This paper first appeared in the fourteenth print edition of the *Photovoltaics International* journal, published in November 2011.

PV LEGAL: Reducing bureaucratic barriers is key to successful deployment of PV in the EU

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ABSTRACT

The benefits of solar photovoltaic (PV) power are well known, and, as this awareness rises and the cost of generating PV electricity declines, the technology is becoming more competitive with conventional electricity sources in market segments all across Europe. But bureaucratic hurdles remain a persistent threat to the widespread installation and integration of PV, often making it difficult to take advantage of the technology. In many countries, administrative processes and permitting procedures still require significant improvement. As a result, planning and connecting a solar photovoltaic system to the grid can still take several years in Europe.

Introduction

PV LEGAL is a European project that aims to identify and reduce administrative obstacles to the planning and installation of photovoltaic (PV) systems. Supported by the European Commission in the Intelligent Energy Europe programme, PV LEGAL involves 13 national PV industry associations, the European Photovoltaic Industry Association (EPIA) and the consultancy eclareon GmbH. The project is being coordinated by the German Solar Industry Association, BSW-Solar.

The project's first phase created an extensive database in order to identify bureaucratic barriers for project developers in the selected countries, with information for the three main market segments: small PV systems on residential buildings (Segment A), medium-sized PV systems on commercial buildings (Segment B) and ground-mounted PV systems (Segment C). For each of these segments, the steps leading to the commissioning of PV systems have been identified and described in detail [1], with information pertaining to duration, waiting periods and legal/administrative costs of the processes (Fig. 2).

There are many examples of administrative delays at the national level. For example, in France the average time between the start of a project and the first kWh injected into the grid ranges from 39 weeks for residential installations to 220 weeks for ground installations (Fig. 3). A European comparison conducted by the PV LEGAL consortium reveals that France is one of the countries in which the time required to fulfil administrative obligations is longest. And in the UK, for certain large-scale projects, planning permission enquiries and grid connection permits can involve a total waiting time of up to 22 weeks, i.e. 5½ months.

Recommendations

As a next step the project partners have developed recommendations for cutting red tape that are tailor-made for each participating country. For countries not participating in the project, a new PV LEGAL publication [2] clusters the main barriers identified and presents solutions to overcome them. Those recommendations are grouped into four main categories: 1) permitting procedures; 2) grid connection rules and technical standards; 3) grid connection procedures; and 4) grid capacity issues.

1. Permitting procedures

Administrative permitting procedures are often the most difficult obstacles to be overcome by a PV developer. These procedures may involve obtaining building permits, grid connection licences, environmental impact assessments, electricity production licences, and the like. The recommendations below aim at streamlining and harmonizing the PV permitting procedures in the spirit of article 13 of the European renewable energy sources (RES) directive.

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a) Lean and appropriate permitting procedures: permitting procedures should reflect the decentralized nature of PV.

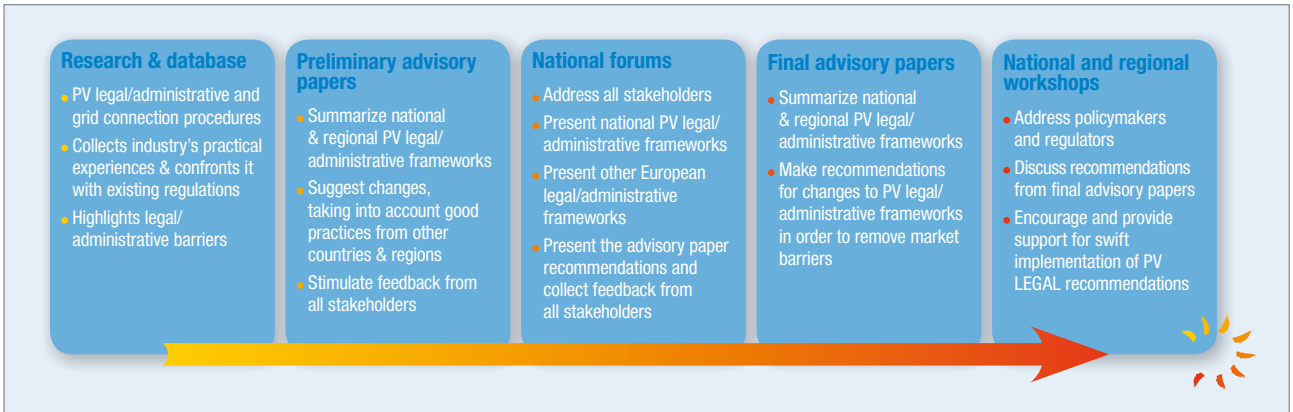

Figure 1. PV LEGAL steps towards removing bureaucratic barriers for PV system installations.

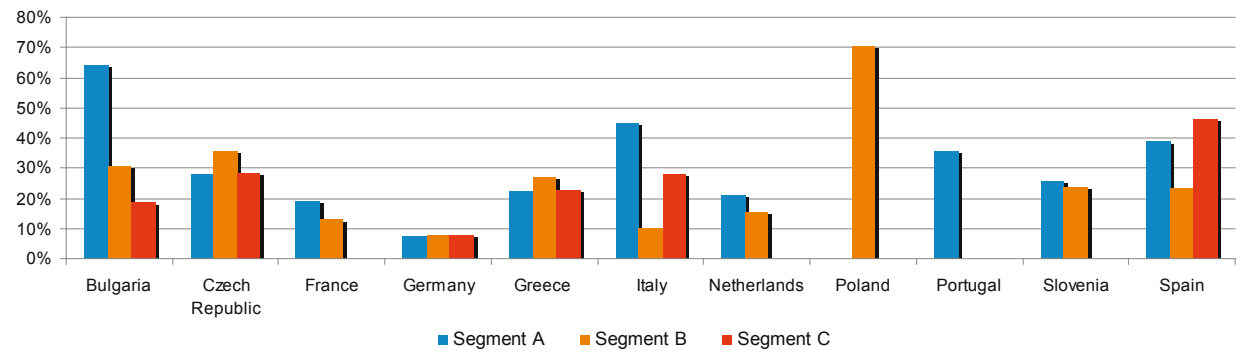

Figure 2. Legal/administrative costs as a share of overall project development costs (excluding PV equipment).

That means setting streamlined and lean procedures that reduce the burden on planners and administrations. Permitting procedures applicable to large conventional power plants do not reflect the simple, decentralized nature of PV technology and should therefore be altered. In addition, permitting authorities should not be allowed too much discretionary authority in the administrative process, since otherwise procedures become less clear and the outcome less predictable. An example of good practice in this field is the introduction of so-called 'bound decisions' in Germany: in the authorization process the administration has no discretionary power. If the requirements for the permission defined by law are fulfilled, the permit authority has no choice but to grant the permission. In case of rejection, the German judicial system provides for a broad range of legal remedies and independent courts.

b) One-stop shop for all permission procedures: the number of public departments/staff involved in PV permitting should be kept to a minimum. With a one-stop shop approach – such as the one that has been implemented in Greece for residential PV – administrative burdens can be lifted from the project planner as well as from the administration. In Portugal all permitting procedures are handled online and taken care of by one authority.

c) Definition of deadlines: deadlines should be defined for authorities to deal with permitting requests. Whenever deadlines are not met, a legal entitlement for PV system operators should be enforced that allows for the reimbursement of potential damages suffered due to the delay. The penalties should be more than symbolic: they should be strong enough to compensate for a missed feed-in tariff degression step, for example.

d) Guidance for planning authorities: clear and consistent guidance for planning officers should be made available to enforce a uniform approach to permitting. Planning authorities should clearly and uniformly define the permits needed. Training/workshops should be organized for local authorities, and support should be granted for municipal agents in charge of permitting. This could avoid diverging interpretations of building regulations by regional authorities, as installers of domestic solar PV systems are experiencing in the UK.

e) Waive building permits for rooftop PV systems: rooftop PV systems, at the least, should be exempted from building permissions, to allow for a burden-free development of this market segment. The exemption should be defined by the law and should cover all types of rooftop PV systems. A simple notification of the system to the planning authority (as required by the RES directive) should be sufficient. In Germany, for example, even this requirement is waived – only a notification to the Federal Network Agency for statistical purposes is requested.

f) Spatial planning should not prevent PV development: in some countries spatial planning provisions can prevent PV systems from being built. Spatial planning provisions should therefore not discriminate explicitly against PV. Instead, spatial planning should foresee the priority of RES over conventional energy sources.

g) Permitting fees: fees should not be charged by authorities for permitting procedures since permitting procedures can be tailored to the needs of PV and administrative efforts can be significantly reduced. However, if fees need to be collected (e.g. for larger projects), they must be transparent and proportionate. Regional differences should be avoided, as is the case in Spain, to allow for more planning certainty, and the fee structure should be published and accessible on the Internet.

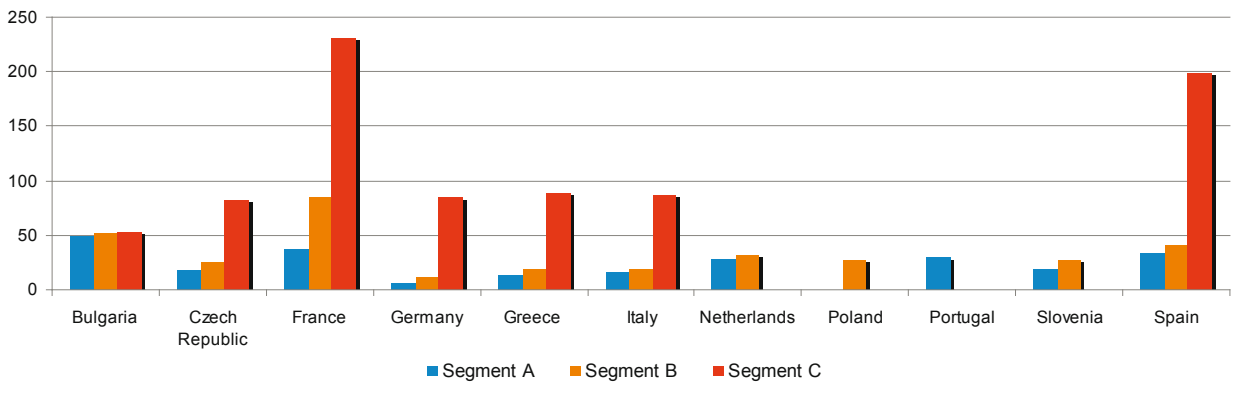

Figure 3. PV project development process: overall duration in weeks.

2. Grid connection rules and technical standards

In order to be allowed to connect to the electricity distribution or transmission grid, PV systems must meet certain criteria defined by grid operators and electricity market regulators. Often these criteria do not take into account the characteristics of PV systems and thus represent a barrier to their penetration. The recommendations below aim at involving the PV sector in the discussion on technical standards and at harmonizing rules at national levels.

a) Involve the PV industry in defining technical standards: as PV technology becomes a significant factor in the energy supply system, it will be crucial to involve the PV industry in defining technical standards. Industry know-how is necessary when revising grid codes or setting up grid connection rules to accommodate the needs of distributed energy generation technologies. This input will ensure the safe operation of the grid and should be required by national energy law. The case of Portugal, where the PV industry was not consulted when the regulation for the connection of production and consumption meters changed, reflects the kind of barrier that can occur when there is no consultation with involved parties prior to the decision. This adaptation of the technical scheme resulted in higher costs for system owners.

b) Define clear technical standards and grid connection rules at the national level: technical standards and grid connection rules should reflect the features and requirements of PV technology. Standards and rules should be clear, specific and uniform, and ideally be developed at a national level to avoid regional peculiarities that hinder broad PV penetration. Distribution system operators (DSOs) should be involved as well as all energy generation stakeholders. Further, all steps needed for the connection of a PV system to the grid should be clearly described. Ideally, PV system planners should be legally entitled to a connection study and all relevant information needed to plan for connecting the PV system to the grid.

c) Technical standards and grid connection rules defined at the national level should be binding and exclusive: to ensure transparency, good grid access and low PV system installation costs, grid connection rules defined at the national level should be binding and not subject to stricter definition by individual DSOs. Guidelines for DSOs on how to harmonize procedures – such as the ones used in Slovenia – should be created. A uniform template grid connection application form should be used by all DSOs, as is done in the UK.

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d) Set up an independent mediation office to efficiently resolve conflicts between parties: an independent mediation office (based on the example of the Clearingstelle EEG in Germany) could be helpful in resolving conflicts between parties without bureaucratic delays. The independence of such a body must be ensured.

3. Grid connection procedures

Connection to the grid is often the last and decisive step in the development of a PV system. While some Member States do not yet even recognize the need for RES systems to have priority grid access, in most countries these processes are often plagued by severe delays that have a significant impact on the economic returns of PV systems. The recommendations below aim at enhancing the transparency and efficiency of grid connection procedures in the spirit of article 16 of the European RES directive.

a) Member States should provide for priority access of renewable energy systems to the grid: in the spirit of the EU directive for the promotion of RES it is crucial to ensure that PV systems are connected to the grid as a priority. This is foreseen in Italy, for example, while in some other countries the lack of provisions hampers PV grid connection procedures.

b) Streamline grid connection procedures: lengthy and complicated grid connection procedures can significantly slow down or even prevent the installation of PV systems. The following recommendations should be adopted:

- Limit paperwork so that the DSO's requirements on the PV system operator are proportionate. In some of the researched countries, up to seven communication steps with the DSO are necessary in order to connect a PV system.
- Implement simpler procedures for small systems to allow for swift and non-bureaucratic installations in the residential rooftop segment (e.g. by defining the connection point of the house by default as the appropriate connection point for the PV system).
- Introduce one-stop shop procedures that reduce the number of people involved in the grid connection process (only one interlocutor on the DSO side).
- Introduce online procedures that have proved to be effective in some countries and allow for swift processes when dealing with the DSO. For instance, in France the main DSO (ERDF) has set up a website via which the system developer can follow the status of the grid connection process for projects under 36kVA.

c) Define deadlines for the allocation of the grid connection point: the allocation of a grid connection point (alternatively: the connection of the PV system) should be undertaken by the DSO as soon as possible, but not later than six weeks after a connection request has been made.

d) Define legal penalties for not respecting deadlines: in cases where time limits for the allocation of a connection point are not kept, a legal entitlement for PV system operators should be enforced, allowing for the reimbursement of the potential expenses incurred as a result of the delay. The penalties should be appropriate to compensate for missed feed-in tariff revenues and not just be of a symbolic nature.

e) Grid connection costs should be appropriate: grid connection costs charged to the PV system operator must be proportionate, transparent, standardized and regulated. Information about the costs should be made publicly available and monitored by an independent body (e.g. the electricity market regulator).

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f) PV grid connection training and connection by installers: the RES directive foresees the implementation by Member States of training schemes for renewable energy installers. Such training schemes should include PV grid connection modules. As is the case in Germany, installers trained in these national schemes, if listed by the DSO, could then be allowed to connect PV systems. In some countries, only the DSOs are allowed to connect PV systems to the grid. At least for residential rooftop systems the PV installer should be empowered to make the connection.

4. Grid capacity issues

The exceptional growth of PV installations in several European countries in recent years represents a challenge to Europe's

distribution and transmission grid infrastructure. Unfortunately, in some cases this challenge has become a reason to curtail or totally block the installation of further PV and RES capacity. The recommendations below aim at addressing, in a reasonable manner, the issues deriving from increased penetration of the grid infrastructure by PV and RES generators.

a) Grid analysis and regional grid concepts: an independent body (e.g. the electricity market regulator) should evaluate the grid infrastructure status, especially in the case of grid operators refusing to connect further PV and RES capacity because of grid saturation. This is the only way to allow for an unbiased and objective assessment of the state of the grid. Such a study should evaluate costs, benefits and the potential for grid extension and improvements. At the same time (and building on ambitious RES targets for regions), strategic grid concepts taking into account the future load curves and other regional specifics should be developed by the DSOs in cooperation with the RES sector. The current moratorium in the Czech Republic and in some regions of Greece reflects a lack of thorough analysis of the grid potential. In these areas no more PV is being connected because of apparent hosting capacity limits.

b) No generic limits for PV: in all cases, fixed limits imposed on the connection of PV in certain areas or to a connection point should be avoided. For instance, in Spain it is not possible to install a PV capacity in excess of 50% of the transmission line's thermal capacity. Instead, capacity issues eventually should be evaluated on a case-by-case basis.

c) Public availability of grid data: information should be publicly available (e.g. on the websites of the grid operators) on the grid status, grid capacity availability, generation capacity, PV installations connected to the grid, and grid permits granted. This will give PV developers adequate planning information. In France grid information is published quarterly by the DSO; however, this information is not detailed enough. Since March 2011 the DSO must communicate to the government a detailed list of new projects on the waiting list during each quarter.

d) Legal provision on grid extension and cost: in order to avoid PV system grid connection refusals, the energy law should clearly define the conditions under which grid operators must extend the grid to accommodate more RES generation capacity. At the same time, the law should specify who must bear the grid extension and improvement costs. One way would be to require that the grid be extended if reasonable from a macroeconomic perspective. The cost for the development of the grid could be collected by the DSO via grid charges and passed on to the electricity consumers.

e) Clear deadlines for grid extension: deadlines for grid extension should be set so that grids can generally accommodate large amounts of PV and renewable generation capacity. In the case of Slovenia, this obligation for extending the grid exists but can significantly delay the procedure since 5 to 10 years' planning is necessary.

> "Sufficient grid capacity to connect PV systems should be ensured so that licences are not a scarce commodity traded for profit on a secondary market."

f) Prevent grid connection speculation: sufficient grid capacity to connect PV systems should be ensured so that licences are not a scarce commodity traded for profit on a secondary market. In countries with regulatory frameworks that provide for the reservation of grid capacities when developing PV systems, those reservations should be issued only for specific projects. Milestones should be established according to which a continuous development process can be tracked. Reservations should be issued for a limited time – with a validity period sufficient to realize the PV system but not overly long. France, for example, has recently set up a mechanism that requires PV developers to prove the seriousness of their intentions; however, this process is sometimes so complex that it becomes impossible for small installers to develop a system.

Conclusion

The European Union's directive for the promotion of renewable energies (Directive 2009/28/EC) sets binding renewable energy targets to be achieved by 2020 for each Member State; it includes stronger provisions for the reduction and simplification of administrative barriers and access to the grid for renewable energy systems. That means, among other things, that Member States should take steps to simplify rules and authorization procedures for setting up PV systems, and encourage distribution system operators to remove barriers to PV grid connection. Only by removing these barriers and reducing administrative burdens can Europe achieve its renewable energy goals.

References

[1] PV LEGAL database [available online at http://www.pvlegal.eu/database.html].

[2] PV LEGAL 2011, "Key recommendations for reduction of bureaucratic barriers for successful PV deployment in the EU" [available online at http://www.pvlegal.eu/en/results/key-recommendations.html].

About the Author

Marie Latour is national policy advisor at EPIA. Within EPIA's policy department she coordinates activities with national European policy stakeholders and makes sure the position of EPIA is conveyed at the national level. She deals with national policy developments, supports national associations and manages the participation of EPIA in the PV LEGAL project. Marie led the communication activities of EPIA until 2008. She holds a master's degree in European management from the Bordeaux École de Management and Madrid Cámara Oficial de Comercio, as well as a master's in European affairs from the Institut Catholique de Paris.

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