Energy Storage Europe Association's reply to the European Commission's Public Consultation on the Heating and Cooling Strategy

November 2025

INTRODUCTION

The European Commission's Public Consultation on the Heating and Cooling Strategy seeks feedback on identifying persistent barriers to the effective implementation of EU legislation aiming to improve efficiency and planning of energy infrastructure, district heating, and waste heat recovery. The Heating and Cooling Strategy will address both supply and demand by, respectively, accelerating the deployment of clean heating and cooling and encouraging their use in important sectors like buildings and industry.

EU SURVEY PUBLIC CONSULTATION QUESTIONNAIRE

Energy Storage Europe note: Some questions outside Energy Storage Europe scope are not listed (e.g.: Solar thermal energy).

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

Part A - Scope

Q1: How relevant is the Heating and Cooling Strategy to the following objectives?

Please modify the order, indicating a number 1- 8 accordingly to your preferences.

1. Competitiveness
2. Energy efficiency
3. Energy security
4. Decarbonisation
5. Energy affordability
6. Sustainability and environmental protection
7. Fairness, consumer protection and empowerment
8. Addressing energy povery
9. Public healths

Please include here you preferred numbering order 1–9 if you disagree with the suggested order.

Other (please specify):

100 character(s) maximum:

The Strategy should recognise the growing cooling demand & integrate cooling with heating systems.

Q2: How relevant for EU policy is the challenge of the growing cooling demand? Additional help available?

Area	Rank (1–5)
1) In buildings/space cooling	4
2) In data centres	4
3) In energy infrastructure	3
4) In industry	3
Other (please specify)	

Other (please specify):

200 character(s) maximum:

A solution to the growing cooling demand can be found in waste heat recovery and reuse: if recovered, heat can be used in district heating and industrial applications.

Please specify, according to you, this challenge is relevant for EU policy:

500 character(s) maximum:

Europe's growing cooling demand still highly relies on price volatility, leaving industries and cooling networks vulnerable to supply disruptions. While electricity is increasingly used in cooling applications, its potential for EU decarbonisation remains largely underutilised. Accelerating the clean transition of Europe's cooling systems is therefore central to achieving energy security, affordability, and industrial competitiveness.

Part B - Barriers

Q1: According to you, what are the key barriers to the affordable decarbonisation of space heating? (please select up to 5 key barriers per building category)

	Residential – individual	Residential – collective	Non residential - public	Non residential - private
Regulatory complexity	☐	**X**	**X**	**X**
Infrastructure-related barriers	**X**	☐	☐	☐
Poor energy performance of buildings	**X**	☐	☐	☐
High initial investment	**X**	**X**	**X**	**X**
High operational costs (eg electricity price)	☐	☐	☐	**X**
High financing costs	☐	**X**	**X**	☐
Insufficient return on investment	☐	☐	☐	☐
Administrative/regulatory barriers	☐	**X**	**X**	**X**
Length and complexity of installation	☐	☐	☐	☐
Technical barriers	☐	☐	☐	☐
Shortage of skilled professionals (planners, installers, etc.)	**X**	☐	**X**	**X**

Long waiting time for installation	☐	☐	☐	☐
Lack of incentives for landlord and/or tenant in case of rental	**X**	☐	☐	☐
Insufficient awareness, trust or unwillingness towards decarbonisation solutions	☐	☐	☐	☐
Lack of fit-for-purpose or easily available technologies	☐	☐	☐	☐

Other (please specify/develop):

200 character(s) maximum:

Key barriers include lack of investments in sustainable heating and cooling solutions and in grid capacity.

Q2: According to you, what are the key barriers to the **affordable decarbonisation of industrial process heat?**
(please select up to 5 key barriers for each temperature level)

	Industrial heat below 200°C	Industrial heat between 200°C and 500 °C	Industrial heat above 500°C
Regulatory complexity	☐	☐	☐
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	☐	☐	☐
Length of permitting processes	**X**	**X**	**X**
Lack of flexibility of industrial process	☐	☐	☐

Challenge to adapt or redesign industrial process to match renewable heat supply or electrification	☐	☐	☐
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, trust or unwillingness towards decarbonisation solutions	☐	☐	☐
Complexity and length of State aid procedures	**X**	**X**	**X**

Other (please specify/develop):

200 character(s) maximum:

Energy Storage, and in particular TES, faces several regulatory barriers: e.g., additional taxes, charges to grid connections & long permits, limit the use of stored electricity for industrial heat.

Q3: According to you, what are the key barriers to **affordable decarbonisation through efficient district heating and cooling in line with Article 26 EED**?

Maximum 5 selection(s)

X Regulatory complexity

X Infrastructure-related barriers

X Administrative barriers

☐ Technical barriers

☐ Skill-related barriers

X High initial investment

☐ High operational costs

☐ High financing costs

☐ Insufficient awareness or trust in solutions

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

☐ Lack of available renewable resources

☐ Limits unnecessarily consumer choice

X Complexity and length of State aid procedures

☐ N/A

Other (please specify/develop):

200 character(s) maximum:

Energy Storage, and in particular TES, faces several regulatory barriers: e.g., additional taxes, charges to grid connections & long permits, limit the use of stored electricity for industrial heat.

Q4: According to you, what are the key barriers to **the deployment of thermal Energy Storage?** (please select up to 5 key barriers for each sector of application)

	In industry	In district heating and cooling
Regulatory complexity	**X**	**X**
Infrastructure-related barriers	**X**	**X**
High initial investment	**X**	**X**
High operational costs	☐	☐
High financing costs	**X**	**X**
Administrative barriers	**X**	**X**
Technical barriers	☐	☐
Insufficient awareness or trust in solutions	☐	☐
Lack of fit-for-purpose or easily available technologies	☐	☐

Other (please specify/develop):

200 character(s) maximum:

It is key to remove double taxation, simplify permitting & connection processes to TES installations in district heating and industrial networks, while grid fees should also better reflect flexibility.

Q5: According to you, what are the key barriers to **the recovery of waste (excess) heat?** (please select up to 5 key barriers for each source of waste heat)

	In industry	In district heating and cooling	Waste heat from other cooling and refrigeration processes	Waste heat from public infrastructure/ services (e.g. wastewater treatment, subway)	Waste heat or cold in energy production (power plants, LNG regasification)
Regulatory complexity	**X**	**X**	☐	☐	☐
Infrastructure-related barriers (e.g. access to district heating)	☐	**X**	☐	☐	☐
High initial investment	**X**	**X**	**X**	**X**	**X**
High operational costs	☐	☐	☐	☐	☐
High financing costs	**X**	**X**	☐	☐	☐
Insufficient return on investment	☐	☐	☐	**X**	**X**
Administrative barriers	☐	**X**	**X**	**X**	**X**
Technical barriers	☐	☐	☐	☐	☐

Barriers related to skills	☐	☐	☐	☐	☐
Insufficient awareness or trust in solutions	**X**	☐	☐	☐	☐
Lack of fit-for-purpose or easily available technologies	☐	☐	☐	☐	☐

Other (please specify/develop):

200 character(s) maximum:

Need to ensure that TES and behind-the-meter assets can compete equally with other technologies, enabling sector coupling between electricity, heat, and cooling, and promoting large-scale waste heat recovery in industrial zones.

Part C – Policy options

Q1: 1. According to you, what are the **priority EU policy framework options** to accelerate affordable decarbonisation of heating and cooling?

Maximum 3 selection(s)

X Implementation of the current EU regulatory framework

☐ Additional public financing

X Additional policy initiatives (non-regulatory) including guidance on implementation of existing legislation

X Simplification of current legislative framework (towards 2030)

☐ New legislative framework (towards 2040)

☐ N/A

*Please specify or complement if needed

200 character(s) maximum:

It is needed to include TES deployment goals in National Energy and Climate Plans (NECPs), mapping industrial clusters, district heating networks, and RES hubs to coordinate planning and investment.

Q2: Which regulatory or administrative barriers in the existing EU legislative framework need to be removed, and which incentives need to be strengthened or removed to accelerate affordable decarbonisation of heating and cooling and to simplify procedures?

500 character(s) maximum

For a cost-efficient decarbonisation of EU heating and cooling systems, while reducing energy costs, it is needed that grid fees should also better reflect flexibility, procure flex services (allowing value-stacking) improve grid connection & faster permitting procedures for projects; optimise local heat networks with joint electricity planning, and providing flexibility across urban and industrial energy systems, supported by specific financial incentives (e.g.: PPAs, easier access to State Aid)

Q3: According to you, what are the **priority energy system design options** to accelerate affordable decarbonisation of heating and cooling?

Maximum 3 selection(s)

X Integrated planning of electricity, gas and heat infrastructure at EU level (including decommissioning of the gas grid or transitioning to renewable gases)

☐ Integrated planning of electricity, gas and heat infrastructure at national level

X Mapping of heat sources and demand at national level

☐ Mapping of future cooling needs

☐ Integrated planning of electricity, gas and heat infrastructure at local level

☐ Stronger integration of cooling in urban planning

X Support (in the form of guidance/financial assistance/technical assistance) to the implementation of local heating and cooling plans in line with Article 25 EED

☐ Cooperation between electricity grid operators and efficient district heating and cooling systems

☐ Planned gas infrastructure decommissioning

☐ Promotion of efficient district heating and cooling

☐ Enabling waste heat recovery e.g. through sectoral programmes in data centres, supermarkets, large commercial buildings etc.

☐ N/A

Please specify or complement if needed.

200 character(s) maximum:

ES enables industries and heating operators to store clean power as heat, improve efficiency, reduce gas exposure, and recover waste heat for integrated industrial, private and public use.

Q4: According to you, what are the **priority options related to innovation** to accelerate affordable decarbonisation of heating and cooling?

Maximum 3 selection(s)

☐ Incentives for manufacturers of clean heating and cooling appliances and systems

☐ Obligations on manufacturers of clean heating and cooling appliances and systems

☐ Incentives for installers of clean heating and cooling appliances and systems

☐ Obligations on installers of clean heating and cooling appliances and systems

☐ Promotion of long-term contracts (heat purchase agreements)

☐ Promotion of de-risking schemes for efficient district heating development

☐ Promotion of third-party services in efficient district heating and cooling or industry

☐ Promotion of model public-private partnerships for waste heat reuse in district heating

☐ Promotion of replacement schemes or social leasing for clean heating appliances

X Promotion of business models that integrate financing and increase installations of clean heating appliances

☐ Promotion of renewable energy communities

X Rewarding of non-fossil flexibility in electricity markets

☐ Support to manufacturing of clean heating and cooling technologies

☐ N/A

Please specify or complement if needed

200 character(s) maximum:

In the context of innovation, sandboxes and local demonstration projects should be investigated to showcase innovative business models related heating and cooling and energy storage

Q5: According to you, what are the **priority options to ensure affordability, just transition and consumer empowerment** in the context of the decarbonisation of heating and cooling?

Maximum 3 selection(s)

X Financial incentives to cover upfront investment costs

X Innovative services offer (heat as a service, social leasing of heat pumps, energy performance contracts)

☐ Regulated heat tariffs in efficient district heating or clauses to protect vulnerable consumers from raising heat costs

☐ Early involvement in heating and cooling plans at local level and in decision-making in relation to collective heating and cooling

☐ Public awareness campaigns on the benefits of efficient, clean heating and cooling solutions

☐ Regulatory measures (e.g. minimum energy performance standards for heating and cooling systems)

X Promotion of one-stop shops

☐ N/A

Please specify or complement if needed.

200 character(s) maximum:

Public awareness, as discussed throughout this public consultation, also plays a key role.

Q6: According to you, what are the **priority options for affordable and efficient space cooling**?

Maximum 3 selection(s)

☐ Awareness raising

☐ Reduction of the need for cooling (urban heat island effect), acting at urban level

☐ Better integration of cooling, including passive cooling, in urban planning

☐ Accelerated deployment of air conditioning and reversible heat pumps in priority buildings

☐ Stronger promotion of passive cooling (shading, ventilation etc) and hybrid cooling (passive plus active cooling) in buildings

X Permitting and administrative simplification

☐ Connecting cooling demand with cold sources (eg geocooling, waste cold, cold waters), including via district cooling

☐ Focus on vulnerable households

☐ Focus on public buildings

X Reinforcement of electricity infrastructure to better cope with increased power demand for cooling

X Development of demand-side flexibility services in cooling (good match of cooling demand and PV production peaks)

☐ Address barriers to cooling equipment in outdated building safety codes

☐ N/A

Please specify or complement if needed

200 character(s) maximum:

Public awareness, as discussed throughout this public consultation, also plays a key role.

Q10: According to you, what are the **priority options to accelerate the affordable deployment of waste (excess) heat and cold recovery?**

Maximum 3 selection(s)

X Awareness raising

☐ Technical support

☐ Financial advice

☐ Targets for heat and cold recovery

X Adaptation of regulatory framework

☐ N/A

Please specify or complement if needed

200 character(s) maximum:

Energy Storage Europe Association recommends investigating sectoral programmes and regulatory updates to tap into the potential of e.g. data centres, that lack a dedicated framework

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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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