

# PV Financing Guidelines

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PV Financing Project

Deliverable 3.5

## Spain



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## Country PV Environment

The situation for PV in Spain is uncertain, mainly due to the regulatory changes introduced in recent years. The elimination of the Feed-in-Tariff (FiT) scheme presented in January 2012, strongly weakened the national PV sector, which was already in a delicate situation after the entry into force of different retroactive measures since 2010.

Additionally, a net-metering regulation was expected to be published in the months following the FiT moratorium. The regulation process started in November 2011, however the final regulation was not published until the beginning of October 2015 and only regulates self-consumption. Therefore there is no net-metering scheme in Spain at the moment.

Although PV self-consumption is legally permitted, investing in installations with this business model has become less usual, mainly due to the uncertainty created by the previously mentioned regulatory changes. Also, it should be mentioned that the Spanish self-consumption scheme is only based on savings, i.e. there is no income associated to it. Currently there are no other viable PV business models such as Power Purchase Agreements (PPA), FiT, net-metering, etc. mainly due to the current regulation and the uncertainty created in the country in this matter.

Even though different financing mechanisms exist for the Spanish PV market, not all of them (or hardly any) are currently being used. In many segments self-funding is the most used “scheme” for self-consumption installations. The existing/ potentially applicable financing mechanisms are listed below divided by type of financing:

- Equity financing mechanisms:
  - Crowdfunding
  - Green Bonds
  - Green energy cooperatives
  - Leasing
- Debt financing mechanisms:
  - Loans
  - Project Finance

In this report two financing mechanisms are going to be explained in detail: the most representative in the country, which are loans, and the most innovative financing scheme, which would be crowdfunding for Spain. It should be underlined again that neither of them are common in Spain today, as the few people installing PV nowadays do it through self-funding.

## Financing Schemes

### Financing Scheme 1: Loan

Loans are debt financing mechanisms which allow customers (users) to receive a certain amount of money from a credit institution (financier) in exchange for the users' commitment to repay such amount, together with the corresponding interests.

The characteristics of bank loans vary depending on several factors such as: type of user asking for financing, financed amount, project type, company's/ user's financial situation, etc. In the case of large projects/ amounts, financial terms of bank loans are negotiated between the involved parties (bank and project developer) on a case-by-case basis.

As there are hardly any PV systems being installed at the moment and therefore it is difficult to obtain examples of financing conditions, public data of a general loan (not product or project specific) will be represented here. This data is valid for residential consumers.

- Loan tenor: 5 years
- Investment volume: required minimum amount is 6.000 EUR, the maximum amount 40.000 EUR (this would allow to cover all investment costs for a PV plant in the residential sector)
- Interest: 5,95% nominal interest rate (6,11% APR<sup>1</sup>)
- Bank charges (fees which usually are a cost to the client<sup>2</sup>, this example is specific for one of the interviewed banks):
  - 0% fee for opening
  - 0% fee for partial depreciation
  - 0% fee for early termination
- In this case, there is no monthly depreciation (although other bank loans might include it), only the interest rate for the financed amount is paid on a monthly basis. The provided amount is repaid at the end of the lending period

Financial terms of bank loans are negotiated between the involved parties (bank and project developer) on a case-by-case basis for large investment amounts, i.e. industrial PV projects, while for smaller PV projects standard loans exist that require less paper work as the one

<sup>1</sup> APR = Annual percentage rate of charge, i.e. describes the interest rate for a whole year (annualized).

<sup>2</sup> Other banks have bank charges such as the fee for opening of about 4%.

described above. For the standard loans, the banks do not look specifically into the project that is being financed but rather focus on the project developer.

A proper evaluation of the specific loan characteristics should be performed to understand the business case of a specific consumer.

## Application Segments

Financing through a loan is not frequent though possible in all application segments (residential, commercial and industrial) in Spain.

The existing unfavourable regulatory framework leads to few installations being completed. The few investors that decide to install PV are usually not concerned about financial aspects. However, loans would be the most common financing option in the case of inevitably having to choose a financing scheme (instead of self-funding).

## Related Business Models

At this point, the only possible business model in Spain is self-consumption, and usually people who decide to invest in PV systems cover the total initial investment themselves. There are two types of self-consumption:

- Self-consumption 1 (just for self-consumption)
  - There is only one consumer party for each installation.
  - The owner of the generation facilities must be the same as the owner of the supply point.
  - It is not necessary to register the generation facility as an electricity production facility, however, it is necessary to enlist it in the self-consumption register (*Registro Administrativo de autoconsumo*, Law 24/2013, December 26, of the Electricity Sector).
  - Contracted power can be up to a maximum of 100 kW and the generation facility's capacity cannot exceed the supply point's contracted power.
  - The consumer does not receive payments for the excess electricity injected to the grid.
  - It is mandatory to install measuring equipment to register net generation.
- Self-consumption 2 (self-consuming and selling)
  - There might be a consumer and a producer for the same installation.
  - The owner of the generation facility may differ from the owner of the supply point.

- It is necessary to register the generation facility as an electricity production facility in the electricity production facilities register (*Registro Administrativo de instalaciones de producción de energía eléctrica*, Royal Decree 413/2014, June 6).
- The generation facility's capacity shall not exceed the supply point's contracted power, but there is no limit as in self-consumption 1.
- The consumer may receive compensations<sup>3</sup> for the excess electricity injected to the grid.
- It is mandatory to install bidirectional measuring equipment to register net generation and measurement equipment at the associated consumption point.

In order to obtain more detailed information about the business model and PV regulation, please have a look at the Business Model Report.

## Implementation

This section gives an exemplary view of the different steps users have to complete when financing their PV system through a bank loan.

First of all, prior to finding the different banks offering loans, the user that develops the PV system needs to prepare the financial plan of the project (depending on the size of the project), in order to understand which amount is needed and which type of loan (general loan or credit line<sup>4</sup>) would suit the project and the user best.

Then, the user must find the bank with the most attractive loan. The ideal approach would be to identify several banks, to contact them asking for their offers and to compare the conditions of each offer.

Once an initial list of banks and loans has been prepared, these should be evaluated in order to choose the bank whose loan offer best fits the previous developed financial plan of the project. For this evaluation the following aspects should be taken into account:

- What are the principal financial terms (loan tenor, minimum and maximum investment volume, interest rates, bank fees, depreciation options, etc.) of the loan offer?

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<sup>3</sup> The only way to receive remuneration for the excess PV electricity is by selling it on the spot market at current prices (*"precio del pool"*).

<sup>4</sup> Credit lines are an interesting financing mechanism for users who do not have a set data for when they are going to start with the implementation of the project due to administrative issues or for large PV projects which are developed in different stages.

- What are the minimum documentation requirements to apply for the loan?
- What other additional criteria must be met by the user/ company?

After responding to these questions the user should choose one bank offer and start preparing the required documentation in order to get the loan, these could include the following<sup>5</sup>:

- For residential consumers (normally standard loans):
  - Copy of a valid user ID of the project developer (user of financing)
  - Copy of the last payroll or pension
  - Signed opening form
- Commercial or industrial consumers<sup>6</sup>:
  - Corporate documentation
  - Documentation of the company's representative
  - Financial statements
  - Financial risks documentation
  - Detailed description of the project

Subsequently, the presented documentation is carefully examined by the bank, who undertakes different assessments in order to quantify the potential risks associated with the project. Then, if the project is accepted, the bank sends the contract which specifies the loan conditions (collateral requirements, interest rate, repayment period, etc.) to the user and if the user accepts and signs the proposal, the bank will provide the required amount to the user.

When the contract is signed and approved the bank provides the amount of the loan in an account created for this purpose. Throughout the financing period, the user repays the amount, together with the corresponding interests, in monthly fees or as negotiated with the bank.

As nowadays no PV projects are financed by loans we were unable to obtain more specific data than the examples for standard loans offered by banks, with a maximum investment volume of 60.000 EUR. For larger projects financial terms are negotiated between the

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<sup>5</sup> Depending on the PV project size and the bank the required documentation varies.

<sup>6</sup> For larger projects financial terms are negotiated on a case-by-case basis due to the larger investment amount, so the required documentation is also negotiated between the two parties.

involved parties, which may have different requirements for the loan such as a follow up process of the development and operation of the PV project.

### External Conditions

For this financing scheme there are no external conditions that affect the implementation of PV projects, except for the uncertain situation of PV due to the regulatory changes experienced in recent years.

The general economic situation can have an impact on the financing conditions offered by banks. The Euribor closed in February with negative rates for the first time in history. This trend makes it possible for banks to lower their interest rates making it more attractive for consumers to use bank loans.

### Example of key players and sources of information

Most banks offer financing loans although none of them offer a specific loan for PV systems. Examples of major banks in Spain are:

- [Sabadell](#)
- [La Caixa](#)
- [ING Direct](#)
- [Santander](#)

## Financing Scheme 2: Crowdfunding

In Spain, there are multiple ‘crowdfunding platforms’, where anyone can post a project for which they need financing and any user is able to offer funding. The individuals or companies who need financing post their project details on the crowdfunding platform, and investors, willing to invest, provide funding for the development of the project.

So far, the projects found on different Spanish crowdfunding websites are not related to PV systems or other renewable energy projects. Yet, financing this kind of project still seems feasible through this mechanism. For example, one website focuses exclusively on sustainable projects.

It should be mentioned that crowdfunding platforms have some associated risks:

- For the project developer, the main risk is not obtaining the needed money in the period set on the platform.
- For investors, the main risk is the loss/ reduction of the provided funds.
- There are no standard obligations, although, some users of crowdfunding self-impose obligations, e.g. they choose to keep the investors up to date regularly with the project development in order to increase transparency and credibility.

### Application Segments

Crowdfunding has been chosen as an innovative option to finance a PV system in all application segments<sup>7</sup>. Because financing through this mechanisms has not been used for PV systems, so there is no official data, which made it difficult to draw conclusions from its impact.

However, the interviewed crowdfunding platform, which exclusively focuses on projects in the commercial segment, explained that their financing method could be used to finance a PV installation as they do not have specific project/ measures requirements for using their platform.

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<sup>7</sup> In the case of residential consumers, crowdfunding is not a usual financing mechanism as the amount to be financed is not large enough for the involved effort to be worthwhile. Furthermore, residential users usually do not have sufficient knowledge about financial aspects to be able to complete the process (e.g. setting of financial conditions offered to investors).



## Related Business Models

As for loans, the only possible business model in Spain is self-consumption, and usually the individuals or companies who decide to invest in PV systems cover the total initial investment themselves.

## Implementation

First of all, the user/ company that develops the PV system needs to find a crowdfunding platform. The ideal approach would be to identify several crowdfunding platforms that allow financing PV projects and to compare them.

Once an initial list of the platforms has been prepared, the comparison should be done taking into account the following aspects:

- Which financing instruments are offered by the platform (loan, donation, shares, reward-based)?
- What are the minimum requirements to apply for the crowdfunding financing instrument (company type, minimum and maximum amount, required documentation, etc.)?
- What other additional criteria must be met by the user/ company?
- What are the advantages each platform offers to the user/ company (interests, type of platform, etc.)?
- Who can invest in the PV project?
- What are the costs of using the platform?

After responding to these questions the user/ company should choose one crowdfunding platform. In many cases, there are certain requirements to be met by the user of the platform, for example:

- Presentation of company documentation, e.g.:
  - Documentation of the company's representative
  - Corporate and income tax documentation
  - Documentation on Know Your Customer (KYC) and Anti-Money-Laundering processes
  - Annual statement for transactions with third parties
  - Annual VAT overview statement
  - Financial risks documentation
  - Temporary financial statements for the current year
  - Last receipt/ letter of bank loans

- Funding application, in most cases a detailed description of the project must be enclosed

Subsequently, the loan project is carefully examined by the crowdfunding platform risk analysts. Then, if the project is accepted, the crowdfunding platform usually sends a free proposal categorizing the project based on its solvency. If the company accepts the proposal, the project is posted on the crowdfunding platform where it can be examined and funded by investors.

The platforms offer different conditions, e.g. concerning the following:

- Duration of project's accessibility for financing parties (time that the project is visible on the webpage and project developers can receive financing)
- Possibility of extending the duration
- Interest and commitment depend on the solvency category and the loan term of the company

In some cases, once the project is operating, some investors may ask for a follow up of the development of the project or in other cases the proper user of crowdfunding chooses to keep the investors up to date regularly with the project development in order to show more credibility.

### External Conditions

Crowdfunding platforms were strictly regulated in Spain by a law published at the beginning of 2014. However, in the last months, changes have been made to different elements of the aforementioned law. The new crowdfunding regulation, included in the law 5/2015 about promoting business financing, which includes the below mentioned legal requirements, was published in mid May 2015:

- Necessity of an accredited investor which may invest without limit in these projects
- Elevation of maximum financing amount that any non-accredited investor may invest in projects over a 12-month period to 10.000 EUR

As for loans, crowdfunding platforms for PV systems are affected by the proper uncertain situation of PV due to the regulatory changes from last years, as well as, by the decrease of the Euribor enabling crowdfunding platforms to lower the interest rates. As investors might not be able to obtain attractive returns for their money through other channels, e.g. saving accounts at banks, this might make crowdfunding projects more attractive and more popular to investors.

#### Example of key players and sources of information

There are different crowdfunding platforms in Spain, although the most representative for this project are the following:

- [EcoCrowdfunding](#)
- [Ecrowdinvest](#)
- [Funding Circle](#)