Energy Storage Europe Association's reply to the European Commission's Public Consultation on the Electrification Action Plan

November 2025

INTRODUCTION

The European Commission's Public Consultation on the Electrification Action Plan seeks feedback on the role of electrification in the transport sector, industry and buildings. The objective of the Electrification Action Plan will be to promote the transition to electrification of transport, industry and buildings by addressing key barriers and identifying priority policy actions to accelerate the cost-effective and system-friendly electrification of the EU's energy consumption, accompanied by continuous investments in clean energy and flexibility.

EU SURVEY PUBLIC CONSULTATION QUESTIONNAIRE

Energy Storage Europe note: Some questions outside Energy Storage Europe scope (such as part 3 – Electrification of transport) are not listed.

Energy Storage Europe Secretariat's draft answers are in violet squares.

Part 1 - Cross-sectoral questions on the electrification action plan

1.A - Scope

Q1: What should be the **general objective/s** of an EU electrification action plan?

1. Competitiveness
2. Decarbonisation
3. Energy efficiency
4. Energy affordability
5. Energy Security
6. Environmental protection
7. Fairness, consumer protection and empowerment
8. Other (please specify)

Please include here you preferred numbering order 1–8 if you disagree with the suggested order.

Other (please specify):

100 character(s) maximum:

A competitive Industry requires electrification, enabled through energy storage and a modern grid.

1.B - Barriers

Q2: What are the key barriers hampering electrification decisions across all sectors? Between 1 and 5 selections

X High upfront transition costs for electrification of end-uses

☐ Insufficient policy signals at EU or national level, particularly in the form of targets

☐ Insufficient renewable electricity generation

☐ Lack of availability of fit-for-purpose electrically-powered equivalent technologies

☐ Lack of consumer acceptance or trust in electrification technologies

❒ Lack of or insufficient remuneration of demand flexibility, incl. via aggregators

X Lack of or insufficient roll-out of storage assets

❒ Lack of skilled professionals

X Length and/or complexity of administrative and permitting procedures

❒ High operational costs

❒ Uncertainty about the future price of electricity compared to fossil fuels

❒ Unfavourable retail price ratio between electricity and fossil fuels

X Unfavourable tax treatment of electricity compared to fossil fuels

❒ Weak implementation of the current regulatory framework

X High cost of network tariffs

❒ High upfront costs or delays to connect to the grid

❒ Insufficient capacity of the electricity grid

❒ Other (please specify)*

❒ N/A

*Other (please specify):

200 character(s) maximum:

1.C - Policy options

3. What are the priority policy options for accelerating electrification of energy demand?

Q3.1 EU policy framework

Between 1 and 3 selections

❒ Adaptation of current legislative framework (towards 2030)

❒ Additional policy initiatives (non-regulatory)

X Additional public financing

X Implementation of the current EU regulatory framework

❒ New legislative framework (towards 2040)

X Other (please specify) *

❒ N/A

*Other (please specify):

200 character(s) maximum:

Existing legislation should not be reopened nor weakened; Electricity Taxation legislation should be finalised to avoid electricity being penalised vis-à-vis fossil fuels.

Q3.2 General policy design measures

Between 1 and 3 selections

X Accelerate and simplify permitting procedures

☐ Adopt an EU target for electrification

X Adopt a target for non-fossil flexibility

☐ Introduce consumer-centric measures to increase flexibility of the system

☐ Propose decarbonisation pathways

☐ Remove non-energy related costs from electricity bills

X Revise energy taxation in favour of electricity

☐ Other (please specify) *

☐ N/A

*Other (please specify):

200 character(s) maximum:

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Q3.3 Access to grid and flexibility

Between 1 and 3 selections

☐ Accelerate digitalisation of energy systems to support automation and system optimisation

☐ Accelerate roll-out of smart metering to facilitate demand response and active consumer participation

☐ Implement measures to ensure electricity system adequacy and reliability, incl. risk preparedness

X Implement network tariffs that promote flexibility and incentivise consumer behaviour to reduce grid costs

X Improve access to participation and remuneration of flexibility services

X Increase grid capacity

☐ Enable timely grid connections

☐ Other (please specify) *

☐ N/A

*Other (please specify):

200 character(s) maximum:

Q3.4 Financing and investment

Between 1 and 3 selections

X Increase availability of financial instruments to cover upfront costs

X Measures promoting simultaneously electrification and access to renewables, including through power purchase agreements (PPAs).

X Provide public grants or loans, including EU funds to leverage private funds

☐ Provide technical assistance to facilitate project financing

☐ Targeted funding for research and innovation

☐ Other (please specify) *

☐ N/A

* Other (please specify):

200 character(s) maximum:

Part 2 - Cross-sectoral questions on the electrification action plan

2.A – Scope

Q1: What are the most relevant technologies and solutions for increasing **flexibility** in the energy system?

Between 1 and 5 selections

X Thermal storage (electrified heat)

X Electrochemical storage (incl. stationary batteries and mobile batteries, electric vehicle (EV) batteries)

X Mechanical storage (incl. pumped hydro storage, compressed air storage, flywheels and gravitational energy)

X Chemical storage (incl. hydrogen, ammonia, synthetic fuels)

X Electrical storage (incl. supercapacitors)

☐ Vehicle-to-grid (V2G) technologies

☐ Industrial process flexibility

☐ Demand response in buildings

☐ Smart consumption appliances

☐ District heating systems

☐ Other (please specify) *

☐ N/A

* Other (please specify):

200 character(s) maximum:

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2.B – Barriers

Q4: What are the **key barriers** to the **deployment of storage solutions**?

Between 1 and 5 selections

☐ Administrative/regulatory barriers

☐ Skills-related barriers

X Double taxation for storage

X Grid connection

☐ High financing costs

X High initial investment

☐ High operational costs

☐ Insufficient awareness of or trust in solutions

☐ Insufficient digitalisation

☐ Lack of fit-for-purpose or easily available and affordable technologies

X Lack of renumeration for the provision of services

X Length of permitting processes for storage

☐ Technical barriers

☐ Other (please specify) *

☐ N/A

* Other (please specify):

200 character(s) maximum:

Q.5: Please elaborate on key specific barriers to the deployment of storage solutions.

300 character(s) maximum

Barriers include high CAPEX and a lack of public funding to leverage private fund. Access to the network is limited due to general grid capacity constraints, and processes do not recognise energy storage contribution to the system (e.g. congestion management and enhanced grid resilience)

2.C – Policy options

Q6 What are the **priority policy options** for increasing the **flexibility** of the system?

Q6.1 EU policy framework

Between 1 and 3 selections

☐ Adaptation of current legislative framework (towards 2030)

☐ Additional policy initiatives (non-regulatory)

X Additional public financing

X Effective implementation of the current EU regulatory framework

☐ New legislative framework (towards 2040)

X Other (please specify) *

☐ N/A

* Other (please specify):

200 character(s) maximum:

It is key to reinforce the implementation of current legislation by developing tailored funding tools for the deployment of Energy Storage solutions, aiming at increasing system flexibility.

Q6.2 Policy design options

Between 1 and 3 selections

X Abolish double charging for storage

X Accelerate and simplify permitting procedures for Energy Storage solutions

X Introduce an EU target for non-fossil flexibility

☐ Promote digitalisation, ensure interoperability, and facilitate data sharing to enable flexibility services and demand response

☐ Other (please specify) *

☐ N/A

* Other (please specify):

200 character(s) maximum:

Q6.3 Access to grid and flexibility

Between 1 and 3 selections

☐ Accelerate digitalisation of energy systems to support automation and system optimisation

X Accelerate roll-out of smart metering to facilitate demand response and active consumer participation

X Deploy non-fossil flexibility solutions, including electricity and thermal storage and demand response solutions

X Facilitate grid connection for flexibility assets

☐ Other (please specify) *

☐ N/A

* Other (please specify):

200 character(s) maximum:

Q6.4 Financing and investment/Promotion of business models and innovation

Between 1 and 3 selections

☐ Enable participation in support schemes for flexibility solutions

X Enable access to electricity markets for flexibility services

X Implement network tariffs that promote flexibility and incentivise consumer behaviour to reduce grid costs

☐ Incentives for system operators to use flexibility services

X Increase availability of financial instruments to cover upfront costs of flexibility solutions

☐ Support for innovation in flexibility solutions

☐ Other (please specify)*

☐ N/A

* Other (please specify):

200 character(s) maximum:

Part 4 - Electrification of heating and cooling in industry and buildings

4.A - Scope

Q1 What are the most relevant technologies for the affordable decarbonisation of heating towards 2040?

Between 1 and 5 selections per column

at least 1 answered row(s)

	For space heating (individual)	For space heating (collective/large)	For district heating	For industrial heat below 200°C	For industrial heat between 200°C and 500 °C	For industrial heat above 500°C
Air-source heat pump	☐	☐	☐	☐	☐	☐
Ground-source heat pump	☐	☐	☐	☐	☐	☐
Deep geothermal	☐	☐	☐	☐	☐	☐
Waste heat	☐	☐	**X**	**X**	**X**	**X**
Solar heat	☐	☐	☐	☐	☐	☐
Cogeneration using renewable energy	☐	☐	☐	☐	☐	☐
Biomass	☐	☐	☐	☐	☐	☐
Biomethane	☐	☐	☐	☐	☐	☐
Hydrogen	☐	☐	☐	☐	☐	**X**
Electric boiler	☐	☐	☐	☐	☐	☐
Other electric solutions	☐	☐	☐	☐	☐	☐
Small modular nuclear	☐	☐	☐	☐	☐	☐

Carbon capture and storage	☐	☐	☐	☐	☐	☐
Other (please specify)*	**X**	**X**	**X**	**X**	**X**	**X**
N/A	☐	☐	☐	☐	☐	☐

* Other (please specify):

200 character(s) maximum:

All Thermal Energy Storage solutions, at different temperatures: such cost-effective technologies for heat industries' decarbonisation provide flexibility and ensure a 24/7 heating supply.

4.B - Barriers

Q2 What are the key specific barriers to the affordable electrification of heating and cooling in buildings?

Between 1 and 5 selections per column

at least 1 answered row(s)

	Residential heating and cooling in individual dwellings	Collective residential heating and cooling in apartment buildings	Non-residential building heating and cooling (public or private)
Administrative/regulatory barriers	**X**	**X**	**X**
High financing costs	☐	**X**	**X**
High initial investment	**X**	**X**	**X**
High operational costs	☐	☐	☐
Infrastructure-related barriers	**X**	**X**	**X**
Insufficient awareness of or trust in solutions	**X**	**X**	**X**
Lack of fit-for-purpose or easily available and affordable technologies	☐	☐	☐

Lack of incentives for landlord and/or tenant in the case of rental	☐	☐	☐
Skills-related barriers	☐	☐	☐
Technical barriers	☐	☐	☐
Lack of incentives for landlord and/or tenant in the case of rental	☐	☐	☐
Other (please specify)*	☐	☐	☐
N/A	☐	☐	☐

* Other (please specify):

200 character(s) maximum:

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Q.3: Please elaborate on key specific barriers to the affordable electrification of heating and cooling in buildings in the EU.

300 character(s) maximum

Key barriers include: unclear regulatory frameworks for thermal energy storage participation in district heating services, long permitting procedures, limited access to financing, while grid fees should also better reflect flexibility. Electricity tariffs are often less favourable than fossil fuels ones.

Q4 What are the key specific barriers to the affordable electrification of industry?

Between 1 and 5 selections per column

at least 1 answered row(s)

	For industrial heat below 200°C	For industrial heat between 200°C and 500°C	For industrial heat above 500°C
Infrastructure-related barriers	**X**	**X**	**X**
High capital cost	**X**	**X**	**X**
High operational costs	☐	☐	☐

High financing costs	**X**	**X**	**X**
Lack of access to clean energy contracts, including PPAs	**X**	☐	☐
Length of permitting processes	**X**	**X**	**X**
Lack of flexibility of industrial process	☐	☐	☐
Difficulties to adapt industrial process	☐	**X**	**X**
Impact on competitiveness vis-a-vis EU competitors	☐	☐	☐
Impact on competitiveness vis-a-vis international competitors	☐	☐	☐
Lack of technology adapted to specific needs	☐	☐	☐
Lack of operational standards adapted to specific needs	☐	☐	☐
Insufficient awareness or trust in solutions	☐	☐	☐
Other (please specify)*	☐	☐	☐
N/A	☐	☐	☐

* Other (please specify):

200 character(s) maximum:

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Q.5: Please elaborate on key specific barriers to the affordable electrification of industry in the EU.

300 character(s) maximum

Key barriers to affordable electrification of industry are: lack of financial support measures & for value stacking from flex services (planning integration), long permitting/connection procedures, while grid fees should also better reflect flexibility, with electricity being penalised vis-à-vis fossil fuels

4.C – Policy options

Q5 What are the priority policy options for accelerating the affordable electrification of heating and cooling in industry and buildings?

Q5.1 EU policy framework

Between 1 and 3 selections per column

at least 1 answered row(s)

	For space heating	For industrial processes
Adaptation of current legislative framework (towards 2030)	☐	☐
Additional policy initiatives (non-regulatory)	☐	☐
Additional public financing	**X**	**X**
Implementation of the current EU regulatory framework	**X**	**X**
New legislative framework (towards 2040)	☐	☐
Other (please specify)*	☐	☐
N/A	☐	☐

* Other (please specify):

200 character(s) maximum:

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Q5.2 Policy design, targets and support schemes

Between 1 and 3 selections per column

at least 1 answered row(s)

	For space heating	For industrial processes
Faster and simpler permitting	**X**	**X**

Improved statistics, long-term projections, decarbonisation pathways	☐	☐
Legislative limits for the use of fossil fuels or combustion	**X**	**X**
Taxation of fuels used in heating and cooling	**X**	**X**
Taxation of gaseous and solid emissions from heat generators	☐	☐
Technology-specific targets	☐	☐
Other (please specify)*	☐	☐
N/A	☐	☐

* Other (please specify):

200 character(s) maximum:

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Q5.3 **Energy system design**

Between 1 and 3 selections per column

at least 1 answered row(s)

	For space heating	For industrial processes
Cooperation between electricity grid operators and district heating and cooling systems	☐	☐
Integrated planning of electricity, gas and heat infrastructure at EU level	☐	**X**
Integrated planning of electricity, gas and heat infrastructure at national level	**X**	**X**
Integrated planning of electricity, gas and heat infrastructure at local level	☐	☐

Mapping of future cooling needs	**X**	☐
Mapping of heat sources and demand at national level	☐	☐
Planned gas infrastructure decommissioning	**X**	**X**
Stronger integration of cooling in urban planning	☐	☐
Other (please specify)*	☐	☐
N/A	☐	☐

* Other (please specify):

200 character(s) maximum:

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Q5.5 **Affordability, just transition and consumer empowerment**

Between 1 and 3 selections per column

at least 1 answered row(s)

	For space heating	For industrial processes
Information tools: further improvement of energy labelling of heating and cooling appliances	☐	☐
Promotion of renewable heat communities	☐	☐
Protection of energy poor and vulnerable consumers	**X**	☐
Support for demonstration projects	☐	**X**
Support for skills	**X**	**X**
Targeted programmes for specific regions (e.g. coal regions in transition, outermost regions)	**X**	**X**

Other (please specify)*	☐	☐
N/A	☐	☐

* Other (please specify):

200 character(s) maximum:

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About Energy Storage Europe Association

Energy Storage Europe Association is the voice of the Energy Storage community, actively promoting the use of Energy Storage in Europe and worldwide. It supports the deployment of Energy Storage as an indispensable instrument within the framework of the European energy and climate policy to deliver services to, and improve the flexibility of, the European energy system. Energy Storage Europe Association seeks to build a European platform for sharing and disseminating Energy Storage-related information and supports the transition towards a sustainable, flexible and stable energy system in Europe.

For more information, please visit www.energystorageeurope.eu

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Disclaimer

This response was elaborated by Energy Storage Europe and reflects a consolidated view of its members from an Energy Storage point of view. Individual Energy Storage Europe members may adopt different positions on certain topics from their corporate standpoint.

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