CurrENT's response to the Consultation on the Electrification Action Plan

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

1.A - Scope

Q1) What should be the general objective of an EU electrification action plan?

General objectives of an EU electrification action plan (ranked)
- Decarbonisation
- Competitiveness
- Energy Security
- Energy affordability
- Energy efficiency
- Environmental protection
- Fairness, consumer protection, and empowerment

1.B – Barriers

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

- X.Weak implementation of the current regulatory framework
- X.High cost of network tariffs
- X.High upfront costs or delays to connect to the grid
- X.Insufficient capacity of the electricity grid
- 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 rust in electrification technologies

- Lack of or insufficient remuneration of demand flexibility, including via aggregators
- Lack of or insufficient roll-out of storage assets
- Lack of skilled professionals
- Length and/or complexity of administrative and permitting procedures
- High operational costs
- Uncertainty about the future price of electricity compared to fossil fuels
- Unfavorable retail price ratio between electricity and fossil fuels
- Unfavorable tax treatment of electricity compared to fossil fuels
- X.Other: Electrification can happen only if the grid is ready to deliver. Hence the need to deploy innovative grid technology to increase its capacity

1.C – Policy options

Q3.1) EU policy framework. Between 1 and 3 selections

- X.Adaptation of the current legislative framework (towards 2030)
- X.Additional public financing
- Additional policy initiatives (non-regulatory)
- Implementation of the current EU regulatory framework
- New legislative framework (towards 2040)
- X.Other: We need to adapt the current legislative framework towards 2030 to have more output-based mechanisms for system operators. But it shouldn't exclude working toward a new legislative framework by 2040.

Q3.2) General policy design measures. Between 1 and 3 selections
- X.Adopt an EU target for electrification
- X.Propose decarbonisation pathways
- X.Revise energy taxation in favour of electricity
- Accelerate and simplify permitting procedures
- Adopt a target for non-fossil flexibility
- Introduce consumer-centric measures to increase flexibility of the system
- Remove non-energy related costs from electricity bills

Q3.3) Access to grid and flexibility. Between 1 and 3 selections

- X.Accelerate digitalisation of energy systems to support automation and system optimisation

- <mark>X.</mark>Improve access to participation and remuneration of flexibility services Increase grid capacity
- 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
- Implement network tariffs that promote flexibility and incentivise consumer behaviour to reduce grid costs
- Enable timely grid connections
- <mark>X.</mark>Other: We need to make better use of the existing network. Electrical storage is useful only if the connection to the grid allows it to operate on it.

Q3.4) Financing and investment. Between 1 and 3 selections

- <mark>X.</mark>Increase availability of financial instruments to cover upfront costs
- <mark>X.</mark>Provide public grants or loans, including EU funds to leverage private funds
- <mark>X.</mark>Targeted funding for research and innovation
- Measures promoting simultaneously electrification and access to renewables, including through power purchase agreements (PPAs).
- Provide technical assistance to facilitate project financing
- Other (please specify)

Part 2 - Flexibility: demand response and storage

2.A - Scope

Q1) What are the most relevant technologies and solutions for increasing flexibility in the energy system? Between 1 and 5 selections

- <mark>X.</mark>Electrical storage (incl. supercapacitors)
- Thermal storage (electrified heat)
- Electrochemical storage (incl. stationary batteries and mobile batteries, electric vehicle (EV) batteries)
- Mechanical storage (incl. pumped hydro storage, compressed air storage, flywheels and gravitational energy)
- Chemical storage (incl. hydrogen, ammonia, synthetic fuels)
- Vehicle-to-grid (V2G) technologies
- Industrial process flexibility

- Demand response in buildings
- Smart consumption appliances
- District heating systems
- X.Other : Increasing flexibility requires an optimised grid to support rapid load change. Innovative grid technologies can help to increase grid capacity and improve grid operations, supporting flexibility.

2.B - Barriers

Q2) What are the key barriers to demand response? Between 1 and 5 selections

- X.Administrative/regulatory barriers
- X.Insufficient digitalisation
- X.Insufficient awareness of or trust in solutions
- X.Technical barriers
- Skills-related barriers
- High financing costs
- High initial investment
- High operational costs
- Lack of fit-for-purpose or easily available and affordable technologies
- Lack of renumeration for the provision of services
- Lack of interoperability of flexibility tools
- Other (please specify)

Q3) Please elaborate on key specific barriers to demand response. (300 characters maximum)

Network constraints and administrative barriers hinder the deployment of flexibility measures. While flexibility tools may be built, they often remain disconnected due to poor network adaptation. Network operators may reject demand-side response connections if they do not align with grid needs.

Q4) What are the key barriers to the deployment of storage solutions? Between 1 and 5 selections

- X.Administrative/regulatory barriers
- X.Grid connection
- X.Insufficient digitalisation
- X.Technical barriers

- Skills-related barriers
- Double taxation for storage
- High financing costs
- High initial investment
- High operational costs
- Insufficient awareness of or trust in solutions
- Lack of fit-for-purpose or easily available and affordable technologies
- Lack of renumeration for the provision of services
- Length of permitting processes for storage
- Other (please specify)

Q5) Please elaborate on key specific barriers to the deployment of storage solutions. (300 characters maximum)

Network constraints and administrative barriers hinder the deployment of battery solutions. While battery systems may be built, they often remain disconnected due to poor network adaptation. Network operators may reject battery connections if they do not align with grid needs

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

- X.Adaptation of current legislative framework (towards 2030)
- X.Additional public financing
- Additional policy initiatives (non-regulatory)
- Effective implementation of the current EU regulatory framework
- New legislative framework (towards 2040)
- X.Other : We need to adapt the current legislative framework towards 2030 to have more output-based mechanisms for system operators. But it shouldn't exclude working toward a new legislative framework by 2040.

Q6.2) Policy design options. Between 1 and 3 selections
- X.Promote digitalisation, ensure interoperability, and facilitate data sharing to enable flexibility services and demand response
- Abolish double charging for storage

- Accelerate and simplify permitting procedures for energy storage solutions
- Introduce an EU target for non-fossil flexibility
- Other (please specify)

Q6.3) Access to grid and flexibility. Between 1 and 3 selections

- <mark>X.</mark>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
- Deploy non-fossil flexibility solutions, including electricity and thermal storage and demand response solutions
- Facilitate grid connection for flexibility assets
- <mark>X.</mark>Other : Network constraints and admin hurdles slow flexibility deployment, often leaving systems disconnected. Yet, innovative grid technologies can bridge this gap, enabling network optimisation and operation.

Q6.4) Financing and investment/Promotion of business models and innovation. Between 1 and 3 selections

- Enable participation in support schemes for flexibility solutions
- Enable access to electricity markets for flexibility services
- Implement network tariffs that promote flexibility and incentivise consumer behaviour to reduce grid costs
- Incentives for system operators to use flexibility services
- Increase availability of financial instruments to cover upfront costs of flexibility solutions
- Support for innovation in flexibility solutions
- <mark>X.</mark>Other: Enable output-based mechanisms so system operators can optimize grid use through innovative grid technology, unlocking the deployment of flexibility solutions.

Part 3 - Electrification of transport

3.A - Barriers

Q1) Please elaborate on one key barrier to the electrification of transport in the EU. 300 character maximum

The **main barrier to electrifying transport** is **grid capacity**: existing infrastructure often can't handle surging EV demand, risking overloads. Without **innovative grid technologies**, energy storage, or targeted investments, scaling EV adoption remains constrained by the grid's physical and operational limits.

Q2) What are the key barriers specific to the electrification of the road sector? Between 1 and 5 selections per column

	For electric ligh-duty vehicles	For electric heavy-duty vehicles	For smart charging	For bidirectional charging
Need for common technical requirements for grid connection	X	X	X	X
Other: Grid capacity	X	X	X	X

3.B - Policy options

Q3) What are the priority policy options for accelerating electrification of transport?

Q3.1) General policy design measures. Between 1 and 3 selections
- Accelerate and simplify permitting procedures for recharging points
- Accelerate and simplify grid connection procedures for recharging points
- Introduce policy incentives for EV-related electricity demand
- Introduce incentives for interoperable smart charging and for V2G-ready vehicles
- Introduce consumer-centric measures to increase demand flexibility

- Facilitate data sharing between the electricity system, the recharging point and the EV
- Promote interoperability between the electricity system, the recharging point and the EV
- X. Other: The main barrier to electrifying transport is grid capacity. Therefore, we need to make sure that the grid is ready to host rising demand or overload, thanks to innovative grid technologies.

Q3.2) Access to grid and flexibility. Between 1 and 3 selections
- X. 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
- X. Implement measures to ensure electricity system adequacy and reliability, incl. risk preparedness
- Implement network tariffs that promote flexibility and incentivise consumer behaviour to reduce grid costs
- Improve access to participation and remuneration of flexibility services
- X. Increase grid capacity and enable timely connections
- Promote the deployment of electricity storage coupled with charging points
- Other (please specify)

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

4.B - Barriers

Q1) What are the key specific barriers to the affordable electrification of heating and cooling in buildings? Between 1 and 5 selections per column

Barriers	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
Infrastructure-related barriers	X	X	X

Q2) Please elaborate on one key barrier to the affordable electrification of heating and cooling in buildings in the EU. 300 character maximum.

As with flexibility, network constraints and administrative barriers hinder the deployment of electrification of heating and cooling in buildings. Electrification of such processes need adaptation of the grid.

Q3) What are the key specific barriers to the affordable electrification of industry? Between 1 and 5 selections per column

Barriers	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

Q4) Please elaborate on one key barrier to the affordable electrification of industry in the EU. 300 character maximum.

The main barrier to industrial electrification is grid capacity: industries need massive, stable power, but grids often lack the infrastructure to deliver it. Limited transmission capacity and insufficient renewable integration make scaling electric processes unfeasible without optimisation.

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) Policy design, targets and support schemes. Between 1 and 3 selections per column

	For space heating	For industrial processes
Other (please specify)	X	X

Other: Support innovative grid technologies that can reduce cost and speed up grid expansion or optimization processes

Q5.2) Energy system design. Between 1 and 3 selections per column.

	For space heating	For industrial processes
Other (please specify)	X	X

Other: Support innovative grid technologies that can reduce cost and speed up grid expansion or optimization processes

Q5.3) Promotion of business models and innovation. Between 1 and 3 selections per column

	For space heating	For industrial processes
Support for innovation	X	X
Other (please specify)	X	X

Other: Support innovative grid technologies that can reduce cost and speed up grid expansion or optimization processes