

The Consumer Voice in Europe

ENABLING CONSUMERS TO GENERATE THEIR OWN RENEWABLE ELECTRICITY

Policy recommendations



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Clear 2.0

enabling Consumers to Learn about, Engage with, and Adopt Renewables

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Why it matters to consumers

Consumers producing their own renewable electricity brings benefits to all of society: lower carbon emissions, lower costs of the energy system, and stronger security of energy supply. Those installing generation at home also gain by lowering their own energy bills. As solar panels get cheaper and other technologies such as batteries take hold, the energy transition can move to the next level. But many consumers still find it difficult to access these technologies. It is no surprise that the European Union is looking at consumer-generated renewable electricity to meet its objectives to become global leader in renewable energy. New provisions are made for the first time to address the role, rights and obligations of self-consumers in the Clean Energy for All Europeans package.

1. The role of self-consumers in the energy market

Europe wants to be the world leader in renewables and to have a modern energy system that is consumer-centric. Enabling consumers to produce, consume, and sell electricity from renewable sources easily is key to ensure that Europe meets those objectives. Moreover, to reach the ambitious targets set in the Paris Agreement, the EU needs to find new ways to promote more flexible, decentralised and clean energy supply that is secure and affordable to all.

Consumers can energize the significant investment that these objectives need. They can also benefit directly from generating their own electricity as it helps them save on their energy bills.

Despite this, consumers still find barriers which resulted in a curbing of the rates of new solar residential installations in the last ten years.

2. How to enable consumers to become active players in the energy transition

2.1 Make it easy and worthwhile for consumers to participate

A survey¹ carried out by GfK as part of the CLEAR project concluded that most consumers install renewable energy to reduce their energy costs, not to make money out of it. This is backed by a wider survey from the European Commission.²

Unfortunately, households need electricity when the sun is not shining, and the sun shines when they are not at home. They will need to get electricity from the grid and sell their excess electricity, the part they cannot use, to the system. To make their investment worthwhile, it is only fair they receive remuneration for what they put into the system.

At the very least, consumers should get paid at the market price for it to be worth the hassle. Where the market price is distorted, for example where it does not consider the environmental impact non-renewable sources are subsidized, a price above market prices might be considered by Member States. At the same time, consumers' contribution to the decarbonisation of the energy systems needs to be taken into account. Despite this, a recent study by the European Commission³ found that in Slovakia and Spain consumers might not get paid for the electricity they upload to the grid, which is fundamentally unfair.

Another important factor when considering installing solar panels is the financial cost. The cost of panels has rapidly decreased. But other costs arise, for example administrative fees or costs for connecting to the grid. Consumers are also put off by non-financial burdens which use up significant amounts of their time, such as the administrative loops and permits, or information gathering, which could be easily simplified.

For example, all consumers need a permit to connect to the grid. This process can be complicated and cumbersome, involving high fees and a long waiting time. Some connections are denied for technical reasons, with difficulties to get a clear justification or a way to contest the decision that is affordable and straightforward. Consumers will also often require a range of other permits, for example building permits and environmental ones. Enough bureaucracy to discourage many.

OCU's research as part of the CLEAR 2.0 project shows that, in Spain, consumers consider that the actual savings take place only in the very long term as the electricity they put in the system is lost and that they even must pay for it⁴. OCU also found that consumers think the electric companies don't facilitate installation and hold back the procedure. Czech consumer organisation dTest found that Czech consumers also mention difficult administration procedures when it comes to installing solar panels.

¹ Consumer's Survey Global Drivers & Barriers, GfK, 2014

² Study on "Residential Prosumers in the European Energy Union", JUST/2015/CONS/FW/C006/0127

³ Ibid

⁴ See the case study in p.6.

BEUC's recommendations:

- Consumers must get fair and reliable remuneration for the electricity they put into the grid at least at market price. Member States should remedy negative impacts from distorted markets. Markets prices are distorted, for example, where the environmental impact is not reflected in the price, or where non-renewable sources are subsidised.
- Member States and National Regulatory Authorities (NRAs) must ensure that a simplified administrative framework responds to the specific needs of consumers who want to invest in a small-scale self-generation project. A simple notification process for grid connection should be established where possible.
- A one-stop shop should be established nationally and should allow for regional and local actors to provide information and personalised advice to consumers on all permit granting requirements, not only those related to the grid.
- There should be a safeguard to ensure that decisions to not grant a permit are fair and with sound justification. Distribution System Operators (DSOs), regulated entities, typically make the final decision on connection. Where the DSOs or other market player make a permit granting decision, the NRA should monitor the good functioning of the process and fairness of the decisions, and intervene where necessary.

2.2. New business models, new challenges

Consumers might engage in new business models to access renewable self-generation, by either taking new products from aggregators or adopting new ways of consuming through community energy approaches. For example, they might engage in tenant models involving their landlords or a third party.⁵ Having the choice among a wide range of options is beneficial for consumers. This will involve non-traditional players and new types of products and contracts, and brings new challenges to safeguard and enforce the rights of consumers.

Consumers might also enter into bundled contracts, for example combining the sale of their excess electricity and the electricity supply. The consumer protections, monitoring, and dispute resolutions need to be adapted to these new models. Consumers should continue to make use of established consumer rights in all circumstances.

⁵ Access to solar A legal framework for tenants in multi-storey buildings to obtain solar energy, BEUC-X-2017-001, January 2017

BEUC's recommendations:

- Self-consumers should keep their consumer rights in relation to the supply of electricity, including their right to switch suppliers.
- When selling electricity through a third-party intermediary, such as an independent aggregator or their own supplier, existing consumer protections should be extended to these new contracts. The third-party intermediaries should be subject to billing requirements applicable to suppliers, for example in terms of consumer rights, and providing equivalent information in terms of volumes sold and prices.
- Consumers should be able to easily compare the third-party intermediary services, which should be featured in price comparison tools.
- If there is a bundled offer with the supply or any other service, consumers should be able to switch services separately or terminate the bundled offer at any time for free when a contract is extended without their consent.
- Consumers should have their complaint handled through a single contact point, whichever element of the bundle is the source of the dispute.

2.3. Promote the energy systems of the future

The energy system was set up for large and centralised power plants. Mechanisms to determine who has priority to put the electricity on the network and to ensure that the system is balanced at all times are not designed for small scale self-generation.

When there is more generation than the system needs, the system operator will ask some generation to not run, and typically they will select who gets priority through an auction. The system prioritises the cheapest generation, and renewable energy does not have any costs to run. The players who then cannot put their electricity in the system will usually be compensated. As such, giving consumers' priority dispatch should lead to the same outcome without the burden that the process will put on them.

On the other hand, small players are not set to participate in dispatching mechanisms. For example, they will have to go through administrative burdens for the bidding process, which was set for larger players. Households will have to understand the market enough to bid at the right level, and will bear the risk of getting it wrong and not being able to get their electricity in the system and get compensated. Most likely, they will need a third party to aggregate volumes and do this work for them, which will come at a cost.

Similarly, the EU framework should allow Member States to make exemptions from direct balancing responsibilities, as consumers have barriers to access the mechanisms to manage those responsibilities. At this stage it is unclear who they could delegate these responsibilities to in an open market, and such arrangements with a third party would represent high transaction costs. Despite these exemptions, self-consumers can still contribute to the system adequately through network tariffs.

The distribution networks, i.e. the copper cables and transformation stations, were also set up for a different system. Their design and dimensions were set up for centralised plants providing electricity to consumers. There are no technical barriers to modernise the network, as we already have the necessary technology to allow for more self-generation.⁶ The main barriers are economic, from the investments and ongoing maintenance that the grid operator must make.

After these initial costs, the upgrades will bring medium- and long-term benefits from a more decentralised energy system. The network will be used less and have fewer electricity losses as more electricity will be consumed locally. It will bring health and environmental benefits through lower emissions. Moreover, the same investments that would allow more self-consumption, such as more interconnections and smarter technologies, will also bring more reliability and security of supply. Grid operators are regulated natural monopolies, and they can and should be incentivised to make investments that have overall benefits for consumers, not those which only benefit their own shareholders.

BEUC's recommendations:

- Maintain priority dispatch for household consumers producing electricity from renewable sources.
- Small scale renewable energy installations should generally be exempted from balancing responsibilities.
- Distribution System Operators should have as main objectives the reform of the network to facilitate the growth of low carbon energy generation of the system. They should also aim to improve efficiencies in the operation and development of the distribution system. Grid operators should also have an explicit objective to optimise their network to guarantee to self-generators the purchase, transmission and distribution of their electricity. Member States should incentivise networks to meet those objectives and ensure accountability that investments deliver value for money.

2.4. Self-consumers are not free riders, and should not be treated as such

Grid and system costs are often collected through tariffs that are proportional to the energy consumed from the grid. As self-consumers need less electricity from the grid, they might be paying somewhat less. This can get solved by redesigning tariffs with self-consumers in mind. The tariffs should be set in a transparent and self-reflective manner, based on real costs and benefits of these new types of consumers.

Instead, some countries have, or are considering, adding a levy only for self-consumers, which has reduced consumers' returns and increased their uncertainty. In some cases, new levies were set without a transparent methodology and justification of their cost (see case study: Spain).

⁶ IEA-ETSAP and IRENA Technology Brief E15, April 2015



In 2000, the Spanish government built up a deficit in the electricity system, partly created by prolonging subsidies for nuclear plants that were already paid for. The deficit kept increasing, and it reached a tipping point during the economic crisis which started in 2008. The government sold the deficit to private banks, and tried to curb it through a fee added to network charges. More recently, it added taxes for self-consumers to pay for system costs and this deficit. Three main concerns arise due to the government decision:

- The tax was an unexpected additional cost for those who had invested in rooftop solar power, becoming a de-facto retroactive change on the existing support schemes.
- There was no transparency as to how the level of the tax was set. It is difficult to establish whether it was proportional for self-consumers, when compared for example to large consumers.
- This was set by the government, contrary to what the Third Energy Package said which indicated it was the task of an independent NRA.

Some countries put in place net metering schemes. These are schemes that consumers find easy to understand. They understand it as having a large virtual battery where they put their excess energy and take it back when they need it. It has been used by many countries to launch the uptake of solar generation by small installations. Some Member States have more mature markets for the products and services around solar panels, but some are still at the early stages of the transition. One can use net metering and still pay a fair share of the grid. For example, in Poland, the net-metering is based on one unit in the system pays for 0.8 units out of the system. The 0.2 remaining is used to compensate for the system services.

Countries should consider the overall real and potential impact of self-consumption on the grid, including the benefits, before they intervene. In this respect, more data and impact assessments are clearly needed.

Consumers pay for more than their electricity and the network through their bills. Beyond energy costs and network costs, European consumers pay on average €100 a year for policies related to energy⁷, such as nuclear and coal subsidies or the levies to support the energy transition. Self-consumers reduce their energy bills by consuming their own energy, and this means they pay less of these taxes.

⁷ ACER Market Monitoring Report 2016.

There is little data about how much more money the average household is paying because of the electricity they self-consume, and how much it will represent in the future. The data necessary for these calculations is not easy to find in Europe and the estimates vary significantly with different assumptions. For example, there is divergence on potential and actual uptake, and on who else is being exempted from these charges. Often Member States, including Germany, will exempt energy intensive industries from this and other costs, putting more burden on residential and non-energy-intensive businesses⁸.

Member States decided how to recover the costs of the energy policies from electricity bills at a time where self-consumption was only possible for a few, and there was no consideration of a flexible, dynamic and decentralised system. Some Member States are now re-thinking their regime for self-consumption, whereas the self-consumed electricity will be taxed. But this is the same as taxing the tomatoes that you grow in your backyard! Such static charges do not trigger flexibility of self-generators but have a rather prohibitive character. Other options are open to Member States.



In December 2016, the Danish Parliament approved the government decision to gradually abolish the Public Service Obligations (PSO) levy during the period 2017-22. This levy finances the country's renewable energy incentives program. Starting from 2023, incentives for renewables will be paid with the state budget instead of through consumer bills.

Belgian consumer organisation Test Achats concluded in their research through the CLEAR 2.0 project that in Belgium uncertainty about regulations and subsidies is a main barrier to set up a renewable energy installation at home. Czech consumer group dTest also found that legal instability was a major reason why Czech consumers do not install more solar panels at home. Similar results can be found in OCU's research. Retroactive changes to legislation have been a particular challenge for consumers.

⁸ Agora estimated that in Germany, the increase of costs from self-consumption of the EEG surcharge is of a maximum 0.5ct/kWh, over the current level of 6.9 ct/kWh. This maximum is based on every suitable rooftop installing panels. *Agora Energiewende, Eigenversorgung aus Solaranlagen, 101/03-A-2016/DE.* The European Commission estimated that with the current trends only 39.5% of the total potential for rooftop solar will be installed by 2030. *Study on "Residential Prosumers in the European Energy Union" JUST/2015/CONS/FW/C006/0127*

BEUC's recommendations:

- The Clean Energy for All Europeans package should keep the National Regulatory Authority as the independent body setting tariffs. National Regulatory Authorities should be obliged to make the methods and cost components used for the calculation of the network charges publicly available.
- National Regulatory Authorities should redesign tariffs for all consumers, so that they reflect the costs and benefits to the system and the real use of the grid. The revision should apply to all consumers, and avoid exemptions for heavy industry. New tariffs should not unduly increase the financial burden for households, for example for those with a low level of consumption or living in remote areas.
- Member States should be allowed to use net metering in a transitional period.
- Retroactive changes affecting consumers investments should be avoided.
- Undue financial burdens such as taxes or fees imposed on self-generated electricity should be removed.
- EU regulatory framework should provide a dedicated long-term strategy to facilitate consumers small scale renewable projects. Member States should be urged to establish or to improve national self-generation strategies that target private households.



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