

Fact Sheets for Selected Financial Schemes

Spain

PV Financing Project

Deliverable 3.2



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Spain

The situation for PV in Spain is uncertain, mainly due to the elimination of the FIT scheme and the publication of the new regulation which further discourages installing PV. At this point the only viable option for PV installations is self-consumption.

Although PV self-consumption is legally permitted, investing in installations of this technology has become rare. So 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”, but in order to present actual schemes with specific conditions, we have chosen to present loans, crowdfunding, green cooperatives and green bonds. Because of the missing activity in the sector, some of the information is not PV specific.

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 table below shows the characteristics of a general bank loan (not specific for PV systems) for residential consumers. During the interviews only one bank was able to give us general conditions for a bank loan, this bank confirmed that the loan could be used for the investment in a PV installation.

Key Players	Banks
Financial Terms / Conditions	<ul style="list-style-type: none"> • Loan tenor: 5 years • Investment volume: Minimum volume required is 6.000 EUR and the maximum volume is 40.000 EUR (this would allow to cover all investment costs of a PV plant in the residential sector) • Interest: 6,95 % nominal interest rate (7,18 % APR) • Bank charges (these fees could become a cost to the client, this example is specific for one of the interviewed banks): <ul style="list-style-type: none"> – 0% fee for opening – 0% fee for partial depreciation – 0% fee for early termination • There is no monthly depreciation (although other bank loans might include it), only the interest rate for the money taken out is paid on a monthly basis. The provided amount is repaid at the end of the lending period
Risks	Loosing of assets presented as collateral.

Application on the segment

It should be highlighted that financing through a loan in the residential single-family segment is not frequent 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 having to inevitably choose a financing scheme (instead of self-funding).

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

The advantages and challenges are presented below:

Advantages	Challenges
<ul style="list-style-type: none"> • No initial down payment 	<ul style="list-style-type: none"> • Repay the debt in the required time
<ul style="list-style-type: none"> • Reduced associated risks 	<ul style="list-style-type: none"> • Variable interest rate (if this is negotiated)
<ul style="list-style-type: none"> • Simple process 	<ul style="list-style-type: none"> • Need to comply with conditions set by bank (guarantees, assets, etc.)
<ul style="list-style-type: none"> • Large number of suppliers (banks) 	

Application on 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.

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

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 people who need financing post their project details on the crowdfunding platform, and financiers, willing to invest, offer funding for the development of the project.

These 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, and 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.

The projects found on the different Spanish crowdfunding websites are not related to PV systems or other renewable projects. Yet, financing this kind of project still seems feasible through this mechanism. For example, one website focuses exclusively on sustainable projects; consequently a PV project could be presented in this classification.

Key Players	<ul style="list-style-type: none"> • Financiers: Companies, general public, financing companies, etc. • Web providers
Financial Terms / Conditions	N.A. (the conditions have to be negotiated)
Risks	<ul style="list-style-type: none"> • The main risk of financing through crowdfunding is not being able to obtain the needed money in the period set on the platform • For funders, the main risk is the loss/ reduction of the provided funds
Obligations	There are no standard obligations (apart from the ones set by the above mentioned regulation), although some users of crowdfunding self-impose obligations, e.g. they choose to keep the investors up to date regularly with project development in order to show more credibility
Legal Requirements	<ul style="list-style-type: none"> • Need of 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

Application on the segment

Crowdfunding has been chosen as an innovative option for residential consumers to finance their PV system. Although, financing through this mechanisms has not been used for PV systems so there is no official data for the use of it, and so we were unable to draw conclusions from its impact to residential consumers.

The advantages and challenges are presented below:

Advantages	Challenges
<ul style="list-style-type: none"> • Reduced upfront investment (compared e.g. to self-funding) 	<ul style="list-style-type: none"> • Achieving interest in project (reaching people willing to invest)
<ul style="list-style-type: none"> • No standard obligations beyond the aforementioned regulation requirements 	<ul style="list-style-type: none"> • Effort involved in obtaining funding (presentation of project, management of process, etc.)
<ul style="list-style-type: none"> • Possibility of setting conditions 	<ul style="list-style-type: none"> • Need to cover management costs of the platform
<ul style="list-style-type: none"> • Possibility of having more than one financier 	<ul style="list-style-type: none"> • Payment of promised profitability for investors
	<ul style="list-style-type: none"> • Management of larger number of investors (e.g. communication)
	<ul style="list-style-type: none"> • Regulatory changes

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 table below shows the characteristics of a general bank loan (not specific for PV systems) for commercial consumers. The bank confirmed that the loan could be used for the investment in a PV installation.

Key Players	Banks
Financial Terms / Conditions	<ul style="list-style-type: none"> • Investment volume: Minimum volume required is 3.000 EUR and the maximum volume is 60.000 EUR, provided that it does not exceed 35% of previous years' turnover (which would be enough to cover the initial investment costs for a standard 30 kWp roof-top installation); • Interest rate: 4,95 % nominal interest rate (5,06 % APR¹) • Bank charges (these fees could become a cost to the client, this example is specific for one of the interviewed banks): <ul style="list-style-type: none"> - 0% arrangement fee - 0% fee for write-offs - 0% fee for early termination • Loan tenor: The minimum return period is 3 months, while the maximum term is 60 months • Monthly debt service repayment (principal and interest)
Risks	Loosing of assets presented as collateral

Application on the segment

Financing PV systems through a loan for commercial consumers is not common in Spain. However, it would be the most common financing option in the case of having to inevitably choose a financing scheme (instead of self-funding).

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

The advantages and challenges are presented below:

Advantages	Challenges
<ul style="list-style-type: none"> • No initial down payment 	<ul style="list-style-type: none"> • Repay the debt in the required time
<ul style="list-style-type: none"> • Reduced associated risks 	<ul style="list-style-type: none"> • Variable interest rate (if this is negotiated)
<ul style="list-style-type: none"> • Simple process 	<ul style="list-style-type: none"> • Need to comply with conditions set by bank (guarantees, assets, etc.)
<ul style="list-style-type: none"> • Large number of suppliers (banks) 	

¹ APR makes reference to the annual percentage rate of charge, i.e. describes the interest rate for a whole year.

Application on 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.

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

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.

These 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, and 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.

However, the projects found on the different Spanish crowdfunding websites are not related to PV systems. Yet, one platform, focused exclusively in financing projects by companies, confirmed that it could be used for the investment in a PV installation. The table below shows the characteristics of a general crowdfunding loan (not specific for PV systems) for users in the commercial segment. They would probably have to be slightly adapted to the case of a PV installation.

Key Players	<ul style="list-style-type: none"> • Financiers: Banks, companies, general public, financing companies, etc. • Web providers
Financial Terms / Conditions	<ul style="list-style-type: none"> • Key requirements for the project developer: <ul style="list-style-type: none"> - Companies registered in the Mercantile Registry - Two years of activity as company - Minimum turnover of 100.000 EUR - Minimum equity ratio of 5 – 10% • Contract duration for crowdfunding: 6 months to 5 years² • Financing amount offered: From 5.000 to 250.000 EUR • Annual interest rate: > 4,79%, depending on the company’s solvency and the length of the contract • No early termination fees • Repayment method: Monthly payments
Risks	The main risk for financing through crowdfunding is not being able to obtain the needed money in time
Obligations	There are no standard obligations (apart from the ones set by the above mentioned regulation), although some users of crowdfunding self-impose obligations, e.g. they choose to keep the investors up to date with project development in order to show more credibility
Legal Requirements	<ul style="list-style-type: none"> • Need of 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

² In the case financing a PV installation, this timeframe might be too short and would have to be negotiated with the platform in order to adapt to the project specific situation

Application on the segment

Crowdfunding has been chosen as an innovative option for commercial consumers to finance their PV system. Although, financing through this mechanisms has not been used for PV systems so there is no official data for the use of it. However, the interviewed crowdfunding platform, explained that their financing method could be used to finance a PV installation as they do not have specific project/measures requirements for allocating this type of financing.

The advantages and challenges are presented below:

Advantages	Challenges
<ul style="list-style-type: none"> • Reduced upfront investment 	<ul style="list-style-type: none"> • Achieving interest in project (reaching people willing to invest)
<ul style="list-style-type: none"> • No standard obligations beyond the aforementioned regulation requirements 	<ul style="list-style-type: none"> • Effort involved in obtaining funding (presentation of project, management of process, etc.)
<ul style="list-style-type: none"> • Possibility of setting conditions 	<ul style="list-style-type: none"> • Need to cover management costs of the platform
<ul style="list-style-type: none"> • Possibility of having more than one financier 	<ul style="list-style-type: none"> • Payment of promised profitability for investors
	<ul style="list-style-type: none"> • Management of larger number of investors (e.g. communication)
	<ul style="list-style-type: none"> • Regulatory changes

1 Loan

The shopping centre segment has to be analyzed as an isolated case in Spain. The technical building code forces multi-store buildings and entertainment centers to have a minimum contribution of PV electric power to consumption. Shopping centres can use loans for financing PV installations.

Key Players	<ul style="list-style-type: none"> • Banks • Shopping centre’s owner and managing company
Financial Terms / Conditions	As PV projects for this application segment are bigger than the aforementioned for commercial users, the financial terms are negotiated between both parties on a case by case basis due to the larger amount of investment. The PV investment could be included in a larger project (e.g. new construction, refurbishment, energy efficiency measures) for which the financing is organized as a whole.
Risks	Loosing of assets presented as guarantee

Application on the segment

Financing PV systems through a loan for shopping centre owners is not likely to happen. As it is mandatory to have a PV system, owners take it into account as a general operation cost that they have to pay for the shopping centre. However, it would be the most common financing option in the case of having to inevitably choose a financing scheme.

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

The advantages and challenges are presented below:

Advantages	Challenges
<ul style="list-style-type: none"> • Reduced down payment 	<ul style="list-style-type: none"> • Repay the debt in the required time
<ul style="list-style-type: none"> • Reduced associated risks 	<ul style="list-style-type: none"> • Variable interest rate (if this is negotiated)
<ul style="list-style-type: none"> • Simple process 	<ul style="list-style-type: none"> • Need to comply with conditions set by bank (guarantees, assets, etc.)
<ul style="list-style-type: none"> • Possibility of negotiating conditions 	
<ul style="list-style-type: none"> • Large number of suppliers (banks) 	

Application on 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.

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

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.

These 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, and 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.

The projects found on the different Spanish crowdfunding websites were not related to PV systems. Yet as mentioned before, one platform, focused exclusively in financing projects by companies, confirmed that it could be used for the investment in a PV installation. The table below shows the characteristics of a general crowdfunding loan (not specific for PV systems) for commercial consumers. They would probably have to be slightly adapted to the case of a PV installation.

Key Players	<ul style="list-style-type: none"> • Financiers: Companies, general public, financing companies, etc. • Web providers
Financial Terms / Conditions	<ul style="list-style-type: none"> • Key requirements for the project developer: <ul style="list-style-type: none"> - Two years of activity as company - Minimum turnover of 100.000 EUR - Minimum equity ratio of 5 – 10% • Contract duration: 6 months to 5 years³ • Financing amount offered: From 5.000 to 250.000 EUR • Annual interest rate: > 4,79% depending on the company’s solvency and the length of the contract • No early termination fees • Repayment method: Monthly payments
Risks	The main risk for financing through crowdfunding is not being able to obtain the needed money in time
Obligations	There are no standard obligations (apart from the ones set by the above mentioned regulation), although some users of crowdfunding self-impose obligations, e.g. they choose to regularly keep the investors up to date with project development in order to show more credibility
Legal Requirements	<ul style="list-style-type: none"> • Need of 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

³ In the case financing a PV installation, this timeframe might be too short and would have to be negotiated with the platform in order to adapt to the project specific situation

Application on the segment

Crowdfunding has been chosen as an innovative option for commercial consumers to finance their PV system, as for office building consumers. Although, financing through this mechanisms has not been used for PV systems so there is no official data for the use of it.

The advantages and challenges are presented below:

Advantages	Challenges
<ul style="list-style-type: none"> • Reduced upfront investment 	<ul style="list-style-type: none"> • Achieving interest in project (reaching people willing to invest)
<ul style="list-style-type: none"> • No standard obligations beyond the aforementioned regulation requirements 	<ul style="list-style-type: none"> • Effort involved in obtaining funding (presentation of project, management of process, etc.)
<ul style="list-style-type: none"> • Possibility of setting conditions 	<ul style="list-style-type: none"> • Need to cover management costs of the platform
<ul style="list-style-type: none"> • Possibility of having more than one financier 	<ul style="list-style-type: none"> • Payment of promised profitability for investors
	<ul style="list-style-type: none"> • Management of larger number of investors (e.g. communication)
	<ul style="list-style-type: none"> • Regulatory changes

1 Loan

Through loans (debt financing mechanisms) customers (users) 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 table below shows the characteristics of a general bank loan (not specific for PV systems) for commercial clients.

Key Players	Banks
Financial Terms / Conditions	<ul style="list-style-type: none"> Investment volume: Minimum volume required is 3.000 EUR and the maximum volume is 60.000 EUR, provided that it does not exceed 35% of previous years' turnover (which would be enough to cover the initial investment costs for a standard 30 kWp roof-top installation); Interest rate: 4,95 % nominal interest rate (5,06 % APR) Bank charges (these fees could become a cost to the client, this example is specific for one of the interviewed banks): <ul style="list-style-type: none"> 0% arrangement fee 0% fee for write-offs 0% fee for early termination Loan tenor: The minimum return period is 3 months, while the maximum term is 60 months Monthly dividend repayment
Risks	Loosing of assets presented as guarantee

Application on the segment

It should be highlighted that financing PV systems through a loan for public education buildings is not likely to happen in Spain. However, it would be the most common financing option in the case of having to inevitably choose a financing scheme (instead of self-funding).

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

The advantages and challenges are presented below:

Advantages	Challenges
<ul style="list-style-type: none"> No initial down payment 	<ul style="list-style-type: none"> Repay the debt in the required time
<ul style="list-style-type: none"> Reduced associated risks 	<ul style="list-style-type: none"> Variable interest rate (if this is negotiated)
<ul style="list-style-type: none"> Simple process 	<ul style="list-style-type: none"> Need to comply with conditions set by bank (guarantees, assets, etc.)
<ul style="list-style-type: none"> Large number of suppliers (banks) 	

Application on business models

At the moment, 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.

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

Crowdfunding/cooperative funding

The projects found on the different Spanish crowdfunding websites are not related to PV systems. Yet, financing this kind of project still seems feasible through this mechanism. For example, one website focuses exclusively on sustainable projects; consequently a PV project could enter into this classification.

Key Players	<ul style="list-style-type: none"> • Financiers: Companies, general public, financing companies, etc. • Web providers
Financial Terms / Conditions	<ul style="list-style-type: none"> • Key requirements for the project developer: <ul style="list-style-type: none"> - Two years of activity as company - Minimum turnover of 100.000 EUR - Minimum equity ratio of 5 – 10% • Contract duration: 6 months to 5 years • Financing amount offered: From 5.000 to 250.000 EUR • Annual interest rate: > 4,79% depending on the company's solvency and the length of the contract • No early termination fees • Repayment method: Monthly payments
Risks	The main risk for financing through crowdfunding is not being able to obtain the needed money in time
Obligations	There are no standard obligations, although some users of crowdfunding self-impose obligations, e.g. they choose to keep the investors up to date with project development in order to show more credibility
Legal Requirements	<ul style="list-style-type: none"> • Need of 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

Application on the segment

Crowdfunding has been chosen as an innovative option for public education consumers to finance their PV system. As financing through this mechanism is still in an early stage there is no official data for the use of it for PV systems, and so we were unable to draw conclusions from its impact to commercial consumers. The interviewed crowdfunding platform, explained that their financing method could be used to finance a PV installation as they do not have specific project/ measures requirements for allocating this type of financing.

The advantages and challenges are presented below:

Advantages	Challenges
<ul style="list-style-type: none"> • Reduced upfront investment 	<ul style="list-style-type: none"> • Achieving interest in project (reaching people willing to invest)
<ul style="list-style-type: none"> • No standard obligations 	<ul style="list-style-type: none"> • Effort involved in obtaining funding (presentation of project, management of process, etc.)
<ul style="list-style-type: none"> • Possibility of setting conditions 	<ul style="list-style-type: none"> • Payment of promised profitability for investors
	<ul style="list-style-type: none"> • Management of larger number of investors (e.g. communication)
	<ul style="list-style-type: none"> • Regulatory changes

1 Green cooperatives

Green energy cooperatives are entities set up with the aim of promoting a 100% renewable energy model. Their main business is to produce, sell and/ or buy energy generated by renewable sources. The renewable installations for producing green energy are financed through equity investment of the green cooperative members (new and existing). Off-takers are electricity customers, e.g. through a PPA structure, although the consumers are not related to one specific project and might even receive electricity purchased on the energy exchange if the generation of the cooperative does not cover demand..

The table below shows the characteristics of a new financing method called “Generation kWh” from Som Energia which serves as an example of a green cooperative.

Key Players	<ul style="list-style-type: none"> • Green energy cooperatives • Financiers: Financing companies, general public, etc.
Financial Terms / Conditions	<ul style="list-style-type: none"> • In order to invest, the investor must be a member of the cooperative • The minimum upfront contribution is 100 EUR, whereas the maximum limit is based on the investor’s annual electricity demand (as normally the members who invest in “Generation kWh” buy their electricity from Som Energia) • Som Energia guarantees that the initial fee is repaid in 25 years • The first return quota of the investment will be effective two years after the acceptance of the contract. The investment will be returned in 23 equal yearly payments and one last double payment • The loan does not generate interest for the investor (member)
Obligations	<p>Provide green energy to all customers under the "Generation kWh" Returning customers loans in 25 years</p>

Application on the segment

As stated before, financing PV systems through green cooperatives has only been used by one cooperative, as it is still in an early stage of development in Spain.

The advantages and challenges are presented below:

Advantages	Challenges
<ul style="list-style-type: none"> • Possibility of interest free/low-interest financing or access to economical financing 	<ul style="list-style-type: none"> • Obtaining sufficient financing from large number of small investors
<ul style="list-style-type: none"> • Promotion of a 100% energy model 	<ul style="list-style-type: none"> • Repay the debt in the required time
<ul style="list-style-type: none"> • Ability to set conditions to support the business model (e.g. power purchase obligation) 	<ul style="list-style-type: none"> • Achieving interest in project (reaching people willing to invest)
<ul style="list-style-type: none"> • Independence of large financing institutions 	<ul style="list-style-type: none"> • Effort involved in obtaining funding
<ul style="list-style-type: none"> • Possibility of financing several PV projects 	<ul style="list-style-type: none"> • Management of large number of investors (e.g. communication)

Green Bonds

In general, a company / project company issues Green Bonds in order to receive debt financing, mainly from banks or financial institutions, to conduct green projects.

In Spain, two companies were identified that make use of this financing mechanism, although both companies have only implemented Green Bonds for projects outside Spain, which is based on a debt instrument by which the user (company) guarantees that the money collected from financiers will be dedicated to environmental projects without specifying which project exactly the money will be invested in. The investment is secured by the company's balance sheet. The financiers, who normally are financing companies, public agencies or banks, may request a pre-certification audit in order to check that the money is going to sustainable projects.

There are several ways for users to assure their alignment with the key features of Green Bonds, such as, audits, third-party certifications, etc.

Financing through this mechanism is still in an early stage so there is no official regulation which controls the use of it. For this reason, the users' reputation is very important, as normally investors will only lend money to reliable companies. This financing mechanism is growing fast on an international level, and control systems to structure this type of mechanism are emerging, such as the (non-binding) Green Bond Principles.

Application on the segment

Green Bonds has been chosen as an innovative option for utility-scale PV investors. As stated before, financing through this mechanism is still in an early stage and has not been used for PV systems in Spain.

Each issuance of green bonds is presented with unique conditions, as the interest rate established depends for instance on the following criteria:

- 5-year Euribor or similar reference index
- Country in which projects are built
- Type and magnitude of green project/ activity
- Warranties, etc.

The advantages and challenges are presented below:

Advantages	Challenges
<ul style="list-style-type: none"> • Reduced upfront investment 	<ul style="list-style-type: none"> • Achieving interest in project (reaching people willing to invest)
<ul style="list-style-type: none"> • For now no standard obligations 	<ul style="list-style-type: none"> • Effort involved in obtaining funding (presentation of project, management of process, etc.)
<ul style="list-style-type: none"> • Possibility of financing several PV projects or a complete portfolio of green projects (bundling of projects) 	