



## Produce your own energy

Energy citizenship plays a crucial role in the transition to fossil fuel-free energy systems in Europe. To reap its potential, a number of policy measures are needed which empower households to be active participants on the energy markets and prepare the energy systems for this transition. In this policy brief we present the results of several national level policy seminars organised in five EU countries which discussed namely the current challenges and necessary policy interventions related to energy self-generation of European households.

The climate crisis that we face today calls for an urgent transition to fossil fuel-free energy systems. The European Green Deal introduces measures aimed at turning Europe into a climate-neutral continent by 2050. Within its framework, EU stimulates a more active role of energy consumers in the European energy systems as producers of own energy at home<sup>12</sup>.

*Energy citizens*, also referred to as prosumers, are individuals that are not only energy consumers but also produce energy that they either consume or sell to the grid. Enabling households to produce their own energy at home could serve as a stepping-stone in the process of decarbonisation.<sup>3</sup> Researchers recognise the significant potential of European households to become energy citizens and to actively contribute to the future energy systems. According to a recent study<sup>4</sup>, around 83% (187 million) of EU's households could potentially become active participants in the energy market (by producing renewable electricity, adapting electricity demand to renewable energy production or storing energy at times of oversupply). To realise this

potential, however, significant policy efforts and investments will be needed.

### Identified challenges

Common challenges in terms of policy interventions related to energy self-generation of households in Europe were identified during several national level policy seminars that were organised within the ECO2 project. The topic has been discussed in Bulgaria, Belgium, Ireland, Italy and Lithuania where the following major challenges emerged:

- Low level of awareness of households on renewable energy solutions/technologies for energy self-generation and lack of individual consultation opportunities for citizens and households who are willing to start producing energy themselves.
- In some EU member states, it still needs to be clarified to what extent households are allowed to use the energy they produce for their own consumption, what happens to the surplus energy produced, whether it can be returned to the grid and under what conditions, whether it can only be used for own consumption or for sale. The net

<sup>1</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Renewable\\_energy\\_statistics](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Renewable_energy_statistics)

<sup>2</sup> <https://www.greenpeace.org/static/planet4-eu-unit-stateless/2018/08/2ef7fcdf-2ef7fcdf-160926-ce-delft-the-potential-of-energy-citizens-in-the-eu.pdf>

<sup>3</sup> <https://www.greenpeace.org/static/planet4-eu-unit-stateless/2018/08/2ef7fcdf-2ef7fcdf-160926-ce-delft-the-potential-of-energy-citizens-in-the-eu.pdf>

<sup>4</sup> <https://www.greenpeace.org/static/planet4-eu-unit-stateless/2018/08/2ef7fcdf-2ef7fcdf-160926-ce-delft-the-potential-of-energy-citizens-in-the-eu.pdf>





metering regulatory framework could be a solution but so far it has been introduced in only few of the EU member states (Denmark, Germany, the Netherlands, etc.).

- Energy storage is an issue – At times prosumers end up producing more energy than they need to cover their own needs. Therefore, it is crucial to find a solution to the problem of surplus energy, either by promoting energy storage technology (the prices of which are still quite high) or by improving the interconnections between regions with different energy production and consumption profiles in Europe.
- In the case of multi-family buildings, it is often impossible to fairly distribute the produced energy for self-consumption by the co-owners. It can either be used for the buildings' common areas (where consumption is rather low) or sold to the grid.
- Lack of funding schemes for energy self-production focused on households has been identified as a major challenge.

During the discussions, the case of Lithuania has been mentioned as a good practice, where support schemes for encouraging individuals to produce energy from renewable resources have been quite successful with a total of 4 190 applications for installing solar power plants by the beginning of 2021.

### Policy insights

To correspond to the identified challenges, participants in the ECO2 national policy seminars proposed policy interventions that would be valid at both national and EU level. These include:

- Invest in effective training activities and awareness-building campaigns aimed at changing the perspective of energy consumers, so that they can take the leap from being just users to becoming prosumers.
- Create new business models - energy consumers are moving from passive actors receiving energy supply from the utility and paying for it, to acquiring a more and more active role by self-generating the energy they need from renewable sources (i.e. becoming prosumers), or by taking part in energy communities. This will also entail the need to transform energy players (e.g. utilities, energy agencies) in an ever-evolving market.
- Policy and financial schemes should take into consideration the different housing sectors e.g. rental, owner-occupied, social housing, and ensure that no one is left behind in the transition to household level renewable energy generation.
- The cost of household level renewable energy generation should be reduced by improving the financial investment schemes offered by governments.
- Wider engagement of stakeholders with relevant knowledge and expertise in the energy policy decision-making processes is also needed.
- Prosumers should be more actively involved in the management of energy consumption and even in the governance of the grid.
- Funding incentives that are clearly targeted at households, rather than companies, should be provided.
- Introduce mitigating measures to the construction of the installation and grid





connection regime in cases where the produced energy is used for covering own needs, not for selling.

- Another measure that has been recommended is developing an easy-to-use guide, which presents steps and possible challenges and solutions to households willing to produce energy from RES for covering their own needs or for selling it to the grid.

### Methodology for collecting results

The challenges and policy insights presented in this policy brief were collected during national-level policy seminars that were held by each ECO2 partner in May-June 2021. The seminars gathered policy-makers, NGOs, academia, consumer organisations and business and looked into EU-level and national and local-level policy interventions in the respective partners' countries, identifying ways of improving the impact of policy on consumers' behavior towards greater energy efficiency.

The seminars were organised online in two main sessions where participants were encouraged to share their views on the specific questions. In order to encourage a discussion the number of participants was limited to 25. To make the meetings more interactive, online tools and virtual whiteboards were used to collect participants' ideas.

### The ECO2 project in short

**ECO2 (Energy Conscious Consumers)** is a Horizon2020 funded project which main aim is to help EU consumers increase awareness of their energy consumption and improve the energy efficiency of their homes. Since consumers play a key role in the transition processes towards sustainable energy, the project both engages and empowers them by

enhancing knowledge on how to consume energy more consciously in their everyday lives.

The main outcome of the ECO2 project is **ACT4ECO**, an interactive online platform available at [www.act4eco.eu](http://www.act4eco.eu), which is aimed at motivating energy consumers to explore various solutions in terms of home improvements and implementation of energy-saving best practices.

ECO2 also aims at establishing a dialogue with policy-makers and innovators at national and EU level through policy seminars, to discuss energy efficiency measures available to households and their impact on consumer behaviour.

### Project partners

**Fonden Teknologirådet – Danish Board of Technology Foundation (DBT)**, Denmark – Project coordinator

**Hebes Intelligence Single Member Private Company (HEBES)**, Greece

**Sinergie Società Consortile a Responsabilità Limitata (SINERGIE)**, Italy

**Helsingin Yliopisto – University of Helsinki (UH)**, Finland

**Associação Portuguesa para a Defesa do Consumidor (DECO)**, Portugal

**Strategic Design Scenarios (SDS)**, Belgium  
**Applied Research and Communications Fund (ARC Fund)**, Bulgaria

**Asociacija Žinių Ekonomikos Forumas (KEF)**, Lithuania

**University College Cork, National University of Ireland, Cork (UCC)**, Ireland

