

# PV Financing Guidelines

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PV Financing Project

Deliverable 3.5

**Italy**



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## Country PV Environment

According to the most recent statistics on PV installations, published by the state-owned company GSE, the PV market in Italy is facing a 29% decrease with respect to 2014 (source: <http://qualenergia.it/pro/articoli/fotovoltaico-italiano-nel-2015-un-mercato-da-301-mw/>), thus reaching an annual installed capacity of slightly more than 300 MW<sub>p</sub>. Small plants (<20 kW<sub>p</sub>), especially in the residential sector, cover the major share (about 64%) of the annual installed power, thanks to the tax reduction mechanism and to the “White Certificates” (also called “Energy Efficiency Bonds”).

For larger plants, however, though there is a theoretical opportunity due to the high self-consumption shares that can be reached for some application segments such as commercial or industrial where the demand curve usually matches the PV production very well, the situation is not very promising, due to the complex and restrictive regulation on PPAs which, for instance, does not allow selling electricity to multiple users, as it would be the case for multi-family houses, shopping centers and office buildings. The outlook for the near future is even worse, because the attitude of the main decision-makers (the Ministry for Economic Development and the National Regulatory Authority for Electricity) is going towards an even more restrictive regulation on distributed generation by PV, above all by increasing taxes and grid burdens also on self-consumed electricity (source: <http://www.qualenergia.it/articoli/20160127-oneri-su-autoconsumo-e-norme-ue-su-aiuti-di-stato-cosa-succede-in-italia-per-fotovoltaico>).

The topic of financing PV systems has dramatically changed with the cut of the feed-in tariff scheme because, without a State-guaranteed long term (20 years) incentive, banks are now focusing, when opening a debt financing line, more on the creditworthiness of the investor (including its corporate profile, financial situation, past experiences with debt financing, etc.), rather than on the profitability of the PV project itself. Furthermore, in the sector of medium and large PV plants, the interest of banks and investors is on re-financing already installed systems (the so-called “secondary market”) rather than on finding solutions for financing new installations. A quite innovative solution, especially for medium size plants, for instance in the commercial and industrial sector, is to include them in a more comprehensive energy efficiency renovation project, possibly with some short payback time measures.

For small plants in the residential sector (from 1 to 20 kW<sub>p</sub>), on the contrary, financing is not an issue anymore, due to the much lower systems costs with respect to the past and to a quite high tax reduction (50% of the investment to be recovered in a 10-years period) for the

system owner. In fact, with such a situation, users often prefer to cover the investment through their own funds rather than looking for debt financing solutions from banks.

More innovative solutions include energy cooperatives (also issuing “Green Bonds”) and crowdfunding but, at the moment, there are almost no concrete examples of such financing schemes in Italy.

The most used or promising financial schemes for the Italian PV market at the moment can be grouped as follows:

- Equity schemes:
  - Full equity by own financing
  - Crowdfunding platforms
  - Collective purchase – Energy cooperatives
  - PV Bonds (also as part of the energy cooperative initiative)
- Debt schemes:
  - Loans
  - Project financing

These guidelines include the detailed description of two of the previously listed financing schemes:

1. Financing scheme 1 – Loans: This is the most used solution in Italy at the moment.
2. Financing scheme 2 – Crowdfunding: This is the most innovative scheme, not yet used but, as confirmed by many interviewed stakeholders, one of the most promising solutions for overcoming the current financing barriers for PV.

## Financing Schemes

### Financing Scheme 1: Loan

Especially in the case of larger projects, a loan is still the most frequent financing scheme for PV plants in Italy, according to the interviews carried out within the PV Financing project.

Of course the currently available low interest rates make such a financing scheme even more attractive for investments.

As stated in the introduction, however, loans are now issued by banks based more on the investor corporate guarantees rather than on the characteristics of the project itself, as it was the case for feed-in tariff supported plants. Even though such a financing scheme is widely used, one should not forget that, given the reason above, the new incentive environment is also pushing some investors to completely avoid loans or other forms of financing and develop projects in full equity by using their own resources.

#### Application Segments

Bank loans for financing are especially used for mid-sized and large PV projects, ranging from 100 kW<sub>p</sub> to some MW<sub>p</sub>. In such cases, usually projects are quite different from each other and, therefore, the lender and the developer should agree on the loan terms given the specific characteristics of the project as, for instance, self-consumption share, risk of consumer default, etc. The application segments for this scheme include the industry, the commercial sector, as well as the large office buildings.

In the residential sector, due to the falling system prices and to the high tax reduction available, usually a loan is not needed by the user. In case it is, however, several banks (even though not as many as in the feed-in tariff years) offer standard loan packages for families.

#### Related Business Models

The financial scheme based on loan is used mainly with the following business models:

- Self-consumption (+ net-metering)
- PPA (Power Purchase Agreement)

Due to the current grid electricity prices and to the new net-metering legislation, which does not give a sufficiently attractive remuneration for the PV electricity injected into the grid, reaching a high share of self-consumption is crucial for any new PV project.

Regarding PPAs, the main barrier at the moment is the current legislation which does not allow the project developer to sell the PV electricity to multiple users, thereby closing the potential market of shopping centres, multiple users, office buildings, etc.

## Implementation

The first step in the implementation of a loan financing is to find an appropriate bank or institute which offer loans with characteristics suitable to the specific project. In the feed-in tariff period, developers used to compare different loan products offered by almost all banks but, now that the framework situation has dramatically changed, the most common solution is that the developer interacts with the bank normally used for all other daily business and financial issues. This is due above all to the fact that, as outlined above, the corporate characteristics of the investor, well known by its bank, are the key requirement for obtaining the loan.

Especially for medium and large projects, banks are not offering standard products at the moment, so theoretically, any project could be financed through a loan. The next step, therefore, is the preparation of the documentation for assessing both the bankability of the project and the reliability of the investor.

This documentation should include at least:

- Project documentation:
  - a careful evaluation of the self-consumed PV electricity;
  - the financial model including calculations on expected cash flow, O&M costs, etc.;
  - a risk management plan, especially focusing on possible total or partial consumer default, future retroactive taxes on self-consumption, insurance, etc.;
  - information about the project authorization structure (for instance visual restriction in landscape protected areas);
  - in case of a PPA-based business model: information about contractual issues with the customer (for instance, if a “take-or-pay” formula is chosen), financial situation of the customer, etc.

- Investor information:
  - balance sheet referring to the last 2 or 3 years;
  - previously obtained loans (amount, project type, loan evolution and result, etc.).

In the next phase, the financing institution should check the project characteristics and match them with their usual requirements. The main points to be carefully checked are basically the ones reported in the list above, with some further aspects to be taken into account:

- a high self-consumption rate increases the profitability of the project but, at the same time, it increases its dependency on the consumer existence in the future, thus increasing the potential project risk;
- of course a “take-or-pay” model, in case of a PPA, could reduce such a risk by assuring a continuous cash flow; however, this implies that the electricity user is ready to accept such a condition;
- again, the risk assessment includes an analysis of the investor corporate features and such an assessment could be smoother in case a relationship has already been running between the two parties (project developer and bank).

In case the project does not fully meet the requirements, the bank could ask for stricter parameters, for instance an additional insurance on consumer default, or modify the loan proposal by increasing financing costs, foresee a shorter tenor, reduce the total loan amount, etc.

After such changes, if any, the financing can be approved and the loan documents could be prepared.

The loan will then be dispensed to the developer and a monitoring of the project cash flows during operation is set up. Usually the bank could ask for an annual report of the project performance or, in case the project risk is evaluated to be higher than the average, also the requirements for the monitoring report could have a higher frequency. In any case, the risk stays on the side of the project developer who has to respond with the presented guarantees in case the project is underperforming.

## External Conditions

As any loan, also debt financing for PV is vulnerable to macroeconomic conditions, such as the change in the interest rate, if the loan has been emitted with a floating rate.

A specific condition for PV, which may influence this financial scheme, is of course the possibility for the developer to pay back the loan which is linked to the stability of the framework conditions, above all taxes and grid burdens for self-consumed PV electricity which may be raised in the future if distributed systems spread quickly in the country.

## Example of key players and sources of information

As outlined above, loans for PV development are now commonly included in the typical bank loans, so there are not so many PV-specific products as in the feed-in tariff period, thus meaning that almost any bank is able to issue such a loan.

However, the following are banks and institutes which are well known for having dealt with PV projects already for many years:

- MPS: [www.mps.it](http://www.mps.it)
- Intesa SanPaolo: [www.intesasanpaolo.com/](http://www.intesasanpaolo.com/)
- Federcasse BCC: [www.creditocooperativo.it/](http://www.creditocooperativo.it/)
- Unicredit: [www.unicredit.it](http://www.unicredit.it)
- Banca Etica: [www.bancaetica.it](http://www.bancaetica.it)
- Banca Sella: [www.sella.it](http://www.sella.it)
- BPM: [www.bpm.it](http://www.bpm.it)

## Financing Scheme 2: Crowdfunding<sup>1</sup>

Renewable energies, mainly because of their aptitude to protect the environment, have often been the target of collective initiatives. Now that no more speculative projects are possible because of the lack of incentives, such financing models are becoming more and more interesting for potential investors, both single citizens and companies, especially when belonging to the same local community. Therefore, crowdfunding initiatives through online platforms, even though coming from applications in completely different fields, is now widening to the energy sector.

Because crowdfunding platforms have been only recently regulated by the specific Italian authority (see below for details) and because such innovative tool is not yet well known, especially in the energy sector, at the moment there are no experiences of PV plants built based on this scheme. Given the economic and financial conditions, however, together with the lack of incentives, the opinions gathered from the interviewed investors reported that crowdfunding will soon turn out as the most interesting innovative financing scheme for PV in Italy.

### Application Segments

Such a scheme can address different market segments, from small and medium plants in the residential (multi-family) or commercial sector (50-200 kW<sub>p</sub>) to larger utility scale plants for large commercial or industrial users (up to 2-3 MW<sub>p</sub>).

More specifically, the budget collected through the crowdfunding should be in the order of hundreds of thousands of Euros, to be able to bear the costs due to transactions and managing of the platform. An alternative solution could be to use a platform which charge a fee to the users, so that burdens are shared among all investor and not only on the developer.

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<sup>1</sup> Main source: Candelise, C. "Crowdfunding in the energy sector: a smart financing and empowering tool for citizens and communities?", 9<sup>th</sup> International Conference Improving Energy Efficiency in Commercial Buildings and Smart Communities (IEECB&SC'16), Frankfurt, 16<sup>th</sup>-18<sup>th</sup> March 2016

Of course, the collected share could be only a part of the total investment because the other part can be raised through conventional bank loans or through a small number of larger investors.

Nevertheless, also smaller projects (e.g. 50,000 EUR) could be considered as viable if their planning is at a very advanced stage, thereby meaning that a core group of investors has already been formed and that there will be no additional unexpected costs due to, for instance, authorization problems, land property, etc. Then such project would probably not need a strong organizational effort by the crowdfunding platform manager.

Only very small plants are usually excluded due to the very low investment needed, which does not justify the transaction costs for the use of a crowdfunding platform, even though platforms do not usually set any minimum threshold for the investment.

### Related Business Models

The crowdfunding financial scheme, as almost any financial scheme in Italy at the moment, can be used with basically the two only possible business models in the country:

- Self-consumption (+ net-metering)
- PPA (Power Purchase Agreement)

It should be underlined again that, for the first business model to work properly, the risk of increasing taxes on self-consumption should be handled. For the second model, the same can be said for the risk linked to the user's partial or total default. Both risks can of course damage the benefit for the crowdfunding investors.

Due to the current grid electricity prices and to the new net-metering legislation, which does not give a sufficiently attractive remuneration to the PV electricity injected into the grid, reaching a high share of self-consumption is crucial for any new PV project.

Regarding PPAs, the main barrier at the moment is the current legislation which does not allow a third party to sell the PV electricity to multiple users, thereby closing the potential market of shopping centres, multiple users, office buildings, etc.

## Implementation

The developers/initiators of a crowdfunded PV project should first of all compare different crowdfunding platforms based on:

- 1) Services offered (project due diligence, investor analysis, promotion channels, etc.);
- 2) Commission (in % of the total investment collected); usually Italian platforms only apply success fee (and not fees on single investors) on the project developer; this fee could range from 5% to 10% of the amount collected through the platform;
- 3) “Capacity” of the platform: Is the platform open to collect the investment needed for my project or is it usually targeting larger or smaller projects?
- 4) Lending and equity solutions: Are both possible in the platform? Are peer-to-peer and peer-to-business solutions possible for both lending and equity?
- 5) Other parameters (portfolio of already supported projects, focus on local development, etc.).

To be able to operate in Italy, crowdfunding platforms must obtain the official authorization by the Commissione Nazionale per le Società e la Borsa (CONSOB, [www.consob.it](http://www.consob.it)), which is the public authority responsible for regulating the Italian financial markets. Its activity is aimed at the protection of the investing public and it can also carry out investigations with respect to potential infringements of insider dealing and market manipulation law.

The project initiators should present the detailed project to the platform, including a technical description and a financial model. Furthermore, documentation on the financial situation of the developing company (business profile, balance sheets, company registration in the Chamber of Commerce, etc.) should be assessed by the platform.

The project characteristics should be then checked by the crowdfunding platform which can also rely on external experts for the project evaluation. The risk assessment should be done as in any other PV project but, additionally, also aspects related to the expected number of investors as well as the proposed rewarding solutions (return based on the sold electricity, fixed annual interest rate, etc.) should be carefully evaluated. One more relevant parameter is the equity share provided by the initiators (if any) and the debt financing foreseen from the banks (if any). In fact, usually the shares collected by crowdfunding are just a part of the total investment for the PV plant.

Once approved by the platform, both the technical and financial aspects of the project should be transparently available to all potential investors, for instance by including the documents on the platform website.

Usually the developer and the platform agree upon a minimum sum required by each investor, whose amount is linked to the total investment foreseen by the project and therefore to the plant size.

The collection of equity can last for a defined period, (usually 3÷4 months. The exact duration of this period is decided jointly by the project developer and the platform management). At the end of the period, if the defined equity is not reached, the initiator can decide whether to put the missing share or cancel the project.

If the project is successful, then the return for investors is distributed depending on the type of financial agreement. Therefore, it can be an annual return expressed as a percentage of the invested amount, a reward connected to the electricity sold, etc. In the Italian framework, however, crowdfunding platforms usually are not in charge of these steps and they close their action as soon as the goal is reached or the deadline has expired.

### External Conditions

The external conditions which can increase the risk for the crowdfunding financing scheme are the general instability and unreliability of the regulation framework for PV in Italy, mainly the possible higher future levy on self-consumption. Furthermore, in case of a PPA, the partial or total default of the electricity user is a key factor which can influence the financing scheme.

### Example of key players and sources of information

Since equity crowdfunding in general, and even more in the energy sector, is quite a new topic in Italy, there are not many initiatives in the country at the moment. However, two platforms are available for projects:

- Ecomill: [www.ecomill.it](http://www.ecomill.it) (promoting innovative projects in the energy and environment fields).
- Fundera: [www.fundera.it](http://www.fundera.it) (promoting projects in the “cleantech” sector for developing technologies and services with low environmental impact).