect such information in a consistent manner.

1.3 Why a Global Network

PV has become a global business with more than 15 Bln \$ turnover. Although a growing number of countries is interested in PV the global production is growing faster than markets follow. Only 2.4 GWp has been installed worldwide in 2007, 46% of the total in

Germany, so far the country with the most successful incentive scheme (see figure 1). As of 2009/2010, an oversupply of PV modules is to be expected (more than 20 GW) and it will affect every PV market worldwide. The PV market development is a global challenge, this is the reason why PV actors should face them together on a global level. There is a need of efforts in order to build up PV markets globally and to speed up the market development. PV Associations are key players in creating the framework conditions for strong PV market development, NNPVA is therefore an appropriate means to strengthen the associations.

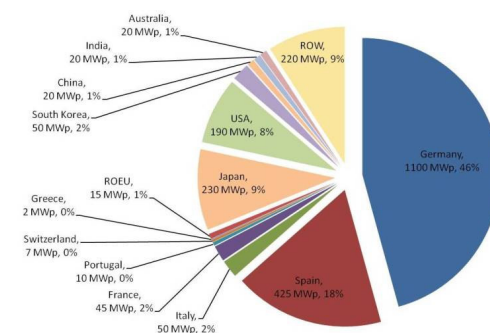


Figure 1: PV World Market 2007 newly installed power

2 MAIN BARRIERS FOR PV DEPLOYMENT

2.1 Main bureaucratic barriers

Although many countries recognize the potential of Solar PV, there are obstacles that prevent systems from being installed. Especially in countries with young PV

markets, bureaucratic hurdles are a main barrier for a rapid PV technology deployment. The main bureaucratic barriers are: Legal-administrative barriers and barriers with regard to grid connection of PV systems.

2.2 Legal-administrative barriers

Within the multitude of differences of National structures and organizations there are common problems and concerns: the legal-administrative barriers. Tons of paper to be prepared, high amount of money and time to be spent, long delays and uncertainty about the possible realization of a PV power plant, struggle the potential deployment of Solar Photovoltaic. Legal-administrative barriers includes:

- Bureaucratic application procedures on national, regional, provincial, or local level
- Magnitude of authorities that are involved in the authorization process
- Long delays in the authorization of PV plants
- Lack of knowledge of the authorities's personnel in charge
- Long and complicated procedures
- Unclear regulation for building integrated PV systems
- Unstable policy framework
- Lack of long term policies

An example of the magnitude of authorities to be contacted for realize a PV system is shown on figures 2 and 3: in France there are 5 different institutions to be contacted, 7 different permits to be obtained and between 5 to 8 months until a small system is ready to be connected. The situation is not very different in Italy, Spain and Greece, where very often there are long delays in the authorization process, unstable policy framework and a differentiation at national, regional and local regulations. In the same countries there is, often, a lack of knowledge of the authorities's personnel in charge, which, in a perfect system, should be constantly updated on the procedures and on the technology great benefits and low impacts. In Italy, for example, after obtaining all necessary permits, a small residential roof-top project authorization in Salerno has been delayed 3 months because the municipality asked for an acoustic impact evaluation from the local health entity. Another example, again in Italy, Brescia: after 16 months of building permit procedures, a 200kW ground mounted project hasn't been approved cause the local park stated that the plant was a danger for the birds that could crash on it. For instance the Solar PV technology has an acoustic impact close to zero and doesn't use a mirror/reflecting glass, trying to absorb as much solar rays as possible.

Low incentive budget cap and unstable policy framework doesn't help to establish markets, keeping investors in a uncertain profitability of their investments. Only stable and long term policies could enhance a successful PV deployment, with benefits for the world economy and for the safeguard of the environment.

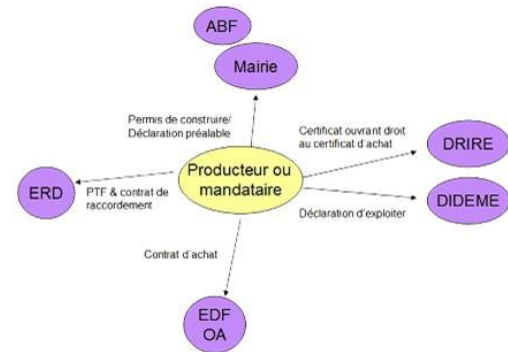


Figure 2: 5 different institution to be contacted in France

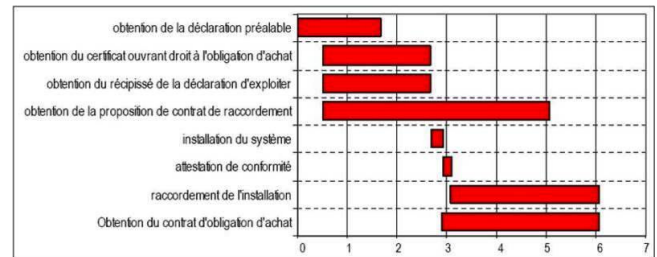


Figure 3: 7 different permits to be obtained in France

2.3 Barriers with regard to grid connection of PV systems

The grid connection is, as well as legal-administrative, a show-stopper for the PV deployment in many countries, even though the National governments started to impose a priority for the connection of the renewable energy plant to the grid. Barriers with regard to grid connection of PV systems includes:

- Unclear regulations and norms for grid connection
- Bureaucratic application procedures
- Lack of knowledge of grid operator's personnel
- Long and complicated procedures
- Long delays when connecting the PV plant to the grid
- Delays in presenting offers and costs for connection by the utilities
- Regulatory Infrastructure

A customer that want to connect a PV power plant to the local grid has to face a long and complicated procedure, as well long delays in obtaining an offer and costs for such services. The long delays in connecting a PV plant when the plant is ready obviously negatively affects the cash flow of a project. The offer from the utilities will depends much on the distance from the connection point and on the grid lines capacity, reason why also the regulatory infrastructure is a significant barrier to market growth: an inability of governmental and regulatory agencies to quickly develop the infrastructure can conclude in a grid saturation, so the grid will be unable to absorb the solar energy production, and this will affect not only solar energy, but all renewable energy sources.

2.4 Comparison in different EU countries

Figures 4 and 5 easily shows the differences between the 5 principal European PV markets. It shows also that a well planned incentive scheme, the German feed-in tariff, needs the right frameworks: with less than a month for authorize and connect a small PV power plant,

Germany is the worldwide leader for installed capacity. In Germany no official process is needed for roof-top systems. The grid system operator has to be notified once the PV system has been installed and he is obliged to connect it to the grid in a short time. In Germany there are no relevant bureaucratic barriers.

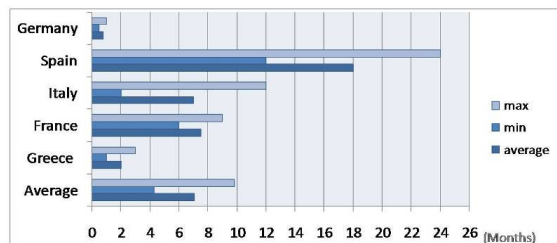


Figure 4: Time frame needed for authorize and connect a small/BIPV system

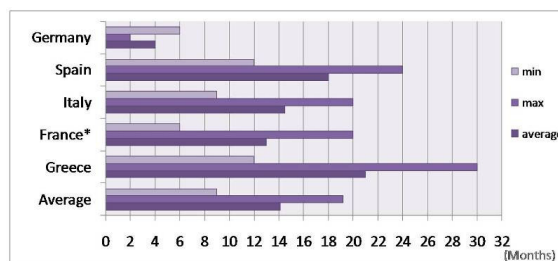


Figure 5: Time frame needed for authorize and connect Large scale PV system (not including installation time; *French data are expected time frame)

Large scale PV systems and ground mounted does obviously need higher bureaucratic efforts, but it is still too much efforts: Large PV projects in Greece are still on the licencing process after 2 years and it is not sure yet when they will be approved.

Feed-in tariffs are the most successful support scheme for PV market introduction. However, as in evidence in this paper, the implementation of feed-in tariffs does not guarantee for the creation of PV markets alone. Successful PV markets are dependent on the right framework conditions.

3 NNPVA IEE PROJECT: PV LEGAL

3.1 PV Legal

To improve the situation with regard to bureaucratic barriers, NNPVA has applied for a 3-year Intelligent Energy Europe project (IEE). The project has been named PV Legal. The overall goal of the PV LEGAL Project is to overcome market barriers for photovoltaic on the level of regulatory frameworks. The project particularly focuses on the removal of administrative roadblocks with regard to permitting, licensing and grid connection procedures in 12 EU-countries, in alphabetical order: Bulgaria, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Slovenia, Spain, the Netherlands and United Kingdom.

3.2 Structure of the project

The project is divided in 3 main steps or actions:

- set up detailed database for PV barriers
- workshop for National PV Key decision makers
- National forums

The actions will be structured and organized through 7 different Work packages, each one led by a National PV Association.

3.3 Step1: set up a detailed database for PV barriers

The first step will be the set up of a detailed database for PV barriers in 12 EU Member State. The partners will set up and regularly update a centralized database comparing the administrative procedures for PV installations in the Project Partners' states, differentiated for the three main PV target applications, namely:

- Small-scale installations on residential buildings;
- Small to medium-scale installations on commercial Buildings
- Medium to large-scale ground-mounted installations on open lands.

The database will identify each single administrative step that must be passed in order to obtain permission for constructing, grid connecting and operating a PV system.

3.4 Workshops for National PV key decision makers

PV Legal will organize workshops for National PV Key decision makers for educate them on appropriate PV regulations in order to actively pursue the removal of administrative barriers. This is an important part of the actions planned by NNPVA. The actions constitutes the very core of the project and is directly aimed at removing legal-administrative market barriers for a further PV development in Europe. The target group of this approach will be: Public authorities and policy makers on European, national, regional and local levels. They will be informed and advised by the means of the best practice report, a project website, advisory papers and workshops introducing the aforementioned findings.

3.5 National Forums

PV Legal will organize National Forums and brief the industry about those market with the least barriers in order to trigger competition between administrative regimes. The target groups of this approach will be:

- Commercial actors from the PV industry. They will be briefed on the framework conditions in the different markets, thereby providing incentives for investments in the best fitting market. This shall trigger competition between the different administrative regimes (a "vote with the feet") and indirectly influence the future decisions of policy makers.
- Grid operators. They will be informed on best practices in order to streamline their grid connection procedures. Moreover, they will be introduced to innovative legal regulations from other countries in order to convince them to lobby for these changes as well.

4 CONCLUSIONS

The present paper shows, even though briefly, that there is a urgent need of changes in the different National systems in order to build the right framework for Solar Photovoltaic Energy, which is among the cleanest and less impacting energy production technologies. NNPVA

aims to have an important role for improving the current situation and is open for all PV industry association that wish to join and increase cooperation among each other.