



Recommendations to empower citizens in the energy transition thanks to energy communities and energy sharing

A joint policy brief by EU-funded projects LocalRES, FEDECOM, Masterpiece, STUNNED, INTELLIGENT and U2DEMO

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1 Introduction

To achieve the EU's energy and climate objectives, **active consumer participation is essential**. Among the various approaches to foster such engagement, **energy communities, energy sharing and peer-to-peer (P2P) trading** are emerging as key enablers of a more decentralised, inclusive and resilient energy system. According to the Energy Communities Repository and the Rural Energy Community Advisory Hub, **by 2050, up to half of Europe's citizens could be producing around 50% of the EU's renewable electricity**, highlighting the transformative potential of citizen-led initiatives.

Energy communities, formally introduced by the *Clean Energy for all Europeans Package* (2019), represent a new type of market actor designed to facilitate **collective, citizen-driven energy actions**. They enable individuals, local authorities and SMEs to jointly engage in activities such as renewable energy generation, consumption, storage and supply, including through **energy sharing schemes**.

Energy sharing refers to the **collective use of self-generated electricity among multiple participants**, based on contractual arrangements. It is further clarified in Directive (EU) 2024/1711, which defines key roles, rights and responsibilities and extends access to a broader range of active customers, beyond energy communities alone.

Over the past five years, numerous EU-funded projects have developed and tested **innovative solutions, business models and services** to empower citizens and accelerate the deployment of such initiatives. These projects have exchanged experiences, lessons learned and best practices within **BRIDGE**, a European Commission initiative bringing together Horizon 2020 and Horizon Europe projects in the fields of smart grids, energy storage and digitalisation.

Building on this collaborative work, six projects — LocalRES, FEDECOM, Masterpiece, STUNNED, INTELLIGENT and U2DEMO — have joined forces to produce this joint policy brief. Developed within the BRIDGE Working Group on Regulation in late 2025, it presents a set of **targeted recommendations aimed at strengthening the regulatory framework** and facilitating the effective participation of citizens in energy markets, from the local to the European level.

2 Overview of recommendations

A total of eleven actionable recommendations for policy makers, from local to national and European level, have been defined:

	Recommendation	Level of implementation
1	Ensure that all European DSOs set up or connect to an open data space, with a clear data protection framework	EU National
2	Enable the development of advanced solutions through a comprehensive set of rules governing energy sharing and trading	National
3	Streamline the set-up of regulatory sandboxes which will enable the development, testing and assessment of the effectiveness of local flexibility markets	EU National
4	Ensure alignment between implicit and explicit flexibility mechanisms for end-users and energy communities	National
5	Remove barriers that prevent the access to wholesale markets	EU National
6	Simplify grid tariffs, especially for storage	National
7	Ensure that settlement costs and fees imposed by suppliers to their customers taking part in energy sharing schemes are proportionate	National
8	Ensure consumer protection rights (horizontal and sector consumer rights) for energy sharing agreements between active consumers.	EU National
9	Prioritise administrative simplification as a core enabler of energy communities	National
10	Set up One Stop Shops or similar structures to provide financial and technical support to municipalities to engage with energy sharing projects (incl. on procurement)	EU National Regional / local
11	Create national Working Groups bringing together competent authorities (e.g. energy regulator, government, DSOs), representatives of energy communities/ energy sharing initiatives as well as EU funded projects	National

3 Detailed recommendations

Recommendation 1. Ensure that all European DSOs set up or connect to an open data space, with a clear data protection framework

EU**National**

The transition towards a decarbonised, decentralised and customer-centric energy system requires seamless interaction between distributed energy assets, market actors and grid operators. However, this transition is currently hindered by siloed data, fragmented infrastructures and limited access to real-time information, which constrain the ability to optimise energy flows and unlock flexibility services.

To address this, DSOs should establish standardised and interoperable open data spaces (or connect to nationally established data spaces), aligned with the Common European Energy Data Space (CEEDS) initiative, ensuring secure and real-time access to relevant data for authorised actors.

In particular, both EU and national regulatory frameworks should:

- Enable secure, standardised and real-time data access for aggregators, energy service providers and energy communities,
- Define clear data governance and protection rules, including roles, responsibilities and access rights (e.g. strict access control based on 'need-to-know' principles),
- Promote the use of common, interoperable data models, commonly agreed data exchange standards and formats, and standardised APIs to facilitate integration of heterogeneous energy management systems, preferably relying on decentralised data registries (also termed flexibility registries) for additional data protection,
- Support both real-time and historical data availability to enable forecasting, optimisation and verification of energy exchanges.

Such data infrastructures are essential to enable coordination of distributed assets, improve system efficiency, and facilitate participation in energy and flexibility markets.

Recommendation 2. Enable the development of advanced solutions through a comprehensive set of rules governing energy sharing and trading

National

The development of comprehensive solutions enabling the maximisation of energy sharing / trading benefits within and among local communities (as implemented by the FEDECOM and INTELLIGENT projects) requires certain requirements in the national regulatory frameworks. These two projects implement an intra and inter-community trading based on market conditions which are matched through diverse mechanisms (pay-as-bid, pay-as-clear or automated-market-maker mechanism). The applied algorithm matches at a compensation price that exceeds the feed-in tariff received by the generating party from its electricity supplier (if any), while remaining

below the retail electricity price paid by the consuming party to its external supplier. These projects therefore require energy-sharing rules that allow a sufficient degree of flexibility to enable market-based trading rather than just a coefficient-allocation. We have summarised these requirements in a set of five sub-recommendations:

Allowing energy sharing / trading across an extended area: These solutions bring higher benefits to the local community if they include participants with complementary profiles (i.e. a mix of participants with generation assets and others without, who can consume the energy during periods of excess generation), and these benefits are scaled when there is also a diversity of assets, including storage assets. In some countries (e.g. Finland), energy sharing is only permitted within a single (multi-apartment) building equipped with solar PV panels. This significantly limits the potential generation capacity and the ability of participating consumers to absorb excess electricity (for example, during working hours). An **extended proximity criterion** (e.g. over several kilometres) would enable the participation of a larger number of people with complementary profiles, thereby improving the match between local renewable energy generation and consumption. Moreover, allowing trading between communities would seriously unleash the country's renewable potential.

Allowing a price differentiation within the community / energy sharing scheme: The energy sharing / trading process must provide appropriate compensation to the party generating the energy. However, in many countries, compensation levels are regulated or determined by public authorities. National frameworks should allow for **differentiated pricing in compensation**. At the same time, national rules may include consumer protection measures (e.g. setting a maximum price for consuming participants that remains below the price of their electricity supply contract). However, we recommend not applying the same type of price protection to generating participants, as this could limit certain initiatives (for example, projects in which a municipality provides energy at a discounted rate to energy-vulnerable households).

The recognition of the dynamic sharing coefficient: Within an energy community or energy-sharing scheme, the electricity generated by each producing participant's asset is typically allocated to consuming participants according to a predefined sharing coefficient. These sharing coefficients may be defined by the DSO or by the relevant energy ministry. They are then communicated to the DSO, which acts as a neutral third party and uses metering data to perform settlement.

The most common models are **static coefficients** (each participant receives a predetermined share of the generated electricity, regardless of their real-time consumption) and **proportional coefficients** (energy is allocated based on each participant's consumption during the relevant market time unit; participants with higher consumption receive a larger share). These two models are relatively easy to implement and explain to participants. However, they are not well suited to more advanced or market-based solutions.

A more flexible approach is the **dynamic coefficient**. Under this model, the community manager can adjust the allocation of generation from each asset to each consumer for every market time step (e.g. hourly). Unlike traditional coefficient models, this method allows the allocation to change over time. This mechanism approaches market-based trading and maximises benefits for the participants. At the time of writing, dynamic sharing coefficients are legally available in France, Portugal, and Spain.

Ability to communicate the sharing coefficient ex-post: The timing of the submission of the sharing coefficient is a critical factor for advanced energy sharing solutions. The coefficient can be submitted either **Ex ante** (prior to the physical delivery of the shared energy), or **Ex post** (after the physical delivery has taken place).

Ex-post submission of the sharing coefficient is particularly important for advanced energy sharing solutions. First, it enables more reliable generation estimates by incorporating the most recent weather data. It also strengthens consumption forecasts, allowing participants to better evaluate their capacity to use the shared energy (e.g. for EV charging, heating, or cooling). Finally, it improves monitoring and validation, ensuring that energy exchanges are verified against actual outcomes and that any discrepancies affecting compensation can be properly addressed.

Overall, these features increase the likelihood that projected revenues and savings from energy-sharing schemes align closely with the final settlement values calculated by the DSO, thereby fostering confidence and supporting broader participation.

Consistency between the frequency of sharing coefficient updates and the ex-post submission timeline: In some countries, regulatory frameworks limit how frequently sharing coefficients can be submitted to the DSO (e.g. in Spain the sharing coefficient can only be updated at a maximum of four times per year). Such constraints may significantly impact the ability of innovative solutions (such as FEDECOM or INTELLIGENT) to generate accurate forecasts of revenues and savings.

To preserve forecast reliability, it is essential to ensure consistency between the permitted frequency of sharing coefficient updates, and the timeframe allowed for ex-post submission.

For instance, in countries such as Portugal and France, where both dynamic sharing coefficients and ex-post submission are permitted, the sharing coefficient for a given billing period (e.g. February) can be submitted during the following month (e.g. by 1 March). In these cases, the allowed frequency of submission should be at least monthly in order to maintain an adequate level of forecast accuracy.

Recommendation 3. Streamline the set-up of regulatory sandboxes which will enable the development, testing and assessment of the effectiveness of local flexibility markets

EU**National**

Regulatory sandboxes provide the right environment to test new technologies, products, and services which could not be deployed with the current regulatory framework. In the energy sector, regulatory sandboxes can encourage innovation while protecting consumers by identifying and mitigating risks early on.

As highlighted by ETIP SNET WG 5 in its paper on regulatory sandboxes, flexibility markets (incl. aggregated flexibility) and energy communities (as well as energy sharing and P2P) are two areas where further regulatory experimentation is needed.

According to CEER¹, the Council of European Energy Regulator, more than half of its Members had implemented regulatory sandboxes as of 2022, which means that sandboxes are still not envisioned within the regulatory schemes of many Member States. And when the legal basis for sandboxes does exist, barriers remain, as identified by ENTEC in 2023²: needed derogations may fall under the authority or supervision of entities that are not the implementing entity, which creates confusion, and smaller companies are often left out of sandbox programmes (only larger companies having the capacities to apply). Other barriers include low awareness of the scheme; lack of resources and expertise; fear of potential conflicts with other binding (especially EU-level) regulations.

Although the mandate to set up regulatory experimentation through sandboxes comes from national legislation, guidelines and assistance, as well as sharing of best practices, can be developed at EU level.

We therefore recommend that **EU services**:

- **develop guidelines** for all Member States to set up national legal frameworks enabling regulatory sandboxes in the energy sector,
- **provide assistance and best practices** to the competent authorities to remove barriers that may prevent sandboxes from developing fully, in line with recommendations published by ENTEC² and JRC³.
- **establish clear milestones** to accelerate the wider market uptake of the demonstrated innovative services.

Recommendation 4. Ensure alignment between implicit and explicit flexibility mechanisms for end-users and energy communities

National

The effective deployment of energy flexibility relies on the coexistence of implicit mechanisms (e.g. price-based signals such as time-of-use or dynamic tariffs) and explicit mechanisms (e.g. direct activation of flexibility through demand response or local flexibility markets).

However, in many Member States, these mechanisms are developed in parallel without sufficient coordination, leading to conflicting signals, reduced efficiency, and limited participation of end-users and energy communities.

To address this, regulatory frameworks should ensure a coherent design and interaction between implicit and explicit flexibility mechanisms. In particular, policymakers should:

- Avoid overlapping or contradictory incentives between price-based signals and flexibility activation schemes
- Ensure that Aggregators and Energy Service Providers can simultaneously access and optimise across multiple mechanisms and markets, specifically focusing on simplifying access for energy communities to flexibility markets

¹ [CEER \(2022\) Paper on Regulatory Sandboxes in Incentive Regulation](#)

² [ENTEC \(2023\) Study on Regulatory Sandboxes in the Energy Sector](#)

³ [JRC \(2023\) Making energy regulation fit for purpose. State of play of regulatory experimentation in the EU](#)

- Define clear rules for priority, compatibility, and stacking of flexibility services
- Enable consistent settlement and remuneration frameworks across different flexibility schemes

This alignment is particularly important in the context of energy communities and energy sharing schemes, where distributed assets (e.g. buildings, storage, EVs) may respond to both market price signals and direct flexibility requests.

Recommendation 5. Remove barriers that prevent the access to wholesale markets

EU

National

Energy communities today predominantly focus on energy-sharing schemes. While these models are relatively easy to implement in Member States with enabling regulatory frameworks in place, they fail to fully capture the value of local generation and, in particular, the flexibility potential of energy communities.

Under EU legislation, energy communities are entitled to access electricity markets independently, including day-ahead (DA) and intraday (ID) markets. In practice, however, a range of administrative, financial, and technical requirements continue to act as significant barriers to such participation. While the following analysis focuses on wholesale markets, several barriers and considerations discussed are also relevant to energy communities' participation in balancing markets.

While access conditions vary across Member States and market operators, several recurring barriers can be identified:

- **Technical and digital requirements:** Advanced metering infrastructure, real-time data exchange, and forecasting capabilities are often prerequisites for market participation, yet remain out of reach for many community-led initiatives.
- **Financial barriers:** Registration with a wholesale market operator generally entails a range of fees, while participation in wholesale markets typically requires the provision of financial guarantees. These requirements represent a major barrier for energy communities, which often lack access to capital or credit lines comparable to those of commercial market participants.
- **Balance Responsible Party (BRP) obligations:** Becoming a BRP involves complex administrative procedures and significant financial exposure. While affiliating with an existing BRP can simplify market access, it often entails fees or revenue-sharing arrangements that reduce the economic viability of participation.

While a high level of transparency and quality of service must be maintained in wholesale markets, certain aspects of the current framework could be reformed to create a more level playing field between new decentralised actors, such as energy communities, and more established market participants.

Recommendation 6. Simplify network tariffs, especially for storage

National

Network tariffs play an important role in the economic viability of energy sharing initiatives and energy communities, and therefore impact their adoption and uptake. Member States have adopted very different strategies when it comes to the definition of **network tariffs tailored to energy sharing schemes**. In some Member States (e.g. Spain), the part of locally generated energy that is self-consumed by the community is exempted of grid fees. In other Member States (e.g. France, Austria, Belgium, Italy), specific grid fees apply, with the importance of the discount varying greatly from one country to the other. The **taxation, charges and levies** applied to the self-consumed part also differ across Member States. While specific tariff regimes for energy sharing are beneficial to pursue policy goals (e.g. penetration of renewables, citizens empowerment), many regulators fear that they do not align to the principles of cost-reflectivity and non-discrimination⁴.

When it comes to storage, applied charges vary again considerably across Member States, and system operators often apply both injection and withdrawal charges. Several countries (e.g. Austria, Belgium, Czechia, Finland, the Netherlands) apply **double charging of grid fees on storage projects** connected to the distribution network. Double taxation on electricity from storage assets also applies in some Member States. As stressed by EASE⁵, when injection and withdrawal grid charges are applied uncoordinatedly in relation to each other, they can discourage grid supportive behaviour from storage operators. This has been experienced by the Austrian partners of LocalRES, according to whom “double grid tariff kills the business model of medium scale storage connected to the grid, operated by energy communities”.

We call on the European Commission to provide stronger guidance for national regulators on designing transparent network tariffs that encourage active customers to take part in energy sharing, including through energy communities.

Specific network tariffs should also be designed to **encourage the provision of flexibility** and unlock the potential of **‘grid-friendly’ energy sharing** thanks to **storage**.

⁴ [ACER \(2025\) Getting the signals right: Electricity network tariff methodologies in Europe](#)

⁵ [EASE \(2025\) EASE Position Paper on Grid Fees and Network Tariffs](#)

Recommendation 7. Ensure that settlement costs and fees imposed by suppliers to their customers taking part in energy sharing schemes are proportionate

National

The signatory projects acknowledge that the development of energy sharing may, if demonstrated by energy regulators, have a negative impact on participants' energy suppliers, in which case it may be considered legitimate to introduce compensation for those suppliers. However, such **compensation should be duly justified and proportionate**, so as not to create financial barriers for citizens willing to participate in an energy community or energy-sharing scheme.

The example of the Flemish Region in Belgium illustrates that disproportionate compensation mechanisms can act as a barrier to the scaling-up of energy-sharing initiative. Belgian businesses and citizens based in the region of Flanders willing to enter in an energy sharing scheme are indeed required to pay compensation to their electricity suppliers. The charges applied vary between electricity suppliers, ranging from no fees to as much as €125 per year in January 2026⁶. Moreover, the way these charges are applied differs across suppliers. Some calculate them on a pro rata basis, reflecting the actual duration of the energy-sharing scheme. Others apply the full annual fee as soon as the scheme is activated, while some charge a fixed monthly amount.

High compensation levels (particularly when applied as a single annual lump-sum payment) can constitute a **significant barrier** and may discourage citizens and businesses from participating in an energy-sharing scheme. Such charges can easily exceed the expected revenues for generating participants or the anticipated savings for consuming participants, thereby undermining the economic viability of the arrangement.

Therefore, we recommend that **national policymakers first assess whether such charges are justified**. If they are, any compensation should be proportionate to the volume of energy exchanged, so as not to create a barrier to the development of these services.

Recommendation 8. Ensure consumer protection rights (horizontal and sector consumer rights) for energy sharing agreements between active consumers

EU

National

In 2025, LocalRES, together with other BRIDGE projects, investigated how consumer rights were covered by energy sharing arrangements in EU Member States (nine Member States as well as Switzerland were covered). The survey pointed out that energy sharing arrangements were overall well framed by regulation in countries where energy sharing was allowed. The process to develop an energy sharing arrangement appeared to be very streamlined in some countries (e.g. Portugal), but much more cumbersome in others (e.g. Spain). With regards to consumers rights, no major problem was identified by the respondents to the survey, however the free choice for energy supplier when being part of energy community is not allowed in all countries, and allocation

⁶ Vlaamse Nuts Regulator (2026). Welke extra kosten en/of voorwaarden zijn er voor energiedelen bij jouw leverancier of contract [<https://www.vlaamsenutsregulator.be/energie-delen-en-verkopen-dashboard>]

schemes (sharing coefficients) vary strongly between countries. Information sharing (including real-time data sharing) and communication between DSOs (or the entity responsible for managing data), the consumer and the community was highlighted as challenging in most cases. Terms and conditions were not defined in Italy and Spain, but were defined in most other countries with Portugal and Greece likely serving as best practices (e.g. provision of a contract template with standardised terms regarding termination, renewal and other conditions). Inclusion of vulnerable citizens was nowhere detailed.

To guarantee consumer rights and consumer protection are properly covered in energy communities and energy sharing arrangements, EU and national regulatory framework should ensure that:

- All consumers have the **freedom to choose their energy supplier**, even when being part of an energy community.
- **Real-time** (or at least near-real time) **data sharing is enabled** (see also recommendation 1)
- **Vulnerable citizens** are adequately included and protected.
- **Clear rules or contractual template** are provided in relation to dispute settlement and risks related to collective projects (e.g. shared ownership).
- The introduction of the **Energy Sharing Organiser** as a new market actor properly addresses consumer rights.

Recommendation 9. Prioritise administrative simplification as a core enabler of energy communities

National

Empirical evidence coming from a wide-European survey launched by Masterpiece on energy communities barriers relevance (122 ECs participated in the survey) shows that administrative and bureaucratic barriers represent the most critical constraint to the development of energy communities, outweighing financial and technical barriers, even in contexts with dedicated incentives. Lengthy, fragmented and unclear authorisation procedures significantly delay project implementation across all development phases. While licensing processes of new generation assets have improved in some Member States, thanks to already implemented simplification reforms, bottlenecks remain to register and authorise energy sharing schemes. National regulators and policymakers should prioritise **procedural simplification, standardisation and time-bound administrative processes** for energy sharing and energy community projects. Member States should be encouraged to benchmark administrative performance (e.g. authorisation timelines, number of involved authorities) rather than focusing primarily on incentive levels.

In addition, regulatory and support frameworks should move beyond one-size-fits-all approaches and allow **differentiated regimes** by territorial context and maturity phase. Regulatory sandboxes, support schemes and administrative requirements should be **adaptable to local conditions and project maturity**, in order to avoid reinforcing territorial disparities and to support scaling-up over time.

Recommendation 10. Set up One Stop Shops or similar structures to provide financial and technical support to municipalities to engage with energy sharing projects

EU

National

Regional / local

While municipalities play a key role in facilitating social acceptance and reducing technical barriers, their involvement often coincides with increased administrative and procedural complexity, reflecting limited institutional capacity and resources (cf. Italian evidence from Masterpiece). Support to municipalities should focus on strengthening their operational and administrative capacity to act as system integrators for energy communities. This includes dedicated technical staff, legal and financial expertise, standardised contractual tools, and long-term institutional support, complementing existing financial assistance measures.

The EU should require Member States to set up One Stop Shops (OSS), or other support structures according to their national circumstances, to provide local authorities with technical and legal assistance.

Member States should in turn:

- **Set up OSS** (or similar) to improve access to finance for small municipalities and help them financing staff so they have the resources to inform and mobilise local stakeholders,
- **Simplify public procurement rules** to purchase RES assets or electric assets (heat pumps, charging points, ...), to buy locally produced energy or to put public spaces at disposal of energy communities.

Finally, **local authorities and municipalities** should:

- **Engage with local stakeholders** by dedicating time to address environmental and/ or heritage related concerns with local organisations, and provide collaborative platforms to match available space with communities who could invest in RES,
- **Help local energy sharing initiatives** or energy communities to deal with administrative procedures, legal issues, mobilizing participants, setting up their business model including financing,
- Experiment **innovative procurement practices** to support the creation of energy sharing initiatives and energy communities.

Recommendation 11. Create national Working Groups bringing together competent authorities (e.g. energy regulator, government, DSOs), representatives of energy communities/ energy sharing initiatives as well as EU funded projects

National

Horizon Europe projects frequently encounter structural and regulatory barriers that hinder the full implementation of their originally defined objectives. In many cases, these projects face **difficulties in engaging the appropriate institutional stakeholders** to ensure that their findings and practical experience are adequately reflected in the improvement of national regulatory frameworks. Regulatory barriers affecting energy communities and energy-sharing schemes often involve multiple actors, depending on the allocation of competences, including DSOs, national managing entities, ministries, regulatory authorities, and electricity suppliers.

In this context, the **establishment of dedicated working groups** would provide a structured and transparent platform for dialogue among all relevant stakeholders. Such fora can facilitate informed discussions on key regulatory issues and **help mitigate unintended spillover effects of reforms** across different actors within the energy system.

We therefore recommend the creation of inclusive working groups bringing together all relevant stakeholders in order to support the coherent and effective implementation of EU legal provisions on energy communities and energy-sharing schemes, and to foster the scaling up of these initiatives across the European Union.

4 The projects

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