CLEAR-X

Consumers Leading the EU's
Energy Ambition Response, Expansion

POLICY RECOMMENDATIONS IN TARGET COUNTRIES

FEBRUARY 2022

The CLEAR-X project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101033682.

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ABOUT CLEAR-X

Consumers Leading the EU's Energy Ambition Response, Expansion (CLEAR-X) is an ambitious extension of a tried-and-tested methodology, designed and developed to address consumers' needs, thus **enabling consumers to lead the energy transition by investing in renewable energy and sustainable energy (RES) and energy efficient (EE) technologies**.

The project covers some of the countries where financial, administrative/regulatory and technical barriers were most often perceived by the consumers during their journey to RES technologies.

The countries - Bulgaria, Cyprus, Lithuania, North Macedonia, Slovakia & Slovenia - were therefore selected for the potential impact of introducing collective purchase schemes, geographic diversity compared with similar past projects, and the presence of suitable consumer organisations.

There are four specific objectives:

- Make reliable information available on RES and EE technologies suitable for consumers' homes
- Encourage consumers to collectively invest in suitable RES technologies through trusted schemes
- Provide consumers with relevant information and advice on RES and EE technologies
- Facilitate consumers' adoption of RES and EE technologies and relevant market offers via regulatory frameworks

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INTRODUCTION

The European Union finds itself at the start of a significant energy transition needed to avert climate breakdown. At the same time, increasing energy prices combined with a global pandemic have deepened social and economic differences among consumers. Among the different solutions to shield consumers against rising energy costs in the future while also reaching our 2030 climate targets, is to significantly increase the amount of renewable energy available1. One of the ways to do this is to make it easier for consumers to purchase and install RES (renewable energy and sustainable energy) technologies, which is one of the objectives of this project.

In particular, the Work Package (WP) 5's primary objective is to shape regulations, policies and incentive schemes so that these better match with consumer needs, facilitate consumers' active participation in energy markets and help them engage easily in renewable energy and sustainable energy (RES) and energy efficient (EE) technologies.

The first step to achieve this objective was the analysis of the legislative and regulatory barriers at national level to installing RES technologies and becoming a prosumer (CLEAR-X D5.1). This analysis focused especially on assessing whether three key EU directives (the 2012 Energy Efficiency Directive, the 2018 Renewable Energy Directive and the 2019 Electricity Directive) which contained measures designed to help consumers access RES, had been transposed into the national law of the project partners' respective countries. The partners found major areas for improvement and showed that while some clauses and articles of the EU law had not been transposed in the spirit of the Directive, others had not yet been transposed at all.

Building on that research, this document provides an overview of eight real-life barriers preventing consumers from becoming prosumers in the target countries and provides recommendations on how to overcome these barriers, as well as sharing best practices from the project countries, where applicable.

[1] https://www.beuc.eu/blog/high-electricity-prices-its-time-to-accelerate-the-energy-transition/

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Summary of our main recommendations:

- Create ambitious financial support schemes for households with average or low income. Upfront costs should be tackled by covering as much of the costs as possible in advance of the works taking place;
- To enable renovations and RES installations, provide a strong governance and leadership role to local and regional authorities. Tackle national regulatory frameworks around property law and the governance of multi-unit buildings, and grant a special status for the installation of renewables;
- Increase tenant access to renewables, tackle split incentives and consider mandates such as the "solar obligation";
- Local authorities should run smart meter campaigns with relevant stakeholders. National regulators should conduct a cost benefit analysis on the benefits of smart meter roll out;
- Improve consumers access to advice and installers: Fund one-stop-shops with a dedicated capacity in RES and renovations. Train and upskill workers to provide RES installations and renovations;
- Provide a stable regulatory framework and tariff rate that incentivises prosumers. Invest in the energy grid and ensure prosumers can be provided a grid connection within a reasonable timeframe;
- Ensure consumer access to energy contracts with dynamic electricity pricing and aggregation contracts;
- Expand prosumer rights and offer prosumers adequate renumeration for selling electricity back to the grid.

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BARRIER #1

THE HIGH FINANCIAL BURDEN OF RENEWABLE ENERGY DEVICES AND INSTALLATION

One of the key barriers for consumers transitioning to renewable technologies is that of the financial burden, and particularly of **upfront costs**. A recent study by Spanish consumer organisation OCU showed the price of installing PV panels averaging between €4450 and €4950 for a 36m² roof[2], an initial investment that is out of reach for many consumers.

To tackle this problem, financial support from public authorities can help. Initial research showed that financial schemes to encourage the switch to renewables actually exist in six of the seven studied countries[3]. However, even when such financial schemes exist and are well-communicated, they oftentimes offer reimbursement to the consumer only after the purchase and installation of the device.

Such reimbursement schemes inherently exclude many low-income (and even middle-income) consumers, who do not have the money to cover the upfront costs of the purchase, or at the least, cannot afford to wait for the reimbursement. In the section below, we review ways to tackle the high financial cost of purchasing and installing RES devices and/or making energy efficiency improvements.

A. Designing financial support programs (grants, subsidies) that tackle the upfront costs of works

This research identified **100% state support schemes for vulnerable households** in a small number of countries. In **Slovenia**, vulnerable consumers who are the recipients of social payments can get RES devices paid for and installed with full payment covered as part of a tripartite contract with the contractor and the Slovenian Environmental Public Fund[4].

Similarly, the government in **Lithuania** has been supporting vulnerable consumers since 2020 by covering up to 100% of the costs of installing a solar power plant and up to 85% of the costs of installing a heat pump. This is done in a similar manner to the Slovenian fund, by transferring the payment directly to the contractor after the work has

[2] OCU. (2022). Estudio: Simuladores fotovoltaicos. *Compra Maestra 476*. Enero 2022; 23-26.
[3] https://www.clear-x.eu/clear-x-partners-review-legislation-project-countries/
[4] A tripartite contract is concluded between the Eco Fund, the beneficiary and the contractor. The funds are transferred directly to the contractor within one month after the works are completed and all relevant documentation is submitted. The beneficiary does not receive any funds. https://www.ekosklad.si/prebivalstvo/pridobite-spodbudo/zmanjsevanje-energetske-revscine

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been carried out, with no added financial burden put on the consumer. While this is an important program, one weak aspect is that it is set up for high capacity installations only (10kW)[5], which means that only a small number of vulnerable consumers will be able to apply for it.

In **Portugal**, a program exists to support the renovation of buildings and the installation of RES technologies, specifically for older buildings, that reimburses up to 85% of the costs spent by the owners. While this fails to tackle the problem of upfront costs, there is a scheme for more vulnerable families, where **vouchers** of €1300 euros +VAT are distributed before the renovation/installation takes place, with no need for consumers to pay any money in advance. When it comes to other dedicated programmes for low-income and vulnerable consumers, North Macedonia offers the "Program for promotion of renewable energy sources and encouraging energy efficiency in households", which has a dedicated program for vulnerable consumers as of 2022.
Another problem noticed in several countries is that most financial support is applied for digitally, on a "first come – first takes" basis, meaning many consumers do not have chance the to apply for such support at all. This particularly affects vulnerable households, who are already more likely to suffer a "digital gap" and not be connected to the internet or connected devices.

Possible solutions:

Member States should focus on creating **support schemes** for households with average or low income, and providing more ambitious grants that cover as much of the costs as possible, to avoid only high-income earners from engaging in the energy transition. As much as possible, these support schemes should be **disbursed from the outset**, so as to overcome this upfront costs barrier.

To make sure that the support programs reach all consumers, and not only those well-informed or well-advised, we recommend that these programs should be communicated offline and available to apply for through local municipalities and one-stop-shops.

B. Making use of innovative financial instruments

On top of grants and public subsidies, the finance sector can be better mobilised to contribute to the goal of rolling-out more renewable energy technologies. This can be done thanks to **innovative financial instruments** (IFI). IFIs aim to **de-risk** private lending, via tools like loan-loss reserves or guarantee funds. These de-risking tools mean that in cases where money is lent to a household (such as a loan to install a renewable device), and this household struggles to repay, the loan-loss reserve or the guarantee fund steps in, ensuring repayment on behalf of the struggling household. IFIs can also be used as tools to directly address up-front costs and spread out their repayment over time. A good example are **on-bill schemes**, which are a micro-loan whose repayments are folded into monthly energy bills. On-bill schemes can be funded by energy suppliers or third-party investors. These two

[5] Domestic solar panel systems typically have a capacity of between 1 kW and 4 kW

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kinds of IFIs (de-risking tools and deferred payment options) are not mutually exclusive, and may actually lead to more positive outcomes if they are combined.

Possible solutions:

The revision of the Energy Efficiency Directive and the Energy Performance of Building Directive, as part of the 2021 Fit for 55 package, provide ample opportunity to **encourage the roll-out of IFIs** that can tackle the problem of upfront costs. In turn, such instruments must then be taken up and promoted by national and local authorities**,** such as through **one-stop-shops**. The proposed Social Climate Fund can also be used as a way of funding these instruments, in line with the goal that the benefits of the Fund ultimately flow back to consumers[6]. The revision of the Consumer Credit Directive and the upcoming revision of the Mortgage Credit Directive (currently under review) should include provisions supporting the uptake of green loans and foresee an adequate incentive structure (e.g. a cap on the annual percentage rate of charge for green loans, development of standardised credit products).

C. Tax incentives

Other incentives can be put in place to encourage consumers to install RES. There are many ways in which appropriate tax incentives can increase energy efficiency and improve implementation of RES in households. However, our research showed that only two of the studied countries employ instruments by which taxes can be reduced in connection with energy efficiency (Bulgaria and Portugal).

Income tax relief can motivate higher earners who have the personal finances but otherwise would not engage in RES adoption and energy renovations. Sceptical Member State governments should consider that the loss of this tax would return to the state budget in the form of income tax from the construction work and sale of associated RES devices. For instance, **Bulgaria** offers personal income tax relief up to approx. €1000 in cases of renovation and energy efficiency improvements. Additionally, the owner can benefit from an **exemption from property taxes** for a certain period, provided the property reaches a certain energy class (this also takes into account the use of renewable energy sources to meet the needs of the building). Provided the building has been inspected and certified under the Energy Efficiency Act, the owner can benefit from between 3 and 10 years of property tax relief. Another option is **low- or zero-VAT** for the installations of devices using RES. This is a key way to make these devices accessible to more households, and can speed up their decision to become a prosumer.

Lowering property taxes, which owners pay to the municipality, or indeed a temporary exemption from that tax for owners who renovate their home and/or install RES devices, can also be considered a viable option. In Portugal, for example, if the building has been assigned an energy class equal to or higher than A; the owner can benefit from a reduction of the municipal property tax up to 25%. This can also be claimed if the energy class of building jumps at least two grades thanks to renovation of the building. However, oftentimes these reductions will be quite modest, and must be confirmed by the decision of the municipal assembly, which can be quite an administrative burden.

[6] https://www.beuc.eu/publications/beuc-x-2022-007_social_climate_fund.pdf

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Such measures should be well communicated to consumers before they start their investments, and should be financially worthwhile for consumers. Such examples reinforce the key concept that not only national authorities, but also municipalities, have a significant role to play in the energy transition.

Our recommendations:

- Create ambitious financial support schemes for households with average or low income. Communicate these support schemes offline and allow time for less digitally savvy consumers to apply;
- Upfront costs should be tackled by covering as much of the costs as possible in advance of the works taking place, through for instance tripartite contracts or voucher schemes;
- Encourage the roll-out of innovative financial instruments through the EPBD and the EED;
- Include provisions supporting the uptake of green loans in the Consumer Credit Directive and the Mortgage Credit Directive;
- Consider income tax relief schemes for RES installations and energy renovations;
- Promote low and zero-VAT schemes for RES purchases and installations.

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BARRIER #2
MULTI-UNIT BUILDINGS

Another major hurdle preventing the uptake of RES and EE technologies among consumers is that of regulatory frameworks and governance of multi-unit buildings.

In many cases, a dweller in a multi-unit building wishing to install, for example, a PV panel on the roof of the building, may need **permission from the owners of the other units** in the building, decreasing both the likelihood of consensus and, should it go ahead, the ease of the installation process. While in North Macedonia one requires consent of 51% of all unit owners; in Slovenia, Slovakia and Bulgaria it rises to 75%, and in Cyprus and Portugal *all owners* must agree to the installation, a requirement which obviously makes the installation of RES a very burdensome and uncertain process.

As another example of barriers for multi-units, a motivated owner of one or several apartments in a building would not have the capacity to **switch the energy supply** without consent from all other unit owners. Such **governance structures, with dispersed decision-making capacities,** could have a significant impact on the ability to transition cities and towns across Europe to renewable energy.

Possible solutions:

In cases such as the above, solutions must come from the national and local level, as these areas of legislation fall outside of EU jurisdiction. Providing a strong governance and leadership role to **local and regional authorities**, as well as tackling **national regulatory frameworks** (via property laws and the rules around multi-unit buildings), could have a strong positive effect on the ability to trigger RES installations and EE measures in multi-unit buildings across Europe. Specifically, regulations could be changed to provide a **special status for the installation of renewables**, allowing for such installations in a multi-unit building with consent of fewer unit owners, or for a shorter consultation process.

Similarly, local authorities should drive **campaigns to encourage RES installations**, particularly in cities and targeting multi-unit buildings. This could be done in coordination with one-stop-shops tasked with developing expertise in governance of multi-unit buildings.

As a positive example, Spain has been active on this matter, allowing for a smooth disbursement of the funding obtained from the Resilience and Recovery Facility and preventing bottlenecks thanks to changes to laws around

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building regulations[7] [8]. Technical Assistance provided to Member States and Local Authorities should include the exchange of best practices regarding the revision of regulatory frameworks.

Our recommendations:

- Provide a strong governance and leadership role to local and regional authorities to ensure the transition to renewable energy;
- Tackle national regulatory frameworks around property law and the governance of multi-unit buildings, such as special status in terms of consensus and governance issues for the installation of renewables in multi-units.

[7] Artículo 2. Modificación de la Ley 49/1960, de 21 de julio, sobre propiedad horizontal https://www.boe.es/buscar/act.php?id=BOE-A-2021-16230#a2
[8] https://cincodias.elpais.com/cincodias/2021/10/06/economia/1633517460_710219.html

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BARRIER #3

SPLIT INCENTIVES AND CHALLENGES FOR THE PRIVATE RENTED SECTOR

Another significant hurdle to the roll out of RES is that of **split incentives** between landlords and tenants. Put simply, if the financial incentives to shift to renewable energy flow solely to the tenant, there is no incentive for the landlord to grant permission or provide funding for the installation. In fact, in 2017 BEUC wrote a report identifying tenants in the private rented sector as "the blind spot of all solar self-generation policies in EU Member States."[9]

Similarly, if all benefits were to flow to the landlord, the tenant would have little interest in opening up their home to possibly time-consuming and disruptive renovations or installations.

In most countries studied, split incentives were found to be a significant barrier to RES adoption – only **Slovenia** stood out as having an option whereby tenants can become prosumers if they get clear consent from the owners of the building.

Possible solutions:

There are a variety of models for tenant generation of electricity, such as segmented self-generation, shared self-generation, and direct sale by a landlord, contractor or electricity supplier. Ideally, solutions would be found that **incentivise not only the tenant, but also the landlord, to invest in such technologies**, such as a system whereby a share of the profits from sales back to the grid accrue to each party.

At the very least, tenants in long-term rental agreements, and in social housing, should have easy access to RES and energy efficient measures. For social housing in particular, this can be implemented by the state without getting involved with the private rental sector; discounts of rent for tenants who adopt such measures presents itself as a simple, pain-free place for national and local governments to start.

Some federal states in Germany have taken action on a "**solar obligation**"[10] for some buildings and rooftops, which should only be considered provided the right **regulatory frameworks and incentives** are in place to ensure extra burdens do not fall on tenants, and that **tenants' rights** are protected in the process.

The potential role of **Energy Performance Certificates** (EPCs) should also be considered at both EU and national level. Discussion around legal obligations for placing a home on the rental market has already expanded in this

[9] https://www.beuc.eu/publications/beuc-x-2017-001_tenants_solar_self-consumption.pdf
[10] https://www.vzbv.de/sites/default/files/2022-01/22-01-25_Positionspapier_Solarpflicht.pdf

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direction in France, where the national energy rating of a building or unit will soon need to be above a certain threshold to make a property available for rent. Such obligations, with proper enforcement, could have a significant effect on ensuring that only energy efficient buildings or units, for instance those sufficiently renovated and equipped with RES, are placed on the rental market, which would significantly improve the quality of Europe's building stock.

Our recommendations:

- Increase tenant access to renewables through dedicated legislation;
- Consider mandates – such as the "solar obligation" introduced across some states in Germany – to ensure increased uptake of solar technologies, as well as the role of Energy Performance Certificates or similar enforcement tools.

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BARRIER #4

THE DIFFICULTY IN ACCESSING SMART METERS

Smart meters help consumers to better understand and monitor their energy consumption, allowing them to change their behaviour accordingly. They are often a first step in getting consumers to make energy efficient decisions and can facilitate the uptake of more efficient appliances, as well as RES technologies.

However, project research has shown that only a limited number of households have been able to access smart meters, with the process in all countries taking many years, and official data on roll-out/number of smart meters in a country proving very difficult to find. Research also showed that very little attempt was made in the project countries to communicate the benefits of smart meters to consumers, with most consumers left in the dark as to their value.

In Slovenia, for example, consumers must contribute to the costs of installation of smart meters, while in Slovakia only consumers with consumption higher than 4MWh per year have the right to get one for free. The roll-out of smart meters in Lithuania was set to begin only at the start of 2022.

Possible solutions:

It is clear that not only does the roll-out of smart meters need to be more effective, but so too does the **communication campaign** around the roll-out, as it presents a prime opportunity to educate consumers on the benefits of smart meters and becoming a self-consumer as a whole. While this is already accounted for in the EED (2012/27/EU), **proper enforcement** of the legislation should be pursued.

Bulgarian consumer organisation BNAAC has already asked the national ombudsman for support in replacing of traditional meters with smart meters free of charge for vulnerable households, an initiative which could be taken up by all Member States.

Local authorities should be tasked with effective roll-out and communication, starting with specific regions, with verifiable results to be shared nationally to promote best practices in the roll-out campaign. Collaboration should be sought with **energy suppliers, consumer organisations and the construction sector**, including dedicated workshops to communicate the benefits and importance of smart meters to the professional community involved in energy supply and renovation.

It is also important that national regulators fully grasp the significant potential of smart meters; such lack of information has damaged incentives for roll-out. As such, **national regulators** should also run a **cost benefit analysis on the benefits of a smart meter roll out**. In this analysis they should assess the benefits that flexible energy consumption would have in terms of lower costs for the management and operation of electricity grids. As electric vehicles and PV systems coupled with batteries are increasingly entering consumers' homes, flexible energy

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consumption is increasingly becoming a reality for many consumers, and the growth of smart meters is a prerequisite to harness such flexibility.

Our recommendations:

- Public authorities should be responsible for the roll-out of smart meters and clearly communicate about it. This should be done in collaboration with relevant stakeholders such as energy suppliers, consumer organisations and the construction sector;
- National regulators should run a cost benefit analysis on the benefits of smart meter roll-out.

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BARRIER #5

CONSUMER ACCESS TO INFORMATION, ADVICE AND INSTALLATION

In terms of non-financial and non-regulatory barriers to becoming a prosumer, two of the key issues that consumers struggle with are access to advice and access to trustworthy installation. Research in project countries has shown that consumers rarely know where to access information or advice on energy efficiency, renovations or installations, often relying on word-of-mouth from peers.

This reliance on peers is particularly problematic when RES installations remain in their infancy among many communities, meaning information and advice on such processes fails to disseminate successfully at all among many communities. When such information is available, it often only exists digitally, again highlighting the inherent disadvantage for consumers who are vulnerable or less likely to be connected to the internet.

Possible solutions:

When it comes to receiving advice, consumers willing to install a RES device should have access to one **single point of contact** who can support them with all administrative procedures, guiding them to find an accredited installer, explaining what subsidies are available and pointing them towards financing options. Consumer organisations are well-placed to play such a role, as demonstrated in the CLEAR 2.0 project[11], and as being demonstrated under this ongoing project, though in many cases, capacity to take on such a role in the long term would require **greater funding and resources for consumer organisations**.

Another option would be the creation and expansion of **one-stop-shops,** which can provide consumers with reliable, independent information on renovations, energy efficiency and RES installations. Under the EU-funded STEP project[12], Portuguese consumer organisation DECO has been collaborating with **local authorities to establish support desks dedicated to energy and housing** to enable and expand energy retrofit works across Portugal[13], which can be used as example of best practices to be shared among Member States.

In terms of legislation, Member States should fully implement Article 16 of the Renewable Energy Directive (2018) in line with the spirit of the Directive, which focuses on the need for a single point of contact, as well as improving efforts around the provision of information, as provided for in Article 12 of the Energy Efficiency Directive (2012).

[11] https://www.clear2-project.eu/
[12] https://www.stepenergy.eu/
[13] https://www.stepenergy.eu/deco-one-stop-shops-local-authorities-portugal/

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Meanwhile, the European Parliament and the Council should work to strengthen measures on one-stop-shops in Article 27 of the newly proposed EED (as part of the Fit for 55 package)[14].

Regarding the need for installers, evidence has already been shown across Europe of a **lack of skilled workers with adequate training and accreditation** to engage in energy retrofits and install devices such as heat pumps[15]. Member States have a responsibility to ensure the availability of such skills among the workforce, and this can be strengthened through improvements to Article 18 of the proposed recast of Renewable Energy Directive[16], as released in the July 2021 Fit for 55 package. This article, which aims to tackle the **accreditation and ability of installers**, should require Member States to **assess the number of installers of PV panels and heat pumps that would be needed to meet their national renewable energy targets**, and the geographical spread of these installers. A review of this assessment should take into account any changes that might be needed to ensure that a sufficient number of installers are available to satisfy the growing demand.

Our recommendations:

- Public authorities should put in place single points of contact (such as one-stop-shops) to facilitate administrative and operational procedures for housing renovations and RES installations;
- Member States should fully implement Article 12 of the EED (2012), Article 16 of the RED (2018), and a more ambitious proposal on Article 27 of the recast EED in the Fit for 55 package;
- Public authorities must oversee an increase in training and accreditation of the workforce to ensure an adequate number of RES installers. This can be reinforced through the strengthening of some of the provisions of the RED (Article 18) currently under negotiation.

[14] https://eur-lex.europa.eu/resource.html?uri=cellar:a214c850-e574-11eb-a1a5-01aa75ed71a1.0001.02/DOC_1&format=PDF
[15] https://www.euractiv.com/section/energy-environment/news/eu-confronted-with-lack-of-skilled-labour-to-support-building-renovation-wave/
[16] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0557

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BARRIER #6

REGULATORY FRAMEWORK FOR PV INSTALLATIONS, ADMINISTRATIVE PROCEDURES AND ACCESS TO THE GRID

PV panels will be a key technology in the energy transition, and as such, a much greater uptake will be needed across buildings in Europe to reach the 2030 climate targets. It's in the interest of European legislators and consumers alike to make the purchase and installation of PV panels as smooth as possible for consumers.

The partners in the CLEAR-X project welcome the European Commission's proposal for a dedicated solar energy strategy[17], due to the significant roll-out barriers specific to this technology – a **stable and clear regulatory framework** for PV installations is much needed. Our project research has highlighted that many **unreasonable administrative barriers** remain in place to increasing the uptake of PV panels and other RES devices, recommendations for which are detailed below.

Possible solutions:

Firstly, CLEAR-X partners would like to highlight the need for **incentives and prosumer tariffs to be predictable**. Frequent **changes in legislation**, for example on incentives to purchase PV panels, feed-in tariffs or taxation levels undermine consumer trust and reduce their appetite to engage with renewable technologies. **Regulatory stability** is key to nudge consumers to invest in renewables.

Project research highlighted **complex administrative procedures in permit-granting**, including that in some areas, a building permit is needed to install a PV panel. This should be rectified through implementation of Articles 15 & 16 of the Renewable Energy Directive (2018). This is another area for which **one-stop shops** 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, including those related to the grid.

A further concern was raised among project partners regarding the capacity and number of available **grid connections for the growing number of prosumers**. In Slovakia, for example, distribution companies have claimed that the existing infrastructure cannot deal with the high amount of prosumers and could lead to collapse. This in turn makes the DSOs reluctant to offer their networks to prosumers, leading to general inertia around grid connection, which remains a very lengthy process.

[17] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13338-EU-solar-energy-strategy_en

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To overcome the obstacles around grid connection, responsible national authorities should establish controlling mechanisms to identify and prevent obstacles from networks operators, so connection to the grid is simple and quick, with clear rules and financial compensation. **Sanctions** could also be placed on responsible bodies - i.e. grid operators - for not processing grid connection applications within specified deadlines, as well as similar deadlines for carrying out the connection. **Investments in grid improvements** should also be a priority for countries, which should closely **monitor that distribution system operators use distribution fees correctly**. In terms of legislation, this issue can also be tackled through implementation of Article 15 of the Electricity Directive (2019).

Progress on some of these barriers has been seen in Lithuania, where prosumers can connect to the grid within 21 working days, significantly shortened from the previous waiting period of up to 105 days. On top of this, administrative burdens have been relieved by officials requiring only 10% of the previous amount of documentation for grid connection, further smoothing out the transition process and leading to a much more rapid uptake of the RES technology. This could serve as an inspiration for other countries as well.

Our recommendations:

- Implement a stable regulatory framework that simplifies administrative processes such as permit-granting. This can be done through the full implementation of Articles 15 & 16 of the RED;
- Ease the grid connection process by investing in the grid, while also monitoring grid operators and sanctioning in cases of ineffective operation;
- Enforce Article 15 of the Electricity Directive (2019) on distribution fees.

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BARRIER #7

LACK OF INCENTIVES FOR DEMAND SIDE FLEXIBILITY

One of the central beliefs underlying the CLEAR-X project is that enabling energy consumers to become self-consumers is crucial to ensuring a transition to renewable energy across Europe. One of the key elements of this is to embrace Demand Side Flexibility (DSF).

In reviewing the implementation of the Electricity Directive (2019), our research revealed that the legal framework for **energy contracts with dynamic electricity pricing** was not defined in most project consortium countries, nor were such contracts made available for consumers, despite both being demanded under Article 11 of the legislation.

These contracts can help to integrate renewable power in the electricity system, by giving consumers price signals on when large amounts of renewable electricity is being generated. If consumers are informed and react to these price signals, then system operators can avoid renewable power generation curtailments, as electricity demand would increase at times of peak production. Furthermore, there would be less need to rely on fossil fuel power plants at times of low production and peak electricity demand. A BEUC study highlights that consumers with a dynamic electricity price contract, who were able to charge their car flexibly in France and in Austria in 2020 and 2021, would have saved €7-11/month compared to consumers on a fixed price tariff.[18] These savings amount to 23-36% of the cost of charging during that time period.

Possible solutions:

Along with the need to implement Article 11 on dynamic tariffs, special effort should also be made to properly implement Article 13 of the same Directive, which entitles consumers to an **aggregation contract**. When it comes to aggregation contracts, there are many aspects that can be improved, such as ensuring aggregators do not make unclear statements about potential rewards and discounts that consumers can achieve, and ensuring that consumers with aggregation contracts enjoy appropriate protections, in line with those set in the Electricity Directive for supply contracts.

Beyond these suggestions, there are several more ways in which consumers can be engaged in DSF at the EU level. Firstly, the Commission should ensure that demand response programmes and digital technologies are designed in line with consumers' needs, skills, conditions, habits and expectations, by launching **real-life trials** gathering

[18] Cambridge Econometrics for BEUC, Risks and benefits of dynamic electricity price contracts, February 2022.

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consumers' perspective on demand side flexibility. These insights should then be integrated by suppliers in their offers.

EU-funded projects testing demand response programmes should be aimed at gaining a good understanding of the consumer perspective and should not only focus on the challenges and benefits of the programmes for system operators.

Our recommendations:

- Ensure consumers have access to energy contracts with dynamic electricity pricing, as well as having access to aggregation contracts through the full implementation of Articles 11 and 13 of the Electricity Directive (2019);
- The European Commission should ensure that demand response programmes and digital technologies are designed in line with consumers' needs and abilities through conducting real-life trials with consumers.

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BARRIER #8

LACK OF CONSUMER RIGHTS AND CONSUMER BENEFITS AS A PROSUMER

As prosumers are a relatively new type of consumer - both an energy consumer and seller back to the market, it's crucial that such consumers feel empowered and protected. Unfortunately, **consumer rights for self-consumption are not as expansive and protective** as they are in other areas of "traditional" energy consumption. This makes becoming a prosumer less attractive for European citizens.

It should come as no surprise that **financial compensation is a significant motivator for consumers to become prosumers**. If consumers feel like they can't make significant savings on their bills, or might indeed be at risk of fines, self-consumption will not become an attractive option for them. The above-named Spanish study on PV installations highlighted across tests involving 17 PV panels, that prosumers who sold their energy back to the market were paid at a rate between 35%-75% lower than the market price[19]. Meanwhile, evidence from Slovakian project partner SOS revealed that *prosumers can be fined* for accidentally sending excess energy back to the grid.

Possible solutions:

Based on the examples above, **Member States should ensure that prosumers earn the market price for energy they sell to the grid.** Prosumers should be renumerated to a degree that makes the transition to self-consumption worthwhile, which can be tackled through **appropriate renumeration rates** for self-consumers, set at the national level. There should be **dialogue and monitoring between national regulators and energy suppliers** to ensure selling back to the grid is an attractive option for consumers.

Consumer protections, monitoring, and dispute resolutions need to be adapted to new energy models. Consumers might engage in new business models to access renewable self-generation (e.g. entering a contract with a third party). Having the choice among a wide range of options is beneficial for consumers, and as such, **self-consumers should maintain a right to switch suppliers**, without their prosumer status effecting this situation.

Finally, in the case of disputes, consumers should have their complaint handled through a **single contact point**, depending on which part of the bundle causes dispute. Where it doesn't exist already, a **national energy ombudsman**[20] should be set up, with **dedicated expertise in contracts and enforcement for self-consumption** – having such a contact point in cases of conflict could make self-consumption significantly more attractive. Such

[19] OCU. (2022). Estudio: Simuladores fotovoltaicos. *Compra Maestra 476*. Enero 2022; 23-26.
[20] https://www.stepenergy.eu/new-energy-ombudsman-slovak-consumers-energy-disputes/

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requirements can be implemented under EU law, and passed into national legislation through the transposition process.

Our recommendations:

- Expand consumer rights and protections for prosumers;
- Allow prosumers to switch suppliers;
- Provide prosumers with a single contact point for dispute resolution such as an energy ombudsman;
- Ensure self-consumers are appropriately renumerated for selling their electricity back to the grid.

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CONCLUSION

The research undertaken has added to the CLEAR-X project by highlighting the barriers consumers face to becoming energy self-consumers, and providing practical solutions to both EU and national lawmakers, as well as local authorities, on how to overcome these hurdles and engage a larger number of consumers in the energy transition.

With such a diverse set of responsible actors, what this study reveals is that a three-pronged approach is needed, requiring **ambition from all relevant stakeholders** and lawmakers. Given the diverse set of barriers, from prosumer rights to financial support programs, and from Demand Side Flexibility to landlord-tenant incentives, **communication** between bodies at the local/regional, national and EU level is crucial, to highlight where action needs to come from – as such, there should be ongoing dialogue dedicated to self-consumption and RES expansion between these bodies.

Through **holistic stakeholder engagement**, Europeans must work together to enable a framework where all consumers can become energy self-consumers and accelerate Europe's transition to renewable energy.

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