Position paper - legislative proposal on network charges

Energy Cities advocates for a resilient and affordable energy system that is based on decentralisation and decarbonisation. In this system – local stakeholders, including energy communities, local authorities, citizens and SMEs – play an active role.

In this context, Energy Cities warmly welcomes the EU Commission's proposal on network charges, which aims to make an optimal and cost-effective use of the grid infrastructure and incentivise system-friendly consumption, among other things.

In a report containing data and examples, Energy Cities has demonstrated that non-fossil flexibility is essential for ensuring resilience and energy security and affordability, as well as offering a valuable alternative to expensive network expansion, and how local stakeholders can play an active role in this.

Non-fossil flexibility is essential to ensuring energy affordability and making Europe more resilient

European **consumers participating in demand-side flexibility could earn up to €86 million per year by 2030, or €600 per household**[1]. Non-fossil flexibility is also a way of **avoiding or spreading out expansive network expansions**, which will increase network charges for users.

Electrification of end uses and more decentralised renewable production will make Europe more autonomous and resilient, but will also make adequacy trickier and burden the networks. That's where non-fossil flexibility plays a role by **increasing the EU energy system's ability to adjust to fluctuations in both energy generation and consumption.**

Local stakeholders' role in non-fossil flexibility is key

Local stakeholders have huge role in non-fossil flexibility

PV installations on buildings can offer flexibility to the system and account for nearly 215 GW (61%) of the EU's total solar capacity. These buildings could potentially accommodate 2.3 TW of PV, which would **meet 40% of the EU's electricity demand by 2050**[2].

[1] https://www.brattle.com/insights-events/publications/brattle-releases-new-report-on-clean-flexibility-benefits-in-europe/
[2] https://www.nature.com/articles/s41560-025-01947-x#MOESM3

Storage systems are another very efficient flexibility solution. They can be deployed at different scales: residential, commercial, industrial and large scales. The two first ones, mainly driven by local stakeholders, represent **65% of the EU's total storage capacity**[3].

The impact of flexibility activities varies according to timeframes (for sub-hourly to seasonal). **By 2030, the need for daily flexibility** driven by solar PV generation, **will be much greater than seasonal and weekly flexibility needs**[4]**. Demand-side flexibility, renewable flexible generation and batteries will be key to meeting those short-term flexibility needs.**

As a result, **local stakeholders could cover 40% of the total flexibility needs by 2030**. Buildings could provide, by 2030, solutions to meet 52% of daily, 35% of weekly, and 29% of annual flexibility needs by leveraging synergies between rooftop solar, battery storage, heat pumps, electric vehicles, smart energy management systems, and buildings[5].

They can solve network issues at all levels of voltage

Local stakeholders are the only ones able to play a role in addressing local network issues within a small portion of distribution networks through small-scale storage systems and renewable assets (e.g. PV on rooftops) or demand-side flexibility solutions.

This is key in a context where by 2050, it's estimated that more than 70% of new renewable generation and electricity storage will be integrated at the distribution level station[6]. In many areas, **distribution networks are reaching their full capacity**. For instance, 1.5 million European households could face network connection delays for rooftop solar[7].

However, when addressing **larger-scale network issues**, such as transformer congestion or frequency issues within the transport network, **local stakeholders remain relevant** – as do industries, large-scale storage systems (e.g. battery farms) and renewable assets (e.g. offshore wind farms and ground-mounted solar plants).

Double financial penalties must be avoided for local stakeholders

If local stakeholders cannot provide network operators with non-fossil flexibility, the use of the grid infrastructure will not be cost-effective. By contrast, larger actors would benefit from revenues linked to flexibility markets and from lower transmission network charges due to the use of non-fossil flexibility.

[3] https://www.solarpowereurope.org/insights/outlooks/eu-battery-storage-market-review-2025-1#download
[4] https://www.acer.europa.eu/sites/default/files/documents/Publications/EEAACER_Flexibility_solutions_support_decarbonised_secure_EU_electricity_system.pdf
[5] https://www.solarpowereurope.org/insights/thematic-reports/flexible-buildings-resilient-networks
[6] https://www.eurelectric.org/in-detail/distributionnetworksforspeed/
[7] https://ember-energy.org/latest-insights/crossed-wires-grid-capacity-could-block-eu-energy-security/

What the proposal should ensure for cost-effective use of the grid infrastructure?

Smarter design of network tariffs

- Time-of-use network tariffs are in place in every Member States.
- Storage systems are not subject to double charging for network tariffs, at least below a certain power threshold, and that targeted exemptions from network tariffs are adopted for storage systems in congested areas.

A fair trade-off between networks buildout and non-wire solutions

- Member States are mandated to change the revenue regulation for electricity network operators to consider both capital and operational expenditure and to enable network operators to choose the most cost-effective solutions without bias towards capital investments.

A right balance between flexible connection agreements (FCAs) and flexibility services

- FCAs are not a stand-alone solution and consumers under FCA are allowed to provide implicit or explicit flexibility services to network operators at all voltage levels (article 32).
- Member States and National Regulatory Authorities are mandated to set clear and transparent rules that avoid FCAs cannibalising unnecessary flexibility capacity of network users that could be used to provide implicit or explicit flexibility services.

Smarter electricity sharing schemes

- Active customers are entitled to share renewable energy between themselves according to a variable or dynamic calculation methods that can be pre-defined or agreed upon by the active customers to increase the self-consumption rate of the scheme.

Support to interoperability and technologies that enable flexibility

- Data governance and standardisation of the exchange of flexibility-related data are improved between all parties (e.g. customers, equipment manufacturers, aggregators and network operators) to enable optimised, smooth demand-side flexibility.
- Member states are encouraged to financially support technologies that enable flexibility such as energy management system and smart appliance integrated in electric assets.

Microgrids' development to ensure resilience and free up network capacity

- Microgrids connected to the network are recognised as a market player by granting standardised access to flexibility and ancillary service markets.
- Hybrid generation and combinations of renewables and storage, as well as island mode (in which microgrids can be temporarily disconnected from the grid), are explicitly authorised under clear and transparent conditions that ensure fairness for other network users.
- Common rules are designed at EU level for network codes and interconnection standards that simplify and modularise technical, safety, and compliance requirements for microgrids. As a first step, the proposal could ensure that regulatory sandboxes are foreseen by national regulations until the common rules are fully operational.

Inclusive capacity mechanisms aligned with decarbonisation goals

- Clearer rules are set to prevent lock-in effects of fossil fuel technologies and include non-fossil flexibility solutions, such as demand response and storage. For that purpose, capacity mechanisms:
  - Should only fund services to the system, rather than the construction of specific assets (e.g. gas power plants)
  - Should address barriers faced by capacity providers like demand response (e.g., baselining accuracy) and storage (e.g., revenue stacking potential) to enhance participation of low-carbon resources and overall system flexibility
  - Should allow for swift and periodic design adaptations to address evolving capacity gaps and national targets, including mechanisms to discontinue capacity mechanisms when they are no longer necessary.