

POLICY BRIEF

Policy recommendations -Enhancing energy efficiency in Croatia



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Introduction -Evolving landscape of Croatia's energy policy



Croatia's energy policy has been evolving dynamically, especially since the regulatory changes introduced in 2021 and again in 2023.

These changes signify a commitment to **renewable energy** and its **sustainable consumption**. This approach aligns Croatia with broader European trends, exemplified by countries like Austria, which have developed effective models for energy communities.

Croatia's legal framework distinctly separated 'self-consumption' for households and public institutions from the 'final customer with own production' model for other customer categories. However, the practical implications of this approach, especially for households, led to significant shifts in investment returns and consumer behavior. the Croatian In response, government amended its policy in July 2023. From 2024, households will not lose their self-consumption status if they have surplus of exported energy and all households who already lost their selfconsumption status due to surplus of exported energy, will be switched back to the self-consumption model.

The self-consumption model will be available for new consumers until the end of 2025, and the Ministry aims to formulate the new system by March 31, 2025, initiating its application on January 1, 2026. This change, aimed to be fully implemented by 2026, opens new avenues for sustainable energy practices in Croatia.



The Austrian model, with its focus on Renewable Energy Communities (RECs) and Citizen Energy Communities (CECs), offers valuable insights.

Austria's integrated and community-focused approach supports not only individual selfconsumption but also collective energy management and sharing. **Drawing inspiration from Austria, Croatia can further refine its regulatory system to enhance the economic viability and sustainability of renewable energy consumption.**

The importance of user engagement and incentives

Effective engagement in energy-efficient practices hinges on users perceiving tangible benefits, especially financial. Past regulatory frameworks led to counterproductive behaviors like shutting down PV systems or installing excess capacities that fed into the grid rather than serving local needs. To address this, the regulatory framework must align with user interests, offering incentives for efficient energy use and local consumption.

Policy recommendations: enhancing Croatian energy communities

Despite legal recognition of energy communities within its framework , Croatia has yet to see the formation of energy communities, largely due to operational uncertainties and barriers. These include restrictive definitions of eligible entities, complex regulatory environments, high financing costs, and diverse membership and education needs.

In contrast, Austria's energy community model is more facilitative, offering flexible legal structures and economic incentives. To emulate this success, Croatia should consider the following steps, described in Table 1.



Table 1. Comparison of Energy Community Frameworks: Austria and Croatia

| Aspect | Austria | Croatia |
|---|--|---|
| Expand Legal Definitions | Offers a flexible legal framework allowing various organizational forms, including associations and cooperatives, to form energy communities. This inclusivity fosters diverse participation. | Currently, the legal framework is more restrictive, limiting the types of entities that can form energy communities. Amending the law to include a broader range of entities, similar to Austria, could enhance community formation. |
| Simplify Operational Processes | Has streamlined processes for establishing and managing energy communities, reducing bureaucratic hurdles and making it easier for communities to operate. | Faces significant administrative barriers that hinder the formation and management of energy communities. Adopting a simplified approach like Austria's could encourage the development of these communities. |
| Provide Financial Support and Incentives | Offers economic incentives, such as reduced grid fees, making it financially viable for communities to participate in energy sharing and production. | Currently, high financing costs and a lack of incentives are major impediments. Introducing financial schemes similar to Austria's could lower costs and risks, promoting the establishment of energy communities. |
| Educational and Support Programs | Likely has initiatives to educate and support potential members, contributing to the successful implementation and operation of energy communities. | Needs to develop comprehensive programs for educating potential members and providing operational support, which would help in overcoming the current knowledge and experience gaps. |

In the realm of energy communities, the approaches of Austria and Croatia present an interesting contrast. Austria has notably set a benchmark in supporting these communities. Austrian Distribution The System Operators (DSOs) play a crucial role, offering reduced grid fees and efficiently allocating energy among community members. This significantly lowers operational costs and streamlines energy distribution.

Austria's administrative Moreover, is commendably efficient, process characterized by clear guidelines and simplified procedures that facilitate the registration and operation of energy communities. On the other hand, Croatia faces several challenges in this domain. One of the primary issues is the unclear role of DSOs in supporting energy communities. Unlike Austria, where DSOs actively contribute to the growth and efficiency of these communities, Croatian DSOs lack specific provisions or incentives, which hampers the establishment and smooth operation of energy communities.

Administratively, Croatia's framework is mired in complexities. The process of registering as an energy community involves multiple steps and often unclear requirements. This complexity can deter the formation of new communities, a stark contrast to the Austrian model. Furthermore, Croatian regulations stipulate that **energy** communities must operate under nonprofit regulations and include a full-time qualified worker, adding to the operational challenges, especially for smaller communities. Financial hurdles are another significant challenge in Croatia. Energy communities often struggle with high financing costs, facing difficulties in accessing loans or funding due to the perceived risks by financial institutions. This financial burden significantly hampers the viability and sustainability of these communities.

To align Croatia's approach more closely with Austria's successful model, several steps could be beneficial.

1

Enhancing the role and responsibilities of DSOs in Croatia to mirror Austria's supportive approach would be a significant step. This could include introducing incentives similar to Austria's reduced grid fees and technical assistance.

2

Streamlining the registration process for energy communities in Croatia, making it more transparent and straightforward, would also be advantageous. This change would ease the path for new communities to form operate, and removing the administrative barriers that currently exist.

3

Another recommendation for Croatia is to **reconsider the requirement for a full-time employee in each energy community. Allowing more flexibility in operational structures** would enable smaller or emerging communities to sustain themselves more easily.

4

Finally, improving financial accessibility is crucial. Working with financial institutions to offer more accessible loans and lower interest rates, and introducing financial assistance programs, would help overcome the financial barriers faced by Croatian energy communities.

Policy Recommendations for enhancing energy efficiency in Croatian energy communities

The challenge of nudging users towards energy efficiency, particularly in energy communities like those in Croatia with oversized photovoltaic (PV) systems, requires a nuanced approach. The aim is to encourage behaviors that maximize the use of renewable energy while minimizing wasteful practices. Here are specific **recommendations tailored to the Croatian context and its energy communities**:



) Mandating real-time energy data access:

Enforce policies requiring Distribution System Operators (DSOs) to provide real-time energy consumption and production data to endusers. This step is crucial for enabling users to make informed decisions about their energy use, particularly for those with oversized PV systems, avoiding additional investments in external smart meters.



Dynamic tariff and feed-in policy structuring:

Adjust energy tariffs to encourage energy selfconsumption and make feed-in policies more attractive for surplus energy within energy communities.

8→8 Establishment of energy sharing mechanisms:

Implement legal and technical frameworks to facilitate energy sharing within communities. This approach allows users with excess energy to share or sell it to others, promoting community-wide energy efficiency and collaboration.

Flexible distribution key implementation:

Advocate for the creation of adaptable models for distributing energy within energy communities. Such a system would facilitate a more effective and equitable allocation of energy, tailored to the real-time usage patterns of community members. As an illustration, while Austrian regulations permit various types of energy sharing keys within communities, in practice, DSOs typically provide just a static and a dynamic key. In contrast, Croatian DSOs have yet to establish a defined sharing key system.

Conclusion

In Croatia, adopting Austria's successful energy community model means roles, enhancing DSO simplifying regulations, and providing financial and educational support. This would help overcome barriers to forming sustainable energy communities and benefit citizens with oversized PV systems in self-consumption models. Key strategies include enabling realtime energy data access, developing dynamic tariff and feed-in policies, establishing energy sharing mechanisms, and introducing flexible distribution keys. These measures would promote informed energy usage, foster self-consumption, and encourage efficiency.

However, it's crucial to address broader challenges that have been observed in the Austrian model, such as **limited economic benefits, challenges in data accessibility, and uncertainties regarding network structure and access.** A more integrated approach, including sector coupling, is necessary to ensure the long-term viability of energy communities without an excessive reliance on subsidies. To effectively navigate these complexities and tailor solutions to the Croatian context, it is recommended that the Ministry recognize the importance of establishing a dedicated working group. This group should consist of energy community experts, stakeholders, and policymakers who can collaboratively develop strategies and solutions that are not only feasible but also beneficial for Croatian citizens beyond 2026. This collaborative approach will ensure that the policies and frameworks developed are wellsuited to the specific needs and circumstances of Croatia, paving the way for a sustainable and efficient energy future.



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