

PV PROSUMER GUIDELINES BELGIUM

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Table of Contents

Table of Contents	3
1 Glossary	4
2 Summary	5
3 Producing your own solar electricity has many advantages	6
3.1 What is a “prosumer”?	6
4 Single direct use in the residential sector	7
4.1 Implementation of Single direct use	7
4.2 Profitability of single direct use	9
4.3 Best practices	10
4.4 Useful Links	11
5 Single direct use in the commercial and industrial sector	12
5.1 Implementation of Single direct use	12
5.2 Profitability of single direct use	13
5.3 Best practices	13
5.4 Useful Links	14

1 Glossary

DSO

Distribution system operator.

Net-metering

An incentive scheme that allows compensating production and consumption during specific timeframe (1 year in Belgium).

Self-consumption

An incentive scheme that allows compensating production and consumption during specific timeframe (1 year in Belgium).

TSO

Transport system operator.

2 Summary

These guidelines for the successful implementation of PV projects in Belgium have been prepared by the PVP4Grid consortium with the purpose of answering the questions that are most frequently raised by potential prosumers during the design and implementation of their particular project with the legal conditions of 2019.



3 Producing your own solar electricity has many advantages

Producing and **consuming** your own electricity from a PV plant is legal, benefits the environment and brings down your electricity bill considerably, on the condition that you plan your PV project carefully. Households, commercial establishments and all type of associations can now become “prosumers”, either individually or collectively. The different options for PV production and self-consumption in *Belgium* are explained in these guidelines, along with a first estimate of their profitability.

3.1 WHAT IS A “PROSUMER”?

The neologism “prosumer” refers to an electricity consumer producing electricity to support his/her own consumption (and possibly for injection into the grid). The word is built based on the association of “producer” and “consumer”. Until now, only single direct use is legally possible in Belgium although there are some exceptions for demonstrating projects. Legislations to allow collective self-consumption are in the process in the 3 Regions.

Please see the following sections for more details on the Belgian models.

4 Single direct use in the residential sector

In all three regions of Belgium, prosumption is allowed in the residential sector with a net-metering scheme. This scheme offsets the consumption and PV produces and reduces accordingly the electricity bill of the consumer. The limit for using this scheme is at 10 kW (5 kW in Brussels) which covers most residential applications. This limit is arbitrary since residential customers with larger houses and electricity use for heating (with heat-pumps for instance) cannot benefit from the net-metering scheme above these limits¹.

In addition to this scheme, Brussels is the only region that is still providing additional financial support, through green certificates. This support has been calculated to integrate the end of the net-metering in 2020.

Flanders has implemented an additional prosumer grid tariff which reduces the benefits of the prosumer and Wallonia has planned to introduce this tariff in 2020.

Third-party investment used to be popular but has declined significantly. In Brussels, thanks to the green certificates, third parties can offer free PV installation to residential customers.

Many changes are foreseen in the legislation in the next few years and it will probably have an impact on the new and existing PV projects: end of the net-me-

tering, smart-meters, new electricity price structure, ... For instance, net-metering isn't guaranteed during the entire lifetime of the project and it will probably evolve to a self-consumption scheme at some point (already planned for 2020 in Brussels). It's important to keep these future changes in mind when you start a new project.

4.1 IMPLEMENTATION OF SINGLE DIRECT USE

Step 1: Your solar potential

Identify whether your roof fits the basic conditions to install a PV system: size, orientation and shadows are classical yet necessary steps before deciding to opt for PV. Once the solar potential of your roof has been defined, you can identify the amount of your needs will be covered and the budget needed.

Have in mind that a change of legislation could completely change your way of dimensioning the PV install. The classical way is to size your PV system on your annual consumption. But with the end of net-metering in Brussels for instance, the most interesting is to maximize your solar potential. The more power you install, the more independent you will be from the grid and the less you will pay. The extra green certificate support helps you to keep the project profitable.

¹ Note that the revision of the synergrid C10/11 is proposing to move this limit from 10 to 30 KW. It has still to be accepted by the regulators.

Free webtools to help you in this first step exists in two of the three Regions:

- Flanders : <https://apps.energiesparen.be/zonnekaart>
- Brussels : <https://geodata.environnement.brussels/client/solar/>

Step 2: Planning permission

Check with your municipality if there is no need for a planning permission to install solar panels on the roof. The conditions have been simplified for many years now in the three regions.

Step 3: Select your installer

Select the counterparty with whom you want to deal with to get the PV system installed. This can be an individual installer, as well as a third-party investor or a collective buying group. The RESCERT list contains all certified installers that have followed an official training : https://rescert.be/fr/list?res_category=2

Step 4: Contact your Distribution Service Operator

Inform your local DSO that solar panels will be or have been installed. Depending on the region, the meter might have to be changed.

- In Brussels, it is needed to change the existing reverse meter by an A+/A- digital meter that counts separately what is used from the grid or what is injected into it and it is required to ask the DSO before installing. Until 2020,

the prosumer will benefit from the net-metering on annual base.

- In Flanders and Wallonia, there is no need to change the existing meter. The index goes “simply” backwards when electricity is injected into the grid. In Flanders, you can install an A+/A-meter in case you want to avoid the prosumer tariff. You will then no longer benefit from the net-metering, but instead from a pure self-consumption scheme.

In all three regions, residential prosumers can go above the fixed limit for net-metering and will then benefit from a self-consumption scheme. In practice, it's not often the case because the mandatory costs to comply with grid codes are highly impacting the profitability of a project between 10 and 30 kW².

Step 5: Conformity check

Once the system is installed, a certified company will check the conformity of the electrical installation before your new PV system can be started.

Step 6: Green certificates (only Brussels)

In Brussels, you can apply to get green certificates during 10 years by filling the form on the regulator website: <https://www.brugel.brussels>.

4.2 PROFITABILITY OF SINGLE DIRECT USE

Revenues

In the three regions, self-consumption for household PV installations is incentivized through the net metering scheme. This support is allowed for PV plants with a capacity below 10 kW in Wallonia and Flanders and below 5 kW in the Brussels region. With net metering, the prosumers are allowed to compensate production and consumption on an annual basis. Under the net metering scheme, prosumers feed the excess electricity into the grid when they have an oversupply. For every unit of electricity injected, they can consume one unite of electricity from the grid, paying only the net difference: revenues are therefore coming from electricity bill savings, each kWh produced by PV coming in deduction of the electricity bill. If prosumers feed more than what they consume on an annual base, they don't get additional credits. Due to that limitation, the size of systems has always been linked to the annual consumption which leads to a waste of solar potential.

Prosumers above the threshold using self-consumption get revenues from savings on their electricity bill and receive the average wholesale electricity market price (3-5 EUR cts/kWh). This price depends on the contract with the electricity provider (which can be different from the consumption one) who can also refuse buying the excess electricity.

Costs

Currently in Flanders a grid tax called “prosumer tariff” must be paid to the local DSO for prosumers under the net-metering scheme, which applies to all installations. This is a capacity-based tariff that links to the AC output of the inverter. In 2019 it ranged between € 80 and € 113 per kW. Prosumers can avoid this payment by installing an additional bidirectional meter, but by doing so, they lose their eligibility for net metering and switch to self-consumption. Given current electricity prices, this could represent up to 50% of the revenues.

A prosumer tariff has been discussed in Wallonia as well but is not scheduled to be implemented before January 2020.

¹ Note that the revision of the synergrid C10/11 is proposing to move this limit from 10 to 30 KW. It has still to be accepted by the regulators.

4.3 BEST PRACTICES

Until now, the net-metering scheme is the only one that has been proposed for residential prosumers and with an important success thanks to extra financial support and positive communication.

It has led to a penetration rate of more than 10% of the households which is the highest in Europe (on a country level). More than 500.000 small PV systems (5 kWp average) have been installed.

Due to net-metering, few options are available for new business models and PV installations are disconnected from energy efficiency products. In some cases, heat-pumps have been proposed to prosumers, but this remains marginal.

Nevertheless, net-metering is more and more being questioned, and different legal projects are on the table to move towards self-consumption. It will be the case in Brussels in January 2020.

Collective self-consumption is also a hot topic and will be for sure one of the major challenges for the next governments.

The progressive shift towards self-consumption, especially in Flanders offers new opportunities for storage, demand side management and more smart energy management in buildings. In general, the simplicity of the scheme and the

easiness to connect and report PV systems have made the success of the net-metering scheme so great in Wallonia and Flanders during the last years.

Wallonia retroactively changed its policy of payment for green certificates, reducing the payment for existing installation from 15 to 10 years. This was triggered by the high costs for electricity consumers that the PV market generated some years ago, when incentives were much higher compared to declining PV system prices. This is an extremely sensitive subject in Wallonia where the current government is now looking for options to come back to 15 years of payments, while avoiding an additional burden for electricity consumers. To date, the governmental plan was not yet published. This has also triggered the creation of a powerful prosumer's association which groups more than 19.000 prosumers (out of around 120.000). It is estimated that most prosumers could follow the recommendations of the association and thus influence politics. In that respect, this association represents a tremendous political force in the 3.2 million habitant region and is more and more listened to by policymakers. With around 10% of households equipped with PV, PV in the residential sector is also changing attitudes and pushing policymakers and all stakeholders to be careful about any PV policy change. It is believed that in the coming years this will lead to more prosumer friendly policies.

4.4 USEFUL LINKS

Regulators

Brussels

<https://www.brugel.brussels>

Flanders

<https://www.vreg.be>

Wallonia

<https://www.cwape.be>

Regional administrations

Brussels

<https://environnement.brussels>

Flanders

<https://www.energiesparen.be>

Wallonia

<https://energie.wallonie.be>

Federations

EDORA

<https://www.edora.org/>

PV-Vlaanderen

<https://zon.ode.be/>

Techlink

<http://www.techlink.be>

Other links

APERe

<https://www.apere.org//fr/prosumers>

5 Single direct use in the commercial and industrial sector

5.1 IMPLEMENTATION OF SINGLE DIRECT USE

Installations above 10 kW, which practically concern commercial and industrial buildings, require following the same steps 1 to 3 than the residential sector

Step 1: Your solar potential

Identify whether your roof fits the basic conditions to install a PV system: size, orientation and shadows are classical yet necessary steps before deciding to opt for PV. Once the solar potential of your roof has been defined, you can identify the amount of your needs will be covered and the budget needed.

Step 2: Planning permission

Check with the municipality if there is no need for a planning permission to install solar panels on the roof. The conditions have been simplified since many years now in the three regions.

Step 3: Select your installer

Select the counterparty with who the prosumer wants to deal to get the PV system installed. This can be an individual installer, as was as a third-party investor. At least one utility is proposing third-party investment to its industrial customers.

Step 4: Contact your Distribution Service Operator

Contact the DSO for the connection conditions. Depending on the size and the

local DSO, conditions can be different and can have a huge financial impact. Therefore, they propose a pre-connection study and a detailed study (more expensive) that provides technical and financial solution for connecting the PV installation to the grid. If the conditions are accepted, there will be a contract between the DSO and the prosumer. For larger PV installations (>250 kW or > 1.000 kW depending on the DSO), these contracts include flexibility clauses allowing the DSO to manage congestion issues with a remote monitoring equipment: in that case, the DSO can limit grid injection.

Step 5: Green certificates

In order to get green certificates, and depending on the regions, the prosumer needs to inform the region/regulator before or after installing the panels.

- In Flanders, below 750 kW, the support is fixed and the applicant can inform the regulator after installation. Over 750 kW, the prosumer needs to inform the regulator before getting the financial support.
- In Brussels, the prosumer can inform the regulator after installation.
- In Wallonia, before being able to complete his project, the PV producer willing to benefit from green certificates must book them in advance in order to ensure the funding. To do so, he must submit an application file to the administration and ask for being part of the envelope foreseen for the year.

The envelope of green certificates is determined annually for each renewable technology by the Walloon government.

5.2 PROFITABILITY OF SINGLE DIRECT USE

Revenues

For industrial and commercial installations, the self-consumption scheme generates revenues from savings in the electricity bill and from electricity sales at wholesale market prices.

In addition, depending on the time period when the PV plant is installed, PV plants receive a different amount of green certificates per MWh produced.

This situation is a typical self-consumption scheme with savings on the electricity bill and additional revenues from injected electricity.

Costs

Next to the investments costs and the costs linked to the mandatory studies from the DSO's, there are also some additional yearly costs depending on the connection level and the region.

At DSO level, it depends of the Region. Brussels don't have an injection tariff but a yearly costs linked to the DSO's imposed equipment. In Flanders and Wallonia, the regulator calculates the injection tariff and the yearly costs linked

with the specific equipment are imposed by the DSO's. In Flanders, it can go from 0,3 c€/kWh to 1,2 c€/kWh depending on the size of the systems and the amount of energy injected into the grid.

If you are at the TSO level (High Voltage), you will have to pay an injection tariff below 1 €/MWh for the injected electricity regardless of the region.

5.3 BEST PRACTICES

This market segment used to develop significantly faster in Flanders due to ad hoc regulations. Oppositely, the Walloon government wanted to limit the size of PV installations and constrained it during years for small PV installations. In that respect, most PV developers have been located in Flanders.

The need to reach a defined level of self-consumption ratio in Wallonia for commercial buildings in order to receive the green certificates led to sometimes strange installations, configured to reach the regulatory constraint rather than an energy optimum.

Cooperatives allow installations, such as on school roofs, with participation from multiple cooperators.

A specific initiative exists in Flanders (under test and discussion) under the name "Zonnedelen" (pieces of Sun) which allows co-investments in PV

plants. Residential electricity consumers who can't invest in PV (whatever the reason), can invest, together with other roof-owners (for installations between 10 and 250 kW). Each investor then gets a share of the energy produced according to its share in the PV installation, which can be deducted from the electricity bill thanks to communication with the DSOs and the energy providers.

The new initiative from ENGIE mentioned above, has started with the industrial sector where margins are higher and roof sizes larger. According to ENGIE officials, this is aimed at developing further small applications in the coming years and also possibly BIPV plants.

5.4 USEFUL LINKS

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Wallonia

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