This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824386.

REGULATORS EDITION

MERLON
WHAT'S IN IT FOR ME?

BACKGROUND

The MERLON project aims at addressing a number of key challenges around the design of a suitable regulatory and market framework to realise the value of energy communities with local, distributed forms of flexibility, such as energy storage and demand side response. Specifically, these challenges include:

- The definition of energy communities and their role in the legislative framework of the European Union (EU) and the Member States. The EU is gradually abandoning the term "Local Energy Communities" and introducing the terms "Citizens Energy Communities" and "Renewable Energy Communities", with a few clear statements around their role, value and responsibilities. However, some of the Member States have not clearly defined the role of energy communities in their legislative framework, while misalignments are observed among certain countries.
- The existing regulatory framework has not clearly defined the interactions between energy communities and energy-aware citizens. In particular, it has not been clarified how citizens can opt out from energy communities they have previously joined, especially in the cases where assets with capital-intensive investments (e.g. electricity generation or storage) are involved.
- The relations and interactions of energy communities with DSOs constitute also a matter of debate. One of the key questions in this context is how to regulate energy communities owning or operating their own distribution network: is this possible in all Member States and are the energy communities able to bear the responsibilities of traditional DSOs? Furthermore, is it possible for such energy communities to own / operate both network assets and generation / storage assets or should the unbundling requirement applying to DSOs also apply to energy communities?
- Beyond the role of communities per se, a more general regulatory challenge lies in properly capturing the whole spectrum of value streams of distributed flexibility, including their value for DSOs (e.g. constraint management, investment deferral), TSOs (e.g. balancing services, capacity provision) and the energy market (e.g. lower operating costs). Specific regulatory questions involve how to enable participation of small-scale resources with variable availability in ancillary services markets, how to recognize the time-specific and location-specific value of flexibility in the various markets, and how to enhance the coordination between DSOs and TSOs.

OBJECTIVES

The MERLON project aims at addressing the above regulatory challenges through a holistic, evidence-based approach, be integrating the views of all the involved stakeholders (citizens, regulators, DSOs, TSOs, energy suppliers) and testing derogations from the existing regulatory framework in the two pilot sites in Austria and France.

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SOLUTION

One of the key aspects of the MERLON solution in this context lies in achieving "regulatory interoperability" by aligning the legislative framework around energy communities among different Member States and stakeholders, so that a clear definition of their role and responsibilities is achieved, providing certainty over the required capital-intensive investments in flexibility assets.

In order to address the challenges associated with citizens opting out, a balance between free decision making over joining energy communities or contracts with electricity retailers and ensuring the safe and cost-efficient operation of energy communities will be sought. Furthermore, the energy communities in MERLON will not be required to unbundle energy and network activities in cases that the integrated optimization of generation, storage and network assets contributes to the secure, low-carbon and cost-efficient operation of the energy system.

Finally, a number of alternative solutions for capturing the whole-system value of distributed flexibility within energy communities will be investigated. These include closer to real-time settlement for balancing services in order to better reflect the effects of renewable generation on system balancing requirements, enhancing the location-specific element of network charges, introducing efficient capacity remuneration mechanisms and properly balancing the trade-off between utilizing flexibility for local (e.g. constraint management) and national (e.g. system balancing) objectives.

WHY SHOULD WE CARE?

The above regulatory challenges are very complex and they need proper consideration and balancing of legal, technical economic and social criteria. Regulators are naturally in the position to provide expert view in this context. Without their input, the social motivation and the demonstration of the techno-economic benefits of energy communities cannot lead to wide adoption in Europe.

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