GENDER4POWER

The citizens' fight against energy poverty

The role of energy communities and other citizen initiatives

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Executive Summary

This report provides an EU-level assessment of the role of energy communities and other citizen-led initiatives in addressing energy poverty across six Member States: Austria, Germany, Greece, Lithuania, Slovenia and Spain. Building on comparative national analyses, the report examines how community-based energy models contribute to reducing energy vulnerability, under which institutional conditions they are effective, and which structural barriers limit their impact.

Energy poverty in the European Union remains a multidimensional challenge shaped by income disparities, inefficient housing stock, energy price volatility, and unequal access to decision-making processes. Vulnerability is not solely a matter of affordability; it is also linked to housing tenure, regulatory design, administrative capacity and governance structures. Gender, age and socio-economic status further influence exposure to energy poverty and access to participation in emerging renewable energy systems.

Energy communities represent a potentially transformative instrument within this context. By enabling collective renewable generation, shared ownership and local governance, they can redistribute economic value and foster citizen engagement. However, the assessment demonstrates that their contribution to tackling energy poverty is neither automatic nor uniform. Impact depends on regulatory flexibility, financial accessibility, institutional coordination and inclusive governance design.

Across the six analysed contexts, three principal models of inclusion emerge. First, statutory solidarity mechanisms embed redistribution directly within community governance frameworks, ensuring that a defined share of energy or financial returns benefits vulnerable households. Second, cooperative social share models allocate subsidised or free participation rights to low-income households through cross-subsidisation. Third, municipal or intermediary-based allocation models provide access to community-generated electricity without requiring upfront investment. Each model presents trade-offs between accessibility, participation depth and financial sustainability.

The report further highlights that direct energy sharing mechanisms provide the most immediate reduction in household energy expenditure, yet their feasibility depends heavily on national regulatory frameworks. In contexts where regulation restricts local allocation, financial redistribution mechanisms may partially compensate but generally produce less predictable affordability outcomes.

Beyond access to electricity, structural reduction of energy poverty requires integration with housing renovation and energy efficiency policies. However, the analysis reveals persistent fragmentation between energy, housing and social policy frameworks. While generous renovation schemes exist in several countries, administrative complexity and procedural burdens often limit uptake among the most vulnerable households. Energy communities can act as facilitators or intermediaries, but systemic alignment across policy domains remains limited.

Citizen empowerment and training initiatives also play a critical role. Technical literacy workshops, advisory services and gender-targeted training formats contribute to reducing informational asymmetry and broadening participation. Nevertheless, empowerment measures alone cannot substitute for structural redistribution mechanisms. Effective inclusion requires combining access to energy with capacity-building and governance participation.

The report identifies five main structural barriers limiting the anti-poverty potential of energy communities:

- Regulatory and market design constraints that restrict direct energy sharing;
- Financial entry thresholds linked to capital-based participation models;
- Administrative complexity in accessing support schemes;
- Fragmentation between energy, housing and social policy domains;
- Gender imbalances and representational gaps in governance structures.
- These barriers interact cumulatively, reinforcing socio-economic exclusion unless deliberately addressed.

Based on the comparative assessment, the report formulates recommendations at EU, national and local levels. At EU level, improved implementation guidance for energy sharing provisions and stronger alignment between energy and renovation frameworks are essential. At national level, removing regulatory barriers, simplifying administrative procedures and incentivising solidarity mechanisms within energy communities can enhance inclusiveness. At local level, embedding solidarity clauses in statutes, partnering with trusted intermediaries and adopting inclusive governance practices are critical for operational impact.

For the GENDER4POWER demonstrators, the findings underscore the importance of integrating solidarity, financial accessibility and gender-sensitive governance from project inception. Renewable generation alone does not guarantee social inclusion; institutional design determines whether community energy becomes an effective instrument against energy poverty.

Overall, the analysis confirms that energy communities can contribute meaningfully to a just and inclusive energy transition. However, their capacity to reduce energy poverty depends on structural alignment across regulatory frameworks, financial models and governance practices. Deliberate design choices—rather than technological deployment alone—are decisive in ensuring that vulnerable households are not only beneficiaries but active participants in the evolving European energy system.

1. Introduction

Energy poverty remains a persistent structural challenge within the European Union. Despite progress in renewable energy deployment and energy efficiency policies, a significant number of households continue to experience difficulties in accessing affordable, reliable, and adequate energy services. Energy poverty is influenced by multiple interacting factors, including income levels, housing quality, energy prices, tenure conditions, regulatory frameworks, and access to information. These structural determinants shape both exposure to vulnerability and the capacity of households to benefit from the energy transition.

Energy poverty also has a clear social dimension (EIGE, 2017; Clancy et al., 2017). Socio-economic status, gender, age, family structure, and housing tenure affect the degree to which households can participate in energy-related decision-making processes and collective initiatives. Women, elderly people, single-parent households, migrants, and low-income tenants are often disproportionately affected. At the same time, participation in governance structures of energy initiatives tends to be uneven, with underrepresentation of certain social groups. Addressing energy poverty therefore requires not only financial support mechanisms but also inclusive governance models and participatory structures.

Energy communities and other citizen-led initiatives have gained increasing relevance within this context. The European regulatory framework, notably the Renewable Energy Directive (RED II and RED III) and the Electricity Market Directive (2019/944) (European Commission, 2018; 2023; 2019), has established the legal basis for Renewable Energy Communities (RECs) and Citizen Energy Communities (CECs). These frameworks aim to facilitate collective energy production, self-consumption, and local value redistribution. However, the practical contribution of energy communities to addressing energy poverty depends on national transposition, market design, governance arrangements, and the integration of social inclusion mechanisms.

This deliverable provides an EU-level analytical assessment of the role of energy communities and citizen initiatives in tackling energy poverty across six Member States: Austria, Germany, Greece, Lithuania, Slovenia, and Spain. It builds on the national assessments developed under Task T2.1 and synthesises their findings into a structured comparative analysis. The objective is not to reproduce country descriptions, but to identify common patterns, typologies of redistribution mechanisms, governance models, barriers, and transferability potential.

The analysis is structured around four core dimensions:

- Inclusion and participation of energy-poor households.
- Energy access and redistribution models.
- Links to housing renovation and energy efficiency
- Capacity-building and empowerment mechanisms.

In addition, the report examines cross-cutting structural barriers and regulatory constraints that limit the potential of energy communities to function as inclusive instruments. Particular attention is paid to governance arrangements, solidarity mechanisms, and gender-related participation patterns.

The purpose of this deliverable is to provide a technically grounded assessment that can inform policy design, support the development of the GENDER4POWER demonstrators, and contribute to ongoing discussions on inclusive energy transition models at EU level.

Note on gender and data

Throughout this report, the terms "women" and "men" are used primarily because available official datasets at national and EU levels record gender in a binary manner. The report acknowledges that this categorisation does not fully reflect gender diversity. Data limitations also restrict the systematic analysis of intersectional factors, such as income, age, disability, migration status, and family composition. References to gender therefore reflect the structure of available data rather than a binary understanding of gender identities.

2. Methodology

This deliverable builds upon the six national assessments developed under Task T2.1 of the GENDER4POWER project. Each national report examined the legal, organisational, financial and social dimensions of energy communities and citizen-led initiatives in relation to energy poverty. The present document does not replicate those country descriptions; instead, it synthesises and analyses their findings through a comparative EU-level framework.

The methodological approach is qualitative and comparative. It is based primarily on the systematic review of the six national case studies, complemented by desk-based analysis of relevant EU regulatory frameworks, including the Renewable Energy Directive (RED II and RED III) and the Electricity Market Directive (2019/944). The objective is not to quantify impacts across Member States, but to identify structural patterns, typologies of intervention, governance mechanisms, and recurring barriers that influence the capacity of energy communities to address energy poverty.

Rather than treating each country as a separate analytical unit, this report focuses on the mechanisms implemented within each context. This allows the analysis to move beyond a country-by-country description and instead identify recurring models of redistribution, inclusion and participation. In this sense, the comparative dimension is conceptual rather than statistical: it aims to detect similarities and divergences in institutional design, solidarity arrangements, governance practices, and levels of social integration.

The selection of practices examined in this report is guided by their relevance to the objectives of Task T2.1 and to the development of the GENDER4POWER demonstrators. Particular attention is given to initiatives that incorporate explicit solidarity mechanisms, such as earmarked energy shares, social tariffs, pooled redistribution funds or free allocation models; practices that target vulnerable or energy-poor households; governance arrangements that enable participation beyond passive benefit; and initiatives that integrate, explicitly or implicitly, gender-sensitive approaches. The report does not aim to provide an exhaustive inventory of

initiatives in each country, but rather to analyse illustrative cases that reveal structural approaches to inclusion and redistribution.

The comparative analysis is structured around four core dimensions defined in Task T2.1: inclusion and participation mechanisms; energy access and redistribution models; linkages with housing renovation and energy efficiency; and capacity-building and empowerment activities. In addition, a dedicated analytical section examines structural barriers, including regulatory constraints, administrative complexity, governance recognition issues, and gender inequalities in participation and decision-making.

Certain methodological limitations must be acknowledged. The evidence base is predominantly qualitative and varies in depth across national contexts. Gender-disaggregated data is not systematically available, and intersectional data combining gender with income, age, disability or migration status is particularly limited. Moreover, many of the initiatives analysed are relatively recent and lack long-term evaluation results, which constrains the assessment of sustained impact on energy poverty reduction. While these limitations restrict the possibility of quantitative comparison, they do not prevent the identification of governance patterns, institutional bottlenecks and transferable design elements relevant for policy development and demonstrator implementation.

3. Energy poverty and the measures to tackle it

Energy poverty refers to the situation in which households are unable to secure adequate energy services for heating, cooling, lighting and the use of essential appliances at affordable cost. Within the European Union, energy poverty is recognised as a multidimensional phenomenon influenced by income levels, energy prices, building performance, climatic conditions, and access to social protection mechanisms (European Commission, 2023; Bouzarovski and Petrova, 2015). It is therefore not solely an income issue, but the result of structural interactions between housing systems, energy markets and welfare frameworks.

At EU level, energy poverty is commonly assessed through a combination of expenditure-based and self-reported indicators (European Commission, 2023). These include the inability to keep the home adequately warm, arrears on utility bills, and the share of income spent on energy. However, such indicators provide only a partial picture. They do not fully capture hidden forms of energy deprivation, such as under-consumption of energy due to coping strategies, nor do they systematically reflect intra-household inequalities. Moreover, available data rarely integrates gender and intersectional variables in a comprehensive manner, which limits the understanding of differentiated impacts.

Across Member States, the drivers of energy poverty vary. In some contexts, high energy prices are the dominant factor; in others, poor building stock and low renovation rates are central. Tenure structure also plays a critical role. Tenants often face limited capacity to invest in energy efficiency improvements, while landlords may lack incentives to upgrade properties, resulting in persistent inefficiencies.

Rural households may experience higher exposure due to reliance on specific heating fuels or limited access to collective energy solutions. These structural determinants shape both vulnerability and the scope of policy responses.

Measures to address energy poverty can broadly be grouped into three categories: income-based support, energy market interventions, and structural demand-side measures.

Income-based support includes social tariffs, direct subsidies, bill compensation schemes and targeted social assistance. These mechanisms provide short-term relief and are essential during periods of price volatility. However, they do not address underlying inefficiencies in housing stock or structural exclusion from energy governance. As such, their long-term effectiveness depends on complementary structural measures.

Energy market interventions focus on regulating prices, enabling collective self-consumption, and facilitating new actors such as energy communities. Regulatory frameworks can create conditions for shared generation, local energy redistribution and community-based participation. Where properly designed, such frameworks allow part of the economic value generated by renewable energy projects to be retained locally and potentially redistributed to vulnerable households. However, regulatory barriers, grid constraints and market design limitations can restrict the capacity of community-based initiatives to directly reduce energy bills.

Structural demand-side measures primarily include building renovation, energy efficiency improvements and behavioural support programmes. Renovation of inefficient housing stock remains one of the most effective long-term solutions to energy poverty, as it reduces energy demand permanently (European Commission, 2020). Nevertheless, high upfront investment costs, administrative complexity and fragmented ownership structures often limit access for low-income households. In this context, advisory services, trusted intermediaries and simplified application procedures play a crucial role in bridging institutional gaps.

In recent years, increasing attention has been given to participatory and community-based approaches as complementary instruments to traditional social policy tools. Energy communities represent one such approach. By enabling collective ownership, shared production and local governance, they can combine elements of market intervention and structural redistribution. Their potential contribution to tackling energy poverty depends on how solidarity mechanisms are embedded, how beneficiaries are identified, and whether participation barriers are actively addressed.

Understanding energy poverty as a structural and multidimensional phenomenon is essential for assessing the role of energy communities. Rather than replacing social protection mechanisms, community-based initiatives operate within existing welfare and regulatory systems. Their effectiveness therefore depends on institutional coordination, inclusive governance design and alignment with broader housing and social policies.

4. Energy communities facing energy poverty

Energy communities have increasingly been recognised as potential actors in addressing energy poverty, particularly within the framework established by the Renewable Energy Directive and the Electricity Market Directive. Their relevance lies not only in their capacity to generate renewable energy, but in their organisational structure, which allows collective ownership, local value retention, and participatory governance. (REScoop.eu, 2022; IEA, 2022)

However, energy communities are not inherently inclusive (REScoop.eu, 2022). Their contribution to tackling energy poverty depends on institutional design choices, regulatory conditions, financial accessibility, and governance arrangements. In several Member States, energy communities have primarily been established by middle-income households with the financial capacity and technical knowledge required to invest in renewable energy projects. Without explicit solidarity mechanisms, they may reproduce existing socio-economic inequalities.

At the same time, a number of initiatives across the six analysed contexts demonstrate that energy communities can integrate mechanisms specifically designed to include energy-poor households. These mechanisms range from earmarked energy shares and free allocation models to targeted advisory services, gender-sensitive training programmes and partnerships with social organisations. The degree to which these measures are embedded in statutes, operational procedures and governance rules determines their long-term effectiveness.

This chapter analyses how energy communities address energy poverty across four dimensions: inclusiveness and participation, access to energy, rehabilitation and energy efficiency, and citizen empowerment and training. The objective is to identify structural approaches rather than isolated examples, and to assess the conditions under which energy communities can function as instruments of social inclusion.

4.1. Inclusiveness and participation measures

Inclusiveness within energy communities does not occur automatically as a by-product of renewable energy generation. It requires deliberate institutional design and operational mechanisms that address financial, administrative and social barriers. The six analysed contexts provide concrete examples of how different models attempt to integrate vulnerable households, with varying degrees of structural robustness.

One approach consists of embedding solidarity directly into the statutes and operational rules of the energy community. In Austria, for example, the initiative Energy WITH Spirit integrates a binding solidarity clause allocating a fixed percentage of generated energy and financial returns to vulnerable groups and social institutions. This mechanism is not discretionary; it is codified within the governance framework of the community. By institutionalising redistribution, the initiative reduces dependence on annual decisions or voluntary contributions and ensures continuity. The relevance of this model lies in its structural character: solidarity is treated as a core function of the community rather than as an external charitable activity.

A different configuration can be observed in Greece through the Hyperion energy community. In this case, inclusiveness is operationalised through the allocation of free cooperative shares to low-income households. These shares grant beneficiaries access to a defined portion of the electricity produced by a photovoltaic installation, covering a substantial share of their annual needs. The financial contribution required for these social shares is cross-subsidised by other cooperative members. This model demonstrates how cooperative governance can integrate redistributive elements without external funding. However, it also raises governance questions regarding beneficiary participation, as recipients may not always be directly involved in decision-making structures.

Lithuania offers a third model through the Šiauliai Municipal Energy Community. Here, inclusion is implemented via municipal coordination rather than cooperative membership. A defined share of generated electricity is allocated free of charge to residents identified as vulnerable according to official registries. This approach lowers participation barriers by removing the requirement for financial contribution or active membership. It demonstrates scalability and administrative clarity, particularly in contexts where vulnerable households may lack the capacity to engage in cooperative governance. At the same time, this model tends to frame beneficiaries as recipients rather than co-owners, which may limit participatory depth.

In Spain, inclusiveness is often mediated through partnerships with local Energy Advice Points (PAEs) or social organisations such as the Red Cross. These intermediaries identify vulnerable households, provide energy counselling, and facilitate access to community-based energy initiatives while preserving anonymity when necessary. This mechanism addresses stigma and administrative complexity, two barriers repeatedly identified across contexts. For instance, in Catalonia, collaboration between energy communities and advisory services has allowed vulnerable households to access collective self-consumption schemes combined with tailored efficiency support. The Spanish cases highlight the importance of trusted intermediaries in bridging the gap between community initiatives and socially vulnerable groups.

Germany presents a more complex scenario. While many energy cooperatives exist, explicit targeting of energy-poor households remains limited. However, inclusion is addressed indirectly through initiatives focused on lowering technological and knowledge barriers. For example, women-focused balcony photovoltaic workshops create entry points for groups traditionally underrepresented in technical energy domains. Although not explicitly designed as anti-poverty instruments, such initiatives contribute to broadening participation and reducing structural exclusion in energy governance.

Across these contexts, three structural inclusion logics emerge:

- **Statutory solidarity mechanisms**, where redistribution is embedded in formal governance rules.
- **Cooperative social share models**, where vulnerable households receive subsidised or free membership-linked benefits.
- **Municipal or intermediary-based allocation models**, where access is facilitated without requiring ownership.

Each model presents trade-offs between accessibility, participation and administrative complexity. Statutory mechanisms provide stability but require internal consensus and financial sustainability. Cooperative social shares enable democratic inclusion but may still depend on cross-subsidisation capacity. Municipal allocation models enhance reach but may limit participatory empowerment.

These examples illustrate that inclusiveness is not a single measure but a combination of governance design, financial structuring and institutional coordination. Energy communities that integrate solidarity at multiple levels — statutes, operational procedures and outreach partnerships — demonstrate greater potential to address energy poverty structurally rather than symbolically.

4.2. Access to energy

Access to energy within the framework of energy communities can take different forms depending on national regulatory conditions, market design, and organisational structure. While all initiatives analysed involve renewable energy generation, the manner in which benefits are transferred to households varies significantly. The effectiveness of energy communities in addressing energy poverty depends less on installed capacity and more on how generated value—whether in kilowatt-hours or financial returns—is distributed.

Three principal access models can be identified across the analysed contexts: direct energy sharing, financial redistribution mechanisms, and hybrid arrangements combining energy allocation with advisory or efficiency support.

4.2.1. Direct energy sharing models

Direct energy sharing occurs when households receive a defined portion of electricity generated by a community installation, typically through collective self-consumption schemes or virtual net metering arrangements.

In Greece, the Hyperion energy community illustrates this model through the allocation of social shares linked to a photovoltaic installation. Beneficiary households receive access to a predefined share of electricity production, which offsets a substantial part of their annual electricity consumption. This mechanism reduces exposure to retail electricity prices and provides predictable savings. However, its implementation depends on regulatory frameworks that permit virtual net metering and energy offsetting across multiple meters.

Good practice example

Energy WITH Spirit (Austria)

Model: Statutory solidarity clause embedded in governance

Energy WITH Spirit is a renewable energy community that integrates solidarity directly into its statutes. A defined percentage of both generated electricity and financial returns is earmarked for vulnerable households and social institutions. The solidarity mechanism is not voluntary; it is structurally embed-ded in the founding documents of the initiative.

Beneficiaries are identified in cooperation with social organisations, and support is delivered either through reduced energy costs or financial redistribution. By institutionalising solidarity, the initiative ensures long-term continuity independent of leadership changes.

Why it is relevant:

This model demonstrates that inclusion can be formalised within governance structures rather than treated as ad hoc redistribution. It provides predictability, transparency and durability.

Transferable element:

Embedding solidarity quotas directly into statutes or internal regulations from the outset.

Lithuania's Šiauliai Municipal Energy Community applies a similar logic but within a municipal coordination model. Vulnerable households receive a defined portion of electricity generated by the community without being required to co-invest. The allocation is managed administratively, and benefits are reflected in reduced electricity costs. This approach demonstrates that direct energy redistribution can be implemented at scale when supported by public institutions.

The main advantage of direct energy sharing is its immediate impact on household energy expenditure. However, its feasibility depends heavily on grid regulation, metering rules, and geographic proximity requirements. In contexts where regulatory frameworks limit collective self-consumption or restrict energy sharing across distribution networks, such models become difficult to scale.

4.2.2. Financial redistribution mechanisms

In several contexts, energy communities are unable to directly supply electricity to members due to regulatory constraints. Instead, generated electricity is fed into the grid and remunerated through feed-in tariffs or market-based contracts. In these cases, financial returns become the primary redistribution channel.

Austria's Energy WITH Spirit demonstrates how financial redistribution can be structured deliberately. A fixed share of financial surplus is earmarked for vulnerable groups or social institutions. Rather than reducing electricity bills directly, the initiative channels monetary value generated by renewable production into targeted support measures. This approach allows solidarity to operate even when direct energy supply is technically or legally constrained.

In Germany, regulatory barriers often prevent energy communities from directly supplying electricity to members beyond specific configurations such as tenant electricity models. As a result, many cooperatives generate returns for investors but do not structurally reduce electricity bills for energy-poor households. This illustrates a fundamental limitation: where market design restricts local energy sharing, energy communities risk functioning primarily as investment vehicles rather than as anti-poverty instruments.

Financial redistribution mechanisms can be flexible and adaptable. However, their impact depends on governance decisions regarding allocation priorities. Without explicit solidarity clauses, financial returns may primarily benefit capital-contributing members.

4.2.3. Hybrid models: energy access combined with advisory and efficiency support

Some initiatives combine energy redistribution with advisory services and efficiency measures. In Spain, energy communities frequently collaborate with Energy Advice Points or local social organisations to complement collective self-consumption schemes with energy audits, micro-efficiency kits, and personalised guidance. In these cases, access to community-generated electricity is integrated into a broader support framework aimed at reducing overall consumption and improving comfort.

This hybrid approach acknowledges that energy poverty is not solely a price issue but also linked to inefficient housing, behavioural constraints, and lack of information. By combining kilowatt-hour redistribution with advisory support, such models enhance the sustainability of savings.

However, hybrid models require coordination capacity and sustained funding. Their success depends on institutional partnerships and administrative integration with social services.

4.2.4. Structural implications

The comparative analysis highlights that access to energy through energy communities is shaped by three determining factors:

- Regulatory permission for collective self-consumption and energy sharing;
- Governance decisions regarding redistribution of financial returns;
- Institutional coordination with municipalities and social actors.

Where regulatory frameworks enable direct energy sharing, immediate bill reduction is possible. Where such frameworks are restrictive, financial redistribution may partially compensate but requires explicit solidarity mechanisms to avoid exclusion. In both cases, without deliberate design choices, energy communities may primarily benefit middle-income households capable of investing capital.

From an energy poverty perspective, direct energy allocation models offer the most immediate and visible reduction in household expenditure. However, financial redistribution and hybrid advisory models can also contribute meaningfully when embedded in structured governance frameworks.

The evidence across Member States suggests that access to energy through community initiatives is not determined solely by technical capacity, but by institutional architecture. Energy communities become effective anti-poverty instruments only when access mechanisms are explicitly designed to include vulnerable households rather than relying on market participation alone.

4.3. Rehabilitation and energy efficiency

While access to affordable electricity is central to tackling energy poverty, structural reduction of energy demand through housing renovation and efficiency improvements

Good practice example

Šiauliai Municipal Energy Community (Lithuania)

Model: Municipal free allocation of community-generated electricity

The Šiauliai Municipal Energy Community allocates at least 30% of its generated renewable electricity to vulnerable households identified through official registries. Beneficiaries are not required to invest capital or become cooperative members. The municipality coordinates identification and allocation procedures.

Electricity benefits are reflected directly in reduced household energy expenditure, making the impact immediate and measurable.

Why it is relevant:

This model removes the financial entry barrier and demonstrates how municipalities can operationalise energy sharing at scale.

Transferable element:

Public coordination combined with community-based generation to ensure accessibility without ownership requirements.

remains one of the most effective long-term solutions. However, the relationship between energy communities and building renovation is not always direct. In most contexts analysed, energy communities primarily focus on renewable electricity generation, while renovation policies are managed through separate national or regional programmes. The extent to which these domains are integrated significantly influences their capacity to address energy poverty.

Across the six Member States, three different patterns can be identified: renovation schemes operating independently from energy communities, community-linked advisory and micro-efficiency measures, and attempts to integrate collective governance with building rehabilitation.

4.3.1. National renovation schemes with limited community integration

In Slovenia, the Eco Fund programme (including schemes such as ZER2024) provides substantial financial support for energy efficiency improvements, in some cases covering a high proportion of renovation costs for vulnerable households. Despite the generosity of these instruments, uptake among the most energy-poor households remains constrained by administrative complexity, eligibility requirements, and documentation burdens. This illustrates a recurring structural challenge: financial support alone does not guarantee accessibility.

Energy communities in such contexts may play an indirect role by informing members about renovation schemes or assisting with application procedures. However, the institutional separation between community energy projects and housing renovation policies limits systemic integration. As a result, the potential for coordinated interventions—combining renewable generation with deep renovation—remains underdeveloped.

This case demonstrates that renovation measures can significantly reduce long-term vulnerability, but only if administrative barriers are actively addressed and support structures are in place.

4.3.2. Community-linked advisory and micro-efficiency measures

In Spain, several energy communities have established cooperation mechanisms with Energy Advice Points and local social organisations. Rather than directly financing deep renovation, these initiatives provide home energy audits, behavioural guidance, and micro-efficiency kits including LED lighting, sealing materials, and simple insulation improvements. Although such measures do not substitute for structural renovation, they can generate immediate reductions in energy consumption and improve indoor comfort.

This approach is particularly relevant for tenants and low-income households who lack the authority or capital to undertake structural renovation works. By combining collective self-consumption schemes with targeted advisory support, energy communities extend their impact beyond electricity generation and address demand-side inefficiencies.

However, micro-efficiency measures have inherent limitations. Their long-term impact is modest compared to comprehensive renovation, and their effectiveness depends on sustained engagement and follow-up. They should therefore be considered complementary instruments rather than substitutes for structural housing upgrades.

4.3.3. Attempts to integrate governance and rehabilitation

In some contexts, energy communities have sought to align renewable energy production with collective housing rehabilitation projects. These initiatives aim to combine rooftop photovoltaic installations with building envelope improvements, thereby addressing both supply and demand dimensions of energy poverty.

Such integration, however, encounters legal and administrative obstacles. In Spain, for example, community-led rehabilitation projects have faced difficulties when energy communities were not formally recognised as eligible entities for certain subsidy schemes. This reveals a governance gap: while energy communities are recognised in energy legislation, their status within housing and renovation frameworks may remain ambiguous.

Austria provides examples where solidarity-based energy communities operate alongside broader social housing or cooperative housing models. Although not always directly integrated into deep renovation programmes, the cooperative tradition facilitates alignment between energy production and social objectives. This suggests that institutional ecosystem coherence—rather than isolated project design—is a key enabling factor.

4.3.4. Structural implications

The comparative analysis indicates that energy communities alone cannot resolve structural housing inefficiencies. Deep renovation requires substantial capital, regulatory alignment, and coordination across housing, social and energy policies. However, energy communities can contribute in three meaningful ways:

- By reducing electricity expenditure through collective generation;
- By acting as trusted intermediaries facilitating access to renovation schemes;
- By integrating micro-efficiency and advisory services into community-based initiatives.

Where renovation policies operate independently from energy communities, opportunities for systemic impact remain fragmented. Conversely, where advisory services, municipalities and community initiatives are coordinated, the combined effect can reduce both energy demand and expenditure.

From an energy poverty perspective, rehabilitation measures represent the most durable solution. Yet their effectiveness depends less on nominal subsidy rates and more on administrative accessibility, governance recognition and integration with local support networks. The cases analysed demonstrate that without simplification, outreach and institutional coordination, even generous programmes may fail to reach the most vulnerable households.

4.4. Citizen empowerment and training

Addressing energy poverty through energy communities is not limited to redistributing electricity or financial returns. It also involves strengthening the capacity of households to understand energy systems, participate in decision-making processes, and exercise agency within local governance structures. Empowerment and training therefore represent a structural dimension of inclusion rather than an ancillary activity.

Across the analysed contexts, empowerment initiatives take three principal forms: technical literacy programmes, targeted gender-sensitive training formats, and community-based advisory and participation models.

4.4.1. Technical literacy and decentralised skills

In Germany, several local initiatives have organised practical workshops focused on small-scale photovoltaic systems, particularly balcony solar installations. Some of these programmes explicitly target women and underrepresented groups in order to reduce technological confidence gaps. Participants receive hands-on training on installation, safety, regulatory requirements and cost calculations. Although these workshops are not always explicitly framed as anti-poverty interventions, they reduce informational barriers and expand access to decentralised generation technologies.

Such initiatives demonstrate that energy poverty is not only a matter of affordability but also of knowledge asymmetry. Households lacking technical understanding may be excluded from emerging opportunities in distributed energy systems. By lowering knowledge barriers, these training formats contribute indirectly to inclusion. However, their impact on the most energy-poor households depends on whether financial barriers are simultaneously addressed.

4.4.2. Gender-sensitive participation and governance

Several contexts reveal that energy community governance structures remain male-dominated, particularly in technical and financial decision-making roles. In Greece, for example, the proportion of energy communities with no female representation on boards highlights structural gender imbalances in local energy governance. This pattern is not unique and reflects broader gender segmentation in the energy sector.

Good practice example

Energy Advice Points collaboration model (Spain)

Model: Collective self-consumption combined with energy advisory and micro-efficiency support

In several Spanish regions, energy communities collaborate with Energy Advice Points and social organ-isations to integrate renewable energy redistribution with home energy audits and micro-efficiency kits (e.g., LED lighting, sealing materials, consumption timers).

This approach addresses both supply and demand: households benefit from shared renewable electricity while simultaneously reducing overall consumption through efficiency measures.

Why it is relevant:

Energy poverty is often linked to inefficient housing and lack of information. Combining energy access with advisory services enhances long-term impact and improves comfort conditions.

Transferable element:

Formalised cooperation between energy communities and local advisory centres to integrate behav-ioural and technical efficiency measures.

In response, certain initiatives have introduced targeted outreach and mentoring activities designed to encourage women's participation in governance. These measures include dedicated information sessions, simplified explanatory materials, and efforts to diversify leadership structures. While still emerging, such initiatives indicate recognition that formal membership alone does not guarantee meaningful participation.

The structural implication is that empowerment must be integrated into governance design. Without proactive measures, decision-making processes may remain inaccessible to socially or technically marginalised groups.

4.4.3. Advisory services and community-based energy counselling

In Spain and Austria, energy communities often collaborate with advisory services or social organisations that provide personalised energy counselling. These services include bill analysis, identification of cost-saving measures, explanation of collective self-consumption arrangements, and assistance with administrative procedures.

The added value of such advisory models lies in their trust-based approach. Vulnerable households may hesitate to engage directly with technical organisations or utilities. Advisory centres act as intermediaries, translating complex regulatory frameworks into accessible information and reducing the risk of misinterpretation or administrative error.

Moreover, advisory services frequently integrate behavioural guidance and micro-efficiency measures, linking empowerment to practical improvements in household energy management. This approach recognises that empowerment is not solely about governance participation but also about strengthening daily energy decision-making capacity.

4.4.4. Structural implications

The analysis indicates that empowerment and training are most effective when they are:

- Embedded in operational activities rather than delivered as isolated workshops;
- Linked to tangible benefits such as reduced bills or improved comfort;
- Designed with attention to gender and social diversity;
- Supported by institutional partnerships that enhance trust and continuity.

Empowerment measures without redistribution mechanisms may increase awareness but fail to alleviate material hardship. Conversely, redistribution without empowerment may create passive beneficiaries rather than active participants. The most promising models combine both dimensions.

From an energy poverty perspective, citizen empowerment serves three functions: it reduces informational asymmetry, broadens governance participation, and enhances the sustainability of financial and energy savings. However, long-term impact depends on continuity of funding, institutional stability, and deliberate integration of underrepresented groups.

5. Main barriers faced by energy communities fighting energy poverty

The comparative assessment across Austria, Germany, Greece, Lithuania, Slovenia and Spain demonstrates that the capacity of energy communities to address energy poverty is conditioned by structural constraints operating at regulatory, financial, administrative and governance levels. These barriers are not marginal implementation challenges; they shape the scale, accessibility and social impact of community energy models.

The following analysis examines these barriers in greater depth, drawing on concrete national configurations.

5.1. Regulatory and market design constraints

Regulatory design is the single most decisive factor influencing whether energy communities can reduce energy expenditure for vulnerable households in a direct and measurable way. While EU legislation recognises Renewable Energy Communities (RECs) and Citizen Energy Communities (CECs), the practical scope of energy sharing depends entirely on national transposition and grid-level rules.

In Germany, energy cooperatives largely operate through grid feed-in models. Electricity generated by community-owned installations is sold into the market, and revenues are distributed among members. Although tenant electricity models exist, they are administratively demanding and limited in scale. As a consequence, direct electricity allocation to vulnerable households is rare, and redistribution depends on internal financial decisions rather than structural access to energy.

In Spain, collective self-consumption frameworks have improved significantly, yet technical restrictions such as distance limits between production and consumption points constrain participation. These constraints are particularly relevant in dense urban areas, where low-income tenants may not have physical access to rooftop installations within regulatory distance thresholds.

Austria offers a relatively enabling environment for Renewable Energy Communities; however, energy allocation is frequently limited to defined grid areas. Expanding partici-

Good practice example

Women-focused balcony PV workshops (Germany)

Model: Targeted technical empowerment for underrepresented groups

Grassroots initiatives in Germany have organised practical workshops teaching participants how to install and operate small-scale balcony photovoltaic systems. Some programmes specifically target women and underrepresented groups in order to address structural gender imbalances in the energy sector.

Participants receive hands-on technical training, regulatory guidance and cost-benefit analysis tools, increasing both energy literacy and confidence in participating in decentralised energy production.

Why it is relevant:

Empowerment reduces informational barriers and expands access to decentralised energy technolo-gies. Gender-focused formats address participation imbalances in governance and technical domains.

Transferable element:

Targeted, practical training programmes integrated into community energy initiatives to broaden participation beyond technically experienced groups.

pation beyond specific distribution zones introduces additional coordination requirements with grid operators, which can slow down or complicate inclusive scaling.

Lithuania demonstrates that regulatory flexibility, when combined with municipal coordination, allows direct allocation of electricity to vulnerable households. However, this depends on specific national policy decisions and cannot be assumed as a default condition across Member States.

Across these contexts, regulatory constraints affect inclusion in three main ways:

- They limit or complicate direct energy sharing across multiple meters.
- They prioritise market feed-in models over local allocation.
- They introduce geographic or technical restrictions that disproportionately affect tenants and urban households.

Structural implication:
Where regulation constrains direct energy sharing, the anti-poverty potential of energy communities becomes dependent on internal financial redistribution, which may produce weaker and less predictable affordability outcomes.

5.1.1. Financial entry barriers and capital-based participation models

Most energy communities are built upon cooperative or investment-based models requiring capital contributions from members. While this approach ensures financial viability and ownership stability, it creates inherent accessibility challenges.

In Greece, cooperative shares linked to photovoltaic installations require initial investment. The introduction of subsidised or free social shares for vulnerable households represents an important corrective mechanism. However, its scalability depends on cross-subsidisation capacity and surplus generation. Where margins are limited, solidarity allocations become financially sensitive.

In Germany and Austria, minimum share requirements may appear moderate but remain significant for households experiencing energy arrears or income instability. Even contributions of several hundred euros constitute a structural barrier when households prioritise immediate liquidity needs.

For tenants in Spain and Germany, the uncertainty of residential stability adds an additional deterrent. Investment in cooperative shares may not be attractive if households anticipate relocation before long-term returns materialise.

Lithuania's municipal allocation model removes the need for capital participation for beneficiaries. However, it shifts financial responsibility toward public authorities and therefore depends on municipal fiscal strength and political will.

Financial barriers operate through multiple mechanisms:

- Upfront investment thresholds exclude low-liquidity households.
- Return-on-investment timelines may not align with urgent affordability needs.
- Tenant insecurity reduces willingness to participate.

- Cross-subsidisation models depend on sustained internal consensus.

Structural implication:
Without explicit financial accessibility measures—such as reduced shares, instalment schemes, solidarity funds or public guarantees—energy communities risk reinforcing socio-economic stratification rather than mitigating it.

5.1.2. Administrative complexity and procedural exclusion

Administrative complexity represents a frequently underestimated barrier. Energy-poor households often face limited administrative capacity, reduced digital literacy and constrained time resources. When access to community energy or renovation programmes involves multiple procedural steps, effective exclusion may occur.

In Slovenia, the Eco Fund's renovation schemes provide generous financial support, yet application procedures require technical documentation, compliance verification and coordination with contractors. For elderly homeowners or socially vulnerable households, these requirements can be prohibitive without external assistance.

In Spain, advisory centres mitigate procedural burdens by assisting households with documentation and eligibility verification. However, where coordination between energy communities and social services is inconsistent, administrative fragmentation can delay or discourage participation.

Austria presents additional complexity where uncertainty regarding the interaction between energy community participation and social benefit eligibility may deter vulnerable households from engagement.

Administrative barriers typically include:
- Complex eligibility criteria and documentation requirements.
- Digital application platforms inaccessible to digitally excluded households.
- Lack of coordinated guidance across institutions.
- Uncertainty regarding interactions with social support schemes.

Structural implication:
Procedural burdens transform formal rights into inaccessible opportunities. Simplification and intermediary support are therefore central to inclusive implementation.

5.1.3. Fragmentation between energy, housing and social policy

Energy poverty is inherently cross-sectoral, yet policy frameworks frequently remain compartmentalised.

In Spain, community energy initiatives seeking to combine renewable generation with collective building renovation have encountered difficulties when energy communities were not clearly recognised as eligible actors within housing subsidy frameworks. This fragmentation reduces the feasibility of integrated interventions.

In Germany and Austria, renewable energy legislation enabling RECs and CECs operates largely independently from renovation strategies and social housing programmes. The absence of institutional coordination limits synergies between electricity generation and structural efficiency improvements.

Lithuania's municipal model illustrates that cross-sectoral coordination can enhance impact when local authorities integrate energy allocation with social registries and housing policy instruments. However, such alignment depends on governance capacity and political prioritisation.

Fragmentation produces three main consequences:

- Renewable generation reduces electricity costs, but structural inefficiencies in housing persist.
- Renovation improves efficiency, but households remain excluded from renewable ownership benefits.
- Social policy operates independently of energy governance structures.

Structural implication:
Integrated policy design is essential for addressing both supply-side and demand-side dimensions of energy poverty.

5.1.4. Gender imbalances and representational gaps

Gender imbalances within energy community governance structures represent a cross-cutting structural constraint (EIGE, 2017; Clancy et al., 2017).

In Greece, the absence of female representation on a significant share of community boards reflects broader inequalities in technical and financial sectors. In Germany and Austria, while formal exclusion is rare, women remain underrepresented in strategic decision-making roles and technical leadership positions.

This imbalance influences project design and outreach. When governance bodies do not reflect the diversity of energy poverty exposure, programme priorities may insufficiently address differentiated household needs.

Corrective initiatives, such as targeted technical workshops for women in Germany, demonstrate emerging awareness. However, structural transformation requires sustained measures, including:

- Monitoring of gender representation in governance bodies.

Integrated assessment

The barriers described interact cumulatively. Regulatory rigidity reinforces financial exclusion; administrative complexity amplifies distrust; policy fragmentation limits systemic impact; and govern-ance imbalances reduce representational inclusiveness.

Addressing energy poverty through energy communities therefore requires coordinated action across multiple policy domains and governance levels. Structural alignment—not isolated project innovation—determines whether community energy models can function as effective instruments of social inclu-sion.

- Targeted mentorship and leadership development.
- Deliberate outreach to underrepresented groups.
- Integration of gender-sensitive criteria in funding and governance rules.

Structural implication:
Inclusive governance is not self-generating. Without proactive strategies, energy communities risk reproducing existing gender inequalities.

5.1.5. Trust, perception and social legitimacy

Finally, social perception influences participation patterns. Energy communities may be perceived as technically complex, environmentally motivated initiatives oriented toward financially secure households.

In Spain and Greece, collaboration with social organisations and advisory centres has proven critical in building trust among vulnerable households. These intermediaries translate technical language into accessible information and reduce perceived risk.

Trust barriers typically manifest through:
- Fear of contractual complexity.
- Uncertainty regarding long-term commitments.
- Distrust of energy market actors.
- Concerns related to tenancy instability.

Structural implication:
Trust-building and transparent communication are preconditions for inclusive participation and effective redistribution.

6. Other citizen initiatives addressing energy poverty

While energy communities represent a structured and legally recognised model of citizen participation in the energy system, they do not operate in isolation. Across the six analysed Member States, other citizen-led or community-based initiatives contribute significantly to addressing energy poverty. These initiatives often precede or complement energy communities and, in some cases, reach vulnerable households more directly.

Unlike energy communities, which are primarily organised around renewable energy generation and collective ownership, other citizen initiatives tend to focus on advisory services, behavioural change, small-scale technological solutions, or advocacy. Their organisational forms vary widely, ranging from non-profit associations and social enterprises to municipal partnerships and grassroots collectives.

Three main categories of initiatives can be identified: advisory and counselling services, grassroots technological access initiatives, and community-based solidarity networks.

6.1. Advisory and energy counselling services

In several Member States, local advisory centres provide personalised support to households facing energy poverty. These services typically include bill analysis, guidance on social tariffs, assistance with administrative procedures, and identification of cost-saving measures.

In Spain, Energy Advice Points (Punts d'Assesorament Energètic) play a crucial role in mediating access to both social protection mechanisms and community-based energy initiatives. These centres act as trusted intermediaries, particularly for vulnerable households that may distrust utilities or lack confidence in navigating regulatory systems. Their role extends beyond information provision to active case management and follow-up.

Austria also demonstrates the importance of structured energy counselling, often delivered through social organisations or municipal services. These advisory mechanisms reduce informational asymmetry and ensure that eligible households access available support schemes.

The key contribution of advisory services lies in their accessibility. Unlike energy communities, which may require membership or investment, counselling services can be accessed without financial entry barriers. However, their impact on long-term energy poverty reduction depends on the availability of complementary structural measures such as renovation funding or energy sharing mechanisms.

6.2. Grassroots technological access initiatives

In Germany, grassroots initiatives have emerged to promote small-scale photovoltaic installations, particularly balcony solar systems. These initiatives often operate outside formal cooperative structures and focus on practical empowerment. Workshops provide hands-on guidance on installation, safety, and regulatory compliance.

While not explicitly framed as anti-poverty programmes, these initiatives lower technological entry barriers and democratise access to decentralised generation. In some cases, they specifically target underrepresented groups, including women, to address structural gender imbalances in technical domains.

The limitation of such initiatives lies in their dependence on upfront investment capacity. Even relatively low-cost technologies may remain inaccessible to the most energy-poor households without targeted financial support. Nevertheless, these initiatives contribute to broader energy literacy and participatory capacity.

6.3. Community-based solidarity and advocacy networks

In Greece and Spain, citizen collectives and social movements have historically played a role in addressing energy disconnections, advocating for social tariffs, and supporting households in arrears. These initiatives often operate through volunteer networks and local solidarity actions rather than formalised governance structures.

Their impact is primarily social and political rather than technical. They raise awareness, challenge regulatory frameworks, and provide emergency support. While they may not generate renewable energy directly, they influence the broader policy environment within which energy communities operate.

The presence of such networks demonstrates that energy poverty is not solely a technical challenge but also a socio-political issue. Advocacy initiatives contribute to shaping regulatory reforms and social protection mechanisms that can later enable more structured community energy models.

6.4. Complementarity and structural differences

The comparative analysis highlights that other citizen initiatives differ from energy communities in three structural respects:

- They generally require lower financial entry thresholds.
- They often prioritise immediate support over long-term asset ownership.
- They operate with greater organisational flexibility but less financial stability.

Energy communities, by contrast, are asset-based and investment-driven structures. Their long-term sustainability depends on capital mobilisation and regulatory alignment. As a result, they may be less immediately accessible but potentially more durable once established.

The most effective approaches observed across Member States combine both models. Advisory services and grassroots initiatives act as entry points, building trust and awareness among vulnerable households. Energy communities, where inclusively designed, can then provide longer-term redistribution and participation mechanisms.

From an energy poverty perspective, the interaction between these initiatives is critical. Where advisory services, social organisations and energy communities operate in coordination, the likelihood of reaching vulnerable households increases significantly. Conversely, where initiatives remain fragmented, structural impact is limited.

Other citizen initiatives should therefore be understood not as alternatives to energy communities, but as complementary components within a broader ecosystem of social and energy policy interventions.

7. Conclusions and recommendations

7.1. Overall conclusions

The comparative analysis confirms that energy communities can contribute to tackling energy poverty, but their impact is conditional. Across the six national contexts, energy communities demonstrate varying degrees of inclusiveness, redistribution and participatory governance. Their effectiveness depends on deliberate institutional design choices, enabling regulatory environments, and alignment with housing and social policies.

Energy communities are most effective in addressing energy poverty when three conditions are met simultaneously:

- Solidarity mechanisms are structurally embedded in governance documents rather than relying on voluntary contributions.
- Regulatory frameworks enable flexible energy sharing or, where this is not possible, allow alternative redistribution mechanisms.
- Vulnerable households are supported through intermediary structures that reduce administrative and financial barriers.

Without these elements, energy communities risk functioning primarily as renewable investment platforms benefiting already resource-capable households.

The following recommendations are structured at EU, national and local/community levels, reflecting the multi-level nature of the identified barriers.

7.2. Recommendations at EU level

At European level, the priority lies in ensuring regulatory coherence and enabling inclusive implementation of existing directives.

• Strengthen implementation guidance on energy sharing under RED III and the Electricity Market Directive.
Although the EU framework recognises Renewable Energy Communities and Citizen Energy Communities, national transposition remains uneven. Clearer guidance on permissible energy sharing arrangements, including cross-meter allocation and flexibility in geographic constraints, would enhance the capacity of communities to deliver direct bill reductions to vulnerable households.

• Promote alignment between energy legislation and renovation funding frameworks.
Energy communities are often recognised under energy law but not explicitly under housing or renovation subsidy schemes. EU-level policy coordination could encourage Member States to formally recognise community-based actors as eligible project promoters in building renovation programmes, facilitating integrated supply-and-demand interventions.

• Encourage integration of social inclusion criteria in community energy funding schemes.
EU-funded programmes supporting community energy projects could incorporate explicit social inclusion benchmarks, such as solidarity quotas, reduced entry thresholds for vulnerable households, or mandatory outreach strategies. This would incentivise structural integration of anti-poverty objectives.

• Improve monitoring and data collection on energy poverty and participation.
Energy poverty indicators should be complemented with data on participation in energy communities, including gender-disaggregated and, where feasible, intersectional data. Improved monitoring would allow assessment of whether community energy models effectively reach vulnerable groups.

• **Facilitate exchange of best practices across Member States.**
Structured platforms for knowledge exchange could support replication of successful models such as statutory solidarity clauses, social share mechanisms, or municipal allocation schemes.

7.3. Recommendations at national level

National governments play a decisive role in shaping the enabling environment within which energy communities operate.

• **Remove regulatory barriers to collective self-consumption and local energy sharing.**
Where national regulation restricts energy distribution to community members, reforms should prioritise flexible allocation mechanisms. Direct access to locally generated electricity remains the most visible and immediate way to reduce household energy expenditure.

• **Introduce or incentivise solidarity mechanisms within energy communities.**
National legislation or policy incentives could encourage the integration of earmarked energy shares, social tariffs, or cross-subsidisation schemes. While mandatory quotas may not be appropriate in all contexts, structured incentives can promote systematic inclusion.

• **Address financial entry barriers.**
Low-income households often lack the upfront capital required for cooperative participation. National frameworks could facilitate reduced minimum shares, state-backed guarantees, revolving solidarity funds, or targeted subsidies enabling participation without excessive financial risk.

• **Simplify administrative procedures for renovation and support schemes.**
Energy poverty is frequently exacerbated by bureaucratic complexity. National authorities should review eligibility criteria, documentation requirements and application procedures to ensure accessibility for households with limited administrative capacity.

• **Formalise recognition of energy communities within housing and social policy frameworks.**
Where community-led initiatives seek to integrate renewable generation with housing rehabilitation, legal clarity regarding representation rights and eligibility for funding is essential.

• **Integrate gender equality measures into energy and housing policy.**
National strategies should promote balanced governance representation within energy communities and support targeted capacity-building initiatives addressing gender imbalances in technical and financial roles.

7.4. Recommendations at local and community level

Local authorities and energy communities are the operational actors translating policy frameworks into practice.

• **Embed solidarity in statutes and governance documents.**
Energy communities aiming to address energy poverty should integrate solidarity mechanisms directly into their founding documents. This may include allocating a defined percentage of energy production or financial surplus to vulnerable households, establishing dedicated solidarity funds, or creating reduced-cost membership categories.

• **Establish partnerships with trusted intermediaries.**
Collaboration with municipalities, social services, advisory centres and non-profit organisations enhances outreach capacity and reduces stigma. Intermediaries can assist in identifying eligible households and navigating administrative processes.

• **Adopt flexible membership and participation models.**
Reducing minimum investment thresholds, allowing staggered contributions, or creating non-investor participation categories can broaden access.

• **Integrate advisory and efficiency support.**
Combining energy redistribution with home energy audits, micro-efficiency kits and behavioural guidance increases the durability of savings and strengthens empowerment.

• **Promote inclusive governance practices.**
Transparent communication, simplified documentation and accessible meeting formats encourage broader participation. Targeted outreach to women and underrepresented groups can counterbalance existing governance imbalances.

• **Monitor and evaluate inclusion outcomes.**
Communities should track not only installed capacity and financial returns but also participation rates of vulnerable households, gender balance in governance bodies, and measurable impacts on energy expenditure.

7.5. Strategic implications for GENDER4POWER

For the GENDER4POWER demonstrators, the findings of this report highlight the importance of institutional design over scale. Demonstrator initiatives should integrate solidarity mechanisms from inception, rather than retrofitting them after project implementation.

In particular, demonstrators should:

- Combine renewable generation with structured inclusion criteria.
- Engage municipal and advisory partners early in project development.
- Reduce financial entry thresholds for vulnerable households.
- Incorporate gender-sensitive governance measures.
- Document and evaluate social impact alongside technical performance.

The comparative analysis shows that energy communities can serve as laboratories for inclusive energy transition models. However, their capacity to reduce energy poverty is contingent upon deliberate governance choices and supportive regulatory environments. Scaling inclusive practices therefore requires coordinated action across EU, national and local levels.

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