



FPS Economy, S.M.E.s, Self-employed and Energy

ECOFLEX

D7.1 Stakeholder feedback analysis

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The ECOFLEX project addresses one of the most pressing challenges of the energy transition: how to unlock and aggregate flexibility from small and distributed energy assets connected at the low-voltage (LV) level. As electricity grids face rising pressures from renewable integration and electrification, tapping into these decentralized flexibility sources is essential to balance supply and demand and ensure grid stability. This report presents the results of a stakeholder survey conducted among asset owners, e-charging operators, energy management system (EMS) developers, and aggregators. It explores stakeholder awareness, technical readiness, interest, and perceived barriers regarding flexibility services. Findings reveal a decent level of awareness and willingness to engage across all groups, but significant challenges persist, including regulatory uncertainty, unclear profitability, lack of information about the network capability to host new assets, and limited market maturity.

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1. Introduction

As Belgium moves toward a decarbonized energy future, integrating variable renewable energy sources and electrified consumption devices, such as electric vehicles (EVs) and heat pumps, creates new pressures on electricity grids. These pressures are especially acute at the local distribution grid level, where infrastructure was not originally designed for two-way power flows or high peaks in demand and supply. Flexibility — the ability to shift, reduce, or modulate consumption or generation in response to system needs — is widely recognized as a critical tool to manage these challenges.

While large-scale flexibility from industrial loads or utility-scale batteries has received considerable attention, a vast pool of flexibility exists at the LV level: in homes, businesses, EV chargers, home batteries, and other distributed assets. Unlocking this potential, however, requires overcoming multiple barriers, including technical integration, economic viability, market access, and regulatory alignment.

The ECOFLEX project was initiated to explore how a smart aggregation solution could bridge these gaps. This report presents the findings of targeted stakeholders surveys. It also draws a comparison of flexibility solutions' adoption through different regions of Belgium, to highlight strategies for enabling LV flexibility.

2. Methodology

To gather insights on the potential and challenges of LV flexibility, we designed and deployed a structured survey targeting three key stakeholder groups:

- **Asset owners and e-charging operators** (e.g., companies managing EV charging infrastructure, home batteries, heat pumps);
- **Energy management system (EMS) developers and operators** (firms providing the technological backbone for flexibility, integrating control signals and data);
- **Aggregators** (entities pooling flexibility across multiple sources to deliver services to the grid or participate in energy markets).

The survey included both closed and open-ended questions on the following topics:

- Awareness and understanding of flexibility needs and markets;
- Technical and operational readiness of their assets to provide flexibility;
- Interest in participating in flexibility markets or services;
- Perceived barriers (regulatory, technical, economic, legal);
- Suggestions and needs to facilitate participation;
- Opinions on the proposed ECOFLEX smart aggregation solution.

Responses were collected anonymously and analysed to identify cross-cutting themes, group-specific insights, and actionable recommendations. Since the LV level flexibility market is only starting to take shape, not many responses could be gathered from the surveys. Therefore,

others were also collected through webinars, meetings and conferences involving targeted stakeholders.

The questionnaires sent for the survey can be found in the Appendix.

3. Results

3.1. Awareness and interest

Across all stakeholder groups, there is a strong understanding of the growing need for flexibility in the electricity system. Most respondents recognize the technical potential of their assets to provide flexibility and express interest in exploring the associated value. Some actors do not have assets that can provide flexibility, but are convinced of the necessity to have them in the near future. Several industrial companies – especially from the energy-intensive sectors such as steel, transport or water treatment and distribution – need to decarbonize their activity. To do this, they need to invest in their own energy production assets such as PV or wind turbines to remain competitive. To maximize the self-consumption of the produced renewable energy, they need to explore ways to adopt flexibility in order to avoid cost related to injection into the grid, or offtake at high price periods. Thus, they seek solutions, leading to more awareness of flexibility potential.

Furthermore, some companies such as Bnewable and Octave provide packages to companies that allow them to lift the burden of investing and managing storage battery systems to optimize the use of energy for companies. In this model, they invest, install and operate the battery at the site of companies, using EMSs to match both the needs of the clients and of the grid.

3.2. Perceived barriers

Despite growing awareness of the importance and potential of flexibility, several barriers are preventing stakeholders – particularly asset owners – from fully engaging in flexibility markets. The survey responses and discussions in workshops, webinars and conferences reveal a convergence around a number of key concerns:

- **Regulatory uncertainty:** A significant number of companies express apprehension regarding the lacking legislative and regulatory framework. The absence of clear, harmonized, and stable rules to govern the participation of assets in the flexibility market is seen as a critical obstacle.
- **Technical challenges:** Implementing flexibility solutions often requires adaptation of existing hardware and software systems, along with significant effort to ensure interoperability with grid operators, other assets and third-party aggregators. Furthermore, contractual arrangements for value-sharing, data protection, and liability can be complex and difficult to adapt to the reality for small-scale companies who do not have access to standardized interfaces or regulatory guidance for flexibility capabilities.
- **Immature market structure:** Up to date, there is no established market platform for LV flexibility. There is a limited visibility of available products or services such as

congestion management, dynamic pricing response, and standardized processes for participation. Several actors point out the need for DSO market design efforts to include smaller-scale assets in a structured and inclusive way. In Flanders Fluvius is already piloting new defined market-products.

- **Uncertain profitability and value proposition:** Although solution providers inform about interesting business models, some actors still do not measure in their own case how profitable embracing flexibility might be for their activity. Some reported that the potential for cost savings or additional revenue remains largely theoretical, with few real-world examples available to demonstrate a compelling business case. For many companies – especially smaller players with limited margins – this uncertainty reduces the incentive to dedicate time or resources to exploring flexibility participation.
- **Complexity and limited organizational capacity:** For some companies, managing flexibility or simply engaging with flexibility stakeholders is not straightforward. From forecasting and scheduling to regulatory compliance and coordination with DSOs, these services can represent an important hurdle, especially for SMEs.

3.3. Suggestions for overcoming barriers

To fully unlock the potential of flexibility on the LV level, it is necessary to tackle core obstacles identified by stakeholders. In this respect targeted suggestions are proposed for the above-listed barriers.

- **Development of clear and stable market frameworks to address the lack of legislative and regulatory certainty:** clearly define roles and responsibilities of all market actors, recognize and incentivise low-voltage flexibility (at the regional level via a government decree), clarify the fiscal treatment of revenues generated through flexibility services, ensure consistency across jurisdictions to enable regional scalability.
- **Standardization of protocols and interfaces:** developing interoperable APIs to enable seamless communication between several EMSS, aggregators, and DSOs, harmonizing technical standards (data formats, forecasting methods, industry-led standardisation efforts), promoting smaller assets such as plug-and-play PV and batteries, facilitating pre-qualification procedures that are simplified and standardized across flexibility products.
- **Addressing Market immaturity:** Valorising demonstration and pilot projects that have demonstrated solid business models and technical solutions that can be applied in real-world condition, using test aggregation strategies to understand user behaviour, and evaluate system responses to signals, leverage the outcomes from projects and form the market to adapt regulation and policy development .
- **Information, awareness, and capacity building:** Organizing information sessions (by DSOs or clusters to inform about the benefits of flexibility), workshops and online tools, develop transparent business cases tailored to different types of actors (EV fleet operators, SMEs, residential aggregators, energy communities' managers, etc.), and sharing success stories and best practices to demystify the profitability of flexibility participation.

- **Simplified tools and targeted training:** For actors, lacking technical resources, needed to deploy flexibility solutions, it is important to develop simplification procedure (reducing administrative and operational burden), organize dedicated training programs (for installers, EMS developers, and managers, focusing on flexibility-enabling technologies and practices), sharing developed solutions such as ECOFLEX deliverables, and encouraging collaboration with third-party service providers.
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4. Conclusion

This analysis confirms a strong and growing awareness among market actors about the importance of flexibility at the low-voltage (LV) level. Stakeholders—including asset owners, EMS developers, and aggregators—recognize both the technical potential and the economic opportunities associated with participating in flexibility markets. Flexibility services are broadly perceived as relevant and promising, provided that it comes with transparent commercial models and manageable technical requirements.

Despite this interest, several persistent barriers hinder broader market participation. These include regulatory uncertainty, technical and legal challenges, concerns about unclear financial benefits, limited internal resources, and the general complexity of entering a nascent market. Such obstacles particularly affect smaller or less specialized actors.

Nonetheless, the willingness to explore flexibility solutions is evident. If current barriers are addressed systematically, a more active and inclusive flexibility market can emerge—delivering value to consumers, supporting grid stability, and accelerating the energy transition.

5. Perspectives – Policy and market outlook

Encouraging policy developments are underway and could lead to unlocking consistent potential of flexibility in Wallonia. The Ministry of Energy is currently considering a proposition of decree aimed at regulating the withdrawal of electricity from the grid at the LV level. This legislative action would provide a much-needed framework for flexibility, increasing confidence among market participants. Another critical area under review involves the limitations imposed on behind-the-meter storage installations. Developers have reported that Walloon DSOs often reject connections for battery systems above a certain size, citing lack of grid capacity or risks related to an abrupt change in the grid users' behaviours that could lead to the grid unbalance. Such issue is not reported in Flanders, where the DSO Fluvius allows such installations despite the absence of a formal decree.

Additionally, the Walloon Ministry of Energy is exploring the possibility of simplifying the approval process for several projects, including storage systems, EV charging stations, and other industry-related activities that may have considerable impact on the grid. Currently, these installations require authorization from the regional energy regulator (CWaPE), creating administrative friction. A proposed exemption mechanism could lower these barriers and accelerate the rollout of smart charging solutions.

In Flanders, Fluvius has defined some local flexibility products and is testing them in pilots during winter 2024-2025 and summer 2025. Their goal is to have options to handle local congestion and reactive energy needs.

In Flanders, not all Elia flexibility products are already accessible for LV-assets, but the regulations are changing. Although aFFR is theoretically available for battery systems on LV, not all energy suppliers support this already (as has been seen in the aFFR LV battery system in one of the ECOFLEX pilots). But there is some progress.

Together, these measures suggest a more favourable policy environment is emerging. If implemented promptly and in collaboration with key stakeholders, these changes could significantly accelerate the deployment and use of flexible energy assets.