



STREAMING FLEXIBILITY
TO THE POWER SYSTEM

POLICY BRIEF: LOCAL FLEXIBILITY MARKETS

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1 INTRODUCTION

This policy brief presents an overview of the current status of local flexibility markets (LFM) in the EU. It introduces relevant EU legislations and sets them in context to the implementation of local flexibility markets. Further on, four case studies, which represent the STREAM pilot countries (Finland, Italy, Slovenia, and Spain) are presented, regarding the current status of the implementation of local flexibility products and LFM, the view of different actors (Transmission system operator (TSO), Distribution system operator (DSO), Market operator, aggregator) in the electricity system and illustrative examples of pilots on LFM. Current gaps are analysed and recommendations for the successful implementation of LFM are made.

This policy brief is based on D4.3 Conclusions & Regulatory aspects of local flexibility markets of the STREAM project.

2 REGULATORY FRAMEWORK

This chapter presents the regulatory framework for local flexibility markets in the EU based on the Clean Energy for All Europeans Package (CEP) and corresponding directives.

The Clean Energy for All Europeans Package¹ was adopted in 2019, consisting of eight legislative acts designed to create a more integrated and competitive energy market within the EU. This package marked a significant overhaul of the EU's energy policy framework, helping to shift away from fossil fuels towards cleaner energy and to meet the EU's commitments under the Paris Agreement to reduce greenhouse gas emissions.

The CEP significantly influences the development of local flexibility markets by promoting decentralized energy systems, consumer participation, and market-based solutions for grid stability. The CEP grants consumers the right to access all electricity markets and be compensated for their flexibility. Member States are required to implement these provisions in their national legislation.

The key components of the CEP relevant to local flexibility within the energy market include:

- Renewable Energy Directive (EU 2018/2001)

The renewable energy directive (EU 2018/2001) supports the integration of decentralized renewable energy production and the participation of local actors in the energy market. It also facilitates demand response, encourages energy storage and drives the deployment of smart grid technologies. It therefore enhances the capacity of the local grid to manage variability and to contribute to the stability of the grid.

- Electricity Directive (EU 2019/944)

The electricity directive (EU 2019/944) aims at a flexible and inclusive electricity market design, which allows for consumer participation and the integration of distributed energy resources in energy markets. It supports the deployment of smart meters and energy management systems for consumers, enhances the role of the DSO, encourages them to adopt advanced grid management technologies, and highlights the need for DSO/TSO cooperation. It further states that regulation must ensure that regulatory frameworks, including network codes and market rules, do not create barriers to flexibility services.

¹ https://wayback.archive-it.org/12090/20241209144917/https://energy.ec.europa.eu/topics/energy-strategy/clean-energy-all-europeans-package_en

- Electricity Regulation (EU 2019/943)

The Electricity Regulation (EU 2019/943) aims at a competitive, consumer-centric, flexible and decarbonized electricity market in the EU. It establishes a market design supporting flexibility through short-term markets, market coupling and capacity mechanisms. It introduces dynamic pricing contracts to incentivize consumers to shift their consumption and calls for smaller consumers/prosumers to participate in electricity systems through aggregators. It further creates investment signals for flexibility resources, such as storage technologies, demand response services and advanced grid technologies. Streamlining of network codes and guidelines should further enhance the flexibility, reliability and efficiency of the grid, while regulatory sandboxes provide a testing environment for new solutions.

- Energy Efficiency Directive (EU 2018/2002)

The Energy Efficiency Directive (EU 2018/2002) promotes energy efficiency measures throughout the European Union. It encourages the development of flexible grid management strategies to accommodate the fluctuating nature of renewable energy sources and the reduction of power losses. It supports the implementation of smart grids enhancing the flexibility of the power system.

- Network Code for Demand Response

Moreover, a Network Code on Demand Side Flexibility is currently being drafted, expected to provide detailed guidelines on independent aggregation models and market access and should be published in 2025. It aims to unlock consumer flexibility and allow them to offer services directly or via aggregators.

Through the different legislations, several enablers for LFM are identified:

1. Push for the participation of local actors such as consumers/prosumers in electricity markets
2. Introduction of aggregators
3. Use of innovative/automated technology at consumer/prosumer level (Smart grids)
4. Advanced grid management technologies for DSOs

3 CASE STUDIES

This chapter presents country-specific insights regarding the regulatory state-of-the art, the view of different actors and recommendations for the implementation of LFM in Finland, Italy, Slovenia and Spain.

3.1 FINNISH CASE STUDY

In Finland, the Electricity Market Act (497/2023) sets the legal framework for the operation of electricity markets. It includes provisions for independent aggregators. They can operate reserve resources regardless of who the retailer or the balance responsible party is for that accounting point. The independent aggregator, or the owner of the resource, needs to contractually agree on the rights to operate the reserve resources and the compensation for the effects of the operation. The independent aggregator can however act directly on the reserve resources, ensuring fair and non-discriminatory participation and supporting the development of a more competitive and flexible electricity market. Independent aggregators are permitted to operate in various reserve market products, including Fast Frequency Reserve, Frequency Containment Reserve for Disturbances, and Frequency Containment Reserve for Normal operation. Participation in the Automatic Frequency Restoration Reserve is currently planned to be enabled during 2026. Moreover, it enables DSOs to acquire flexibility services, for example, to relieve grid congestion. This must be done in an open, non-discriminatory and market-based way. A local flexibility market could be a way to ensure that these requirements are met. Furthermore, there is a flexibility incentive (joustokannustin) available encouraging DSOs to develop and implement flexibility solutions. This is a financing tool alongside investment, energy efficiency and innovation incentives.

Finnish DSOs² believe that flexibility utilization would be most beneficial in the long-term perspective, with flexibility offering the possibility of avoiding or postponing necessary grid investments. However, the Finnish DSOs had concerns due to their lack of experience with flexibility utilization raising concerns on how demand-side flexibility should be accounted for when planning the future capacity requirements. This lack of experience also contributes to concerns about the reliability of demand-side flexibility. Another factor that makes Finnish DSOs hesitant to rely on flexibility is that over-dimensioning network components is cheap and has been the solution of choice in the past. The investment decision to install extra capacity is a marginal cost in network investments, so DSOs are hesitant to forgo this practice and rely on flexibility. The DSOs believed that there is adequate technology for demand-side flexibility implementation, but robustness and experience with these technologies are lacking. Regarding regulation, the DSOs believed that tariffs that are energy-focused and income regulations that are focused on Capital Expenditure are barriers to the implementation of demand-side response.

End user behavior is a big challenge that DSOs believe they face with most end users being uninterested or unaware of the concept of demand-side flexibility, and currently, there are weak economic incentives for demand-side flexibility. A potential belief was that the automation of demand-side response could be a potential solution to this problem rather than relying on end users reacting to price signals. Currently, DSOs do not see much need for a flexibility market, as there are no real capacity constraints due to the grid being well or over-dimensioned. However, there is a belief that the need for flexibility will increase in the future in urban areas due to increases in populations and the electrification of space heating and transport. In some rural areas, the electrification of heating and transport is expected to be compensated by the decrease in population.

Currently, the existing incentives are not sufficient for the DSOs to stay out of their comfort zone. However, certain requirements have been defined to increase the demand for flexibility services, such as DSOs assessing the possibility of using flexibility services instead of grid reinforcements in their long-term network development. Additionally, new obligations are to be included in the amendment of the

² https://www.nordicenergy.org/wp-content/uploads/2017/12/Demand-side-flexibility_-DSO-perspective.pdf

Energy Market Act, requiring DSOs to procure necessary flexibility services from competitive markets whenever they are economically efficient³.

In Finland, there are currently no local flexibility markets, but a pilot project called FinFLEX is currently running.

Current status of local flexibility markets in Finland:

- **Legal Framework for local flexibility markets available**
- **Currently no local flexibility markets**
- **Financial incentives for DSOs to procure flexibility**
- **Local flexibility only as part of pilot projects**

Recommendations for the establishment of local flexibility markets in Finland:

The development of local flexibility in Finland is currently hindered by the lack of an established market, making it challenging for DSOs to predict associated costs. DSOs also express concerns due to limited experience and uncertainties around the reliability of demand-side flexibility. While grids are usually well-dimensioned resulting in few immediate capacity constraints, there is a growing belief that demand for flexibility will increase in the future. To support market growth, more experience and streamlining the procedure for the prequalification process for aggregated resources could encourage broader participation, especially from smaller actors. Having the roles and responsibilities clearly defined is crucial to provide clarity and build confidence among stakeholders. Active consumer engagement, combined with easy to implement automation systems, are also important; designing demand response programs that are user-friendly and aligned with consumer needs can significantly boost participation. However, current end-user behavior often reflects a lack of awareness or interest in demand-side flexibility. To accelerate innovation, regulatory sandboxes can be established, allowing new demand response solutions to be tested in a controlled environment. At the same time, safeguarding consumer data and ensuring its responsible use is essential for maintaining trust—particularly as advanced automation may require large volumes of data.

Example FinFlex Helsinki, Finland⁴

Fingrid and Helen Electricity Network, a Finnish DSO, are currently piloting a new marketplace that enables the trading of flexible resources for congestion management. The flexibility market will cover flexibilities both at the transmission and distribution levels. In the pilot, the flexibilities at the transmission system level can be offered anywhere in Finland. At the distribution level, the flexibility offers are limited to the area of Helen Electricity Network, which is located in and around Helsinki. The goal is to start trading in the local flexibility market at the beginning of 2025. At the end of 2024, Fingrid and Helen informed that the Norwegian market platform for local flexibilities, NODES, was chosen for the pilot⁵. Helen Electricity Network will use the new marketplace to address local congestion issues within its distribution network area. In the pilot, only active power will be traded.



3.2 ITALIAN CASE STUDY

The Italian energy regulator, ARERA (“Autorità di Regolazione per Energia Reti e Ambiente”), not only supports but also regulates and incentivizes market reforms that allow for more active participation

³ <https://www.sender-h2020.eu/wp-content/uploads/2023/04/D4.3-Regulation-and-policy-analysis-report.pdf>

⁴ <https://nodesmarket.com/finflex/>

⁵ <https://nodesmarket.com/fingrid-tso-and-helen-sahkoverkko-dso-to-buy-flexibility-on-nodes/>

from various resources, including small-scale renewables, storage systems, and demand response aggregators to stabilize the grid. Through incentives and regulatory measures, battery owners and small producers can earn revenue by offering balancing services, such as frequency regulation and load shifting during peak times. Italy's framework actively supports aggregators in participating in energy and balancing markets. Local flexibility markets are proving to be an effective tool for enhancing energy system efficiency, reducing grid congestion, and supporting the transition to a decentralized energy model. GME organizes a Local Flexibility Market that is the trading venue through which the participating Distribution System Operators can procure local ancillary flexibility services, as part of the pilot projects defined under the Energy, Network and Environment Regulatory Authority Resolution of 3 August 2021 n. 352/2021/R/EEL ⁶.

The TSO, the transmission system operator, TERNA, oversees flexibility markets at the transmission level, enabling the procurement of balancing and reserve services to maintain grid stability. These markets optimize the utilization of storage systems, distributed energy resources (DERs), and demand response by ensuring their efficient dispatch based on real-time grid conditions. By integrating these resources, TERNA enhances frequency regulation, voltage control, and congestion management, reducing reliance on conventional generation and improving overall system resilience.

Distribution System Operators (DSOs), such as ASM Terni S.p.A., are increasingly responsible for managing local flexibility by integrating distributed energy resources (DERs) and coordinating demand-side response to enhance grid stability. Through dedicated flexibility mechanisms, DSOs procure localized balancing services to mitigate network constraints and optimize voltage regulation. Additionally, they actively promote demand-side management by incentivizing consumers to adopt energy-efficient technologies, implement smart load control strategies, and participate in demand response programs. These initiatives contribute to reducing peak loads, improving distribution network efficiency, and supporting the integration of variable renewable energy sources.

Current status of local flexibility markets in Italy:

- In Italy, ARERA is developing flexibility market rules
- GME runs Local Flexibility Market sessions for DSO grid needs
- DSOs test flexibility for efficiency
- TERNA and DSOs coordinate on flexibility
- Key challenges include market liquidity and ensuring fair competition among flexibility providers
- Italy aims to expand markets under EU rules

Recommendation for the establishment of local flexibility markets in Italy:

Future legislation should establish a standardized framework that ensures transparency, fair access, and strong data privacy protections, while also incentivizing technological innovation. Simplifying administrative procedures, improving coordination, and supporting small market players are key steps to boosting local flexibility provision and overall market efficiency.

Clear frameworks for cross-sector cooperation, e.g. the energy and water sectors are essential, as tested in the Italian STREAM pilot site. Legislation should promote flexible market participation by enabling mechanisms that reward water systems for adjusting energy use during periods of renewable energy surplus.

To support this, standardized communication protocols are needed to facilitate smooth data exchange, and efforts must be made to improve data collection on water system energy consumption.

Better integration of energy and water policies should be a legislative priority, with support for research, development, and pilot projects focused on smart grid and water technologies. Finally,

⁶ <https://www.mercatoelettrico.org/en-us/Home/Markets/ElectricityMarket/LocalFlexibilityMarket-MLF>

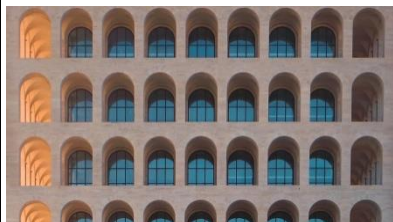
financial incentives and infrastructure investment support are critical to ease the cost burden on operators and accelerate the adoption of innovative solutions.

Example Platone: local flexibility market Rome, Italy⁷

The demonstration in Italy carried out a comprehensive implementation of a local flexibility market, realizing it within a large metropolitan area of Rome.



The main objective of the trial was to implement a complete end-to-end flexible environment, i.e. a real integrated market where, applying highly innovative distribution network technologies like blockchain and new grid equipment, retail and business customers interact with both aggregators (to access new flexibility market options) and DSOs to become active players of a network optimized management in an effective and efficient active distribution network.



3.3 SLOVENIAN CASE STUDY

The Electricity Directive, as well as the Electricity Regulation are transposed in the "Zakon o oskrbi z električno energijo" (ZOEE) in Slovenia. It sets out guidelines for utilizing flexibility, which involves adjusting the electricity demand to ensure stability and efficiency within the distribution network through a local flexibility market. The law instructs operators to develop and offer new flexibility products tailored to the evolving needs of the grid, particularly for network management and stability.

In addition to the ZOEE, the Energy Agency of the Republic of Slovenia adopted a new Act on the Methodology for Determining the Regulatory Framework for Electricity Operators. This act includes financial and operational incentives for electricity operators to promote the use of flexibility. Moreover, regulatory rules on how flexibility can be integrated into the electricity networks and markets are mentioned.

These two regulations set the basis for local flexibility markets in Slovenia.

Further on the **transmission system operator, ELES**, states in their development plan of the transmission network for the period of 2023-2032⁸, that flexibility can either be offered explicitly (FCR, aFRR, mFRR) or implicitly (based on tariff schemes). With the electrification of transport and heating and the wider implementation of battery storage systems, ELES expects that the range of smaller distributed resources capable of providing flexibility will increase in the system and in the future with advanced ICT technologies/aggregators also be able to offer flexibility services outside of mFRR. It is further mentioned that ELES could benefit from unused explicit flexibility on the part of the distribution operator, if the compatibility of products (products and trading times, monitoring and accounting) with balancing products on the ELES balancing market is ensured and the solution is supported by an appropriate trading platform with local flexibility. It should be emphasized that the rules of the balancing system service on the ELES balancing market are relatively flexible and with minor modifications could support the integration of local markets with flexibility into the balancing system.

The distribution system operator published a Proposal for new system instructions for the distribution network⁹ (SONDSEE) determining the basic rules for the use of flexibility services by the DSOs in 2024. SONDSEE stipulates DSOs to use flexibility for the following issues: voltage regulation, management of overloads, capacity management, and local island mode operations in the event of an error in the

⁷ https://platone-h2020.eu/trials/italian_demo

⁸ https://www.eles.si/Portals/EN/Documents/EN/ELES_development_plan_2023-2032.pdf?ver=2023-06-16-154317-607

⁹ https://pisrs.si/pregledPredpisa?id=AKT_1188

local grid. Initially, flexibility services should focus on voltage reduction and overload management. For these two services, standard products and procedures are defined in the SONDSEE instructions “NAVODILO O STORITVAH PROŽNOSTI”¹⁰. For congestion management, an energy and a power product are defined and for voltage reduction, a reactive power and active power product are defined regarding their time interval, min/max amount, time to full activation, price for power/energy etc. Procedures for the qualification of service providers and sources, for ordering services, activation of the service, measurement of the service provided and settlement, and for exchanging data between stakeholders are introduced. SONDSEE assumes that DSOs can order flexibility services on the organized market or through bilateral contracts with providers, insofar as the organized market does not exist or ordering on the organized market is not economical. The DSO is aware that in the future the SONDSEE document needs to be upgraded with more precise provisions regarding flexibility. In addition, it will be necessary to adapt the Slovenian legislation and technical regulations for the area of flexibility to the new network codes. The document also determines network pre-qualification procedures when TSOs benefit from flexibility services on the distribution network for their needs.

The role of the aggregator can be performed either by an independent aggregator or by the electricity supplier in Slovenia. Momentarily, the role of aggregators in Slovenia is quite small, mostly operating on the day ahead or mFRR market. However, there are no clear rules and incentives for independent aggregators, who play a crucial role in enabling small-scale flexibility providers to participate in the market. Currently, aggregators in Slovenia face regulatory and technical barriers that make it difficult for them to operate effectively. Independent aggregators may cause deviations in the market plan of other market participants, especially suppliers, and the responsibility to cover these needs to be addressed.

The market operator, BORZEN, supports the development of local flexibility markets.

Currently, there is no local flexibility market in Slovenia and local flexibility is only used in the context of pilot projects.

Current status of local flexibility markets in Slovenia:

- Defined list of products and procedures for LFM
- No local flexibility market established
- Local flexibility is only used in the context of pilot projects
- Local flexibility feasible through bilateral contracts
- The role of aggregators is defined, however, clear rules are lacking

Recommendation for the establishment of local flexibility markets in Slovenia:

To enable a well-functioning flexibility market in Slovenia, individual actors must cooperate in preparing the necessary provisions. Establishing similar products across local and balancing markets can help harmonize operations and improve efficiency. A fully developed regulatory framework is needed to ensure competitive, market-based solutions, with clearly defined roles and responsibilities for key players such as TSOs, DSOs, and aggregators. However, coordination between TSOs and DSOs remains a challenge due to vague role definitions, underscoring the need for improved communication channels and joint planning effort. Currently, independent aggregators face an absence of clear rules and incentives, which hinders their participation. Market liquidity is also insufficient, meaning price signals may not accurately reflect the true value of flexibility services. Moreover, the technical infrastructure required for effective flexibility trading—such as smart meters, automated control systems, and digital verification tools—is only partially in place, requiring further investment. Lastly, targeted incentives, including financial support and simplified administrative processes, are needed to encourage aggregators and smaller flexibility providers to enter the market.

¹⁰ <https://www.sodo.si/storage/app/uploads/public/66e/3d5/cb1/66e3d5cb1946b937811199.pdf>

STREAM project Ajdovščina, Slovenia



The Slovenian pilot site is situated within an industrial park in the town of Ajdovščina. This location was selected before the official launch of the STREAM project due to its suitable power consumption characteristics. Preliminary analysis revealed a peak power consumption of approximately 9.8 MW in this area, with an estimated 20 % of this capacity available for ancillary flexibility services. The total capacity of assets that opted for active participation in STREAM has exceeded the initial estimate of 2 MW at the project's outset, reaching approximately 3 MW.

The aim of the demo site is to deploy a market platform that allows for the establishment of a local flexibility market.

When the DSO foresees potential grid issues, a market auction for the needed power is initiated.



Multiple aggregators can then submit their bids. The DSO proceeds with a best bid calculation, considering various preferences such as the most economical or technically feasible solution, or a combination of both. In the event of a grid disturbance, the DSO collaborates with the market operator to begin the activation process. Subsequently, the market operator communicates activation parameters to the best bidding aggregators, facilitating the activation of flexibility assets within their portfolio.

3.4 SPANISH CASE STUDY

In Spain, the development of flexibility services, including non-firm connections, has been advancing to accommodate the increasing integration of renewable energy sources and to enhance grid management. A significant regulatory milestone in this progression is the issuance of Circular 1/2024 by the Comisión Nacional de los Mercados y la Competencia (CNMC) on September 27, 2024¹¹. It establishes a standardized methodology and conditions for access and connection to electricity transmission and distribution networks for demand installations. This Circular introduces a framework for flexible access capacity, allowing demand installations to opt for connection agreements that do not guarantee continuous supply throughout the year. Notably, it introduces two distinct modalities of access capacity:

- **Firm access capacity:** the maximum active power that can be supplied at any time throughout the year.
- **Flexible access capacity:** This capacity refers to the power that is subject to a consumption reduction, and therefore continuous supply is not always guaranteed. The granting of flexible access capacity depends on a capacity analysis to determine its feasibility.

Despite these regulatory advancements, the practical implementation of flexibility services in Spain is still in the early stages and needs further developments in technical specifications, market mechanisms, technological infrastructure, and stakeholder engagement to fully harness the potential of demand-side flexibility.

In Spain, the current remuneration model for DSOs does not contemplate the purchase of flexibility services from third parties, nor does it offer incentives for their use as an alternative to new investments in the grid. Advances in this area could be enabled by regulatory sandboxes, as envisaged by the Ministry for the Ecological Transition and the Demographic Challenge that allow companies and financial institutions to experiment with technological innovations and new business models in the energy sector under the supervision of regulators, without the risks associated with a full market implementation. These projects may be developed in areas such as smart grids, demand aggregation, the provision of flexibility services and energy storage.

OMIE, the market operator, through the PNIEC 2021-2030 and through the regulatory testbeds (Sandboxes) seeks to help offer flexibility solutions to manage the distribution grid and resolve congestions through local electricity markets. These markets can optimize the operation of the electricity system as a whole, facilitate the integration of distributed energy resources and comply with the internal electricity market directive, which in Article 32 promotes the definition of flexibility services as a complementary alternative to the current management of the distribution grid based on grid reinforcements. For its implementation, it is necessary to increase the visibility that distribution grid operators have on the energy resources connected in their area of influence, as well as to improve the visibility for the holders of these resources and investors on the status of congestions, both punctual and persistent, at the distribution grid level. In this sense, the figure of the independent aggregator will be relevant, which will allow the entry of consumers who would otherwise not participate in the markets individually.

Current status of local flexibility markets in Spain:

- Establishment of regulatory testbeds for local flexibility markets
- New methodology for access and connection to transmission and distribution networks for demand installations, including a new flexible access typology.
- Public consultation from the regulatory body to revise the methodology of wholesale electricity markets, specifically markets for local services.

¹¹ https://www.boe.es/diario_boe/txt.php?id=BOE-A-2024-20760

Recommendation for the establishment of local flexibility markets in Spain:

At present, legislation does not sufficiently cover the flexibility markets and there is a lack of regulation in terms of roles, responsibilities and operating mechanisms in these markets. This leads to a shortage of regulatory frameworks that can incentivize the participation of distributed resources, such as storage and renewable generation. Thus, there is a lack of homogeneous criteria for coordination between local and national actors, especially between DSOs and TSOs.

The figure of the aggregator should be regulated as an independent actor, ensuring its integration in all electricity markets. To this end, it is necessary to recognize their right to participate in the electricity markets without the need for coordination of information between the aggregator, the market operator and the customer, to avoid distortions or negative effects on the efficient operation of the system, without this representing a barrier to the participation of the aggregator.

For the development of the energy sector, the creation of a clear regulatory framework that facilitates the formation of local flexibility markets managed by DSOs is key. Flexibility markets should incentivize the participation of distributed resources by motivating them with equitable remuneration and the development of regulatory sandbox-type pilot projects that allow experimentation and adjustment of models before their massive implementation.

STREAM project, Crevillent, Spain

As part of STREAM, the implementation of a flexibility market platform, handled by the market operator OMIE, is tested, allowing prosumers to provide flexibility services to the DSO.

OMIE takes over the prequalification, qualification, bid matching and publication of the results and the settlement. Flexibilities can either be procured over long-term or short-term mechanisms. Long-term mechanisms can be used to address frequent problems that arise in the network that require a very expensive reinforcement solution and/or whose execution is estimated in the very long term within the planned maintenance of the network. Long-term agreements with flexibility providers will be established through a market-based procurement process, in which aggregators submit their bids, and a bid matching process is conducted to comply with the requirements of the DSO. The short-term flexibility market could be used to solve congestion or voltage problems that have to be solved in an intermediate time step. The DSO sends a requirement to conduct short-term auctions through the market operator and sends trigger signals to the contracted flexible assets.



4 CONCLUSIONS

Local flexibility markets are enabled by provisions in different directives, such as the Electricity Directive, Energy Efficiency Directive, Electricity Regulation, Renewable Energy Directive and the Network Code for Demand Response. The provisions arrange for local actors either directly or through an aggregator to offer flexibility services, increase the penetration of smart technologies at consumer level and set incentives for DSOs to consider innovation solutions to solve grid congestions, which are all prerequisites for local flexibility markets. The transposition of local flexibility markets is up to the member states and therefore four case studies in the STREAM pilot sites (Finland, Italy, Slovenia and Spain) were analysed.

The case studies show that while flexibility products for TSOs are already commonly used and are increasingly being adapted to also accommodate smaller consumers, the concept of LFM is still evolving. Several pilot projects across Europe are paving the way for broader implementation of LFM. Identified key enablers for success include transparent market design, robust digital infrastructure, interoperability standards, and clear roles for stakeholders (DSOs, TSOs, aggregators). Furthermore, consumer engagement and trust are essential, as active participation and responsiveness from flexibility providers will be critical.

Regulators and DSOs need to work together to set up incentives and financing mechanisms which encourage the implementation and operation of flexibility solutions wherever they are technically justified. Future policy efforts should focus on reducing market entry barriers for flexibility providers, improving price signals in flexibility markets, and ensuring that market mechanisms are accessible and transparent.

Additionally, strengthening the integration of demand-side response and energy storage solutions will be essential in optimizing grid operations and maintaining system reliability. The document serves as a roadmap for ongoing legislative and market developments, highlighting the need for adaptive policies that align with evolving energy demands.

5 ACRONYMS

CEP	Clean Energy for all Europeans Package
DSO	Distribution System Operator
LFM	Local Flexibility Market
SONDSEE	Proposal for new system instructions for the distribution network
TSO	Transmission System Operator
ZOEE	Zakon o oskrbi z električno energijo