

2040 Climate Framework: Aiming for ambition and pragmatism

NUCLEAR



IS A LOW-CARBON
ENERGY SOURCE



ENSURES SECURITY
OF SUPPLY



IS ENVIRONMENTALLY,
ECONOMICALLY AND
SOCIALLY SUSTAINABLE

EU NUCLEAR INDUSTRY IN NUMBERS



ACCOUNTS FOR
24%
OF ELECTRICITY



ALMOST
50%
OF LOW-CARBON
ELECTRICITY



SUPPORTS AROUND
0.9 million
JOBS



TURNOVER OF
100bn
PER YEAR

EXECUTIVE SUMMARY

In July 2025, the European Commission issued its proposals to amend the European Climate Law and set an EU climate target for 2040. Nucleareurope welcomes this proposal and calls for an ambitious, pragmatic, and technology neutral framework to support net-zero investments.

Specifically, the EU 2040 climate framework should:

- Set the course on an ambitious decarbonisation trajectory
- Adopt a technology neutral approach incentivising all net-zero technologies and avoiding technology-specific targets
- Be accompanied by an enabling policy framework which supports electrification and the decarbonisation of key sectors of the economy such as industry and transport

In recent years, European Union efforts to decarbonise its economy have led to a significant reduction in CO₂ emissions, but the challenge to reach net-zero by 2050 remains major. While multiple levers exist to reduce CO₂ emissions in the EU, the power sector is seen as one of the first to reach carbon neutrality in the EU economy.

In 2024, nuclear remained the single largest source of net-zero electricity in the EU. In light of National Energy and Climate Plans (NECPs) submitted by EU Member States and recent announcements by governments, installed nuclear capacity could reach 143 GW by 2050, up from around 100 GW today. It will thus play a major role in supporting the decarbonisation of the European energy system through net-zero power generation as well as decarbonised heat and hydrogen production.

Against this backdrop the **European climate framework for 2040 must be ambitious and pragmatic, providing the enabling conditions for the development of all available net-zero technologies.**

1. An ambitious climate target for 2040 will provide investors with long-term certainty

Long-term certainty is essential for investors to deliver nuclear investments. A clear, stable and ambitious decarbonisation policy framework at EU level will incentivise investments in net-zero technologies, such as nuclear, and support the rapid development of low-carbon energy sources.

As such, an ambitious 2040 climate target will be essential to provide investment certainty for the European nuclear industry. This target should stay the course on an ambitious EU decarbonisation trajectory towards climate neutrality by 2050, as follows:

- A 90% reduction in net greenhouse gas emissions by 2040 compared to 1990 levels
- This should be accompanied by the objective to reach full decarbonisation of the power sector by 2040, taking into account that in 2024, close to 29% of electricity was still generated by fossil fuels¹. Additionally, a clear strategy will be needed for the industrial sector, which accounts for a quarter of EU final energy use² and remains fossil-fuel dependent for high temperature heat.

1 [European Electricity Review 2025 | Ember](#)

2 European Environment Agency, Decarbonising heating and cooling, 2022

2. A pragmatic, technology neutral approach is crucial to decarbonise faster

As demonstrated in the [pathways to 2050 report](#), nuclear has a key role to play in achieving net-zero in an affordable way whilst ensuring security of supply. Thanks to an increase in nuclear capacity, CO₂ emissions will fall faster, energy system costs will be lower in the long term and security of energy supplies will be guaranteed.

Due to its dispatchable nature, nuclear will also be a keystone of a decarbonised European energy system. It is therefore essential that the 2040 climate framework does not discriminate against nuclear technologies. All net-zero energy sources will be needed to achieve climate neutrality and provisions in the 2040 framework should:

- Reaffirm the importance of the principle of technology neutrality, as proposed in the draft European Climate Law.
- Adopt an energy system approach which recognises the importance of dispatchable capacities for decarbonisation, security of supply and competitiveness.
- Recognise the complementarity between net-zero energy sources such as renewables and nuclear.
- Put forward general decarbonisation objectives encompassing all available net-zero technologies, without cherry picking technologies through technology specific targets.

3. Climate targets must be accompanied by an enabling policy framework

Whilst fully decarbonising the power sector in the EU is a crucial step to reaching net-zero, these efforts must be accompanied by policies facilitating the decarbonisation of hard-to-abate sectors and the broader EU economy.

Specifically, the 2040 policy framework should:

- Support a strong uptake in electrification where feasible in the transport, residential and industrial sectors, and promote direct heating from low-carbon sources, including nuclear.
- Incentivise the adoption of decarbonisation solutions suited to the needs of energy intensive industries (electrification, direct net-zero heat from nuclear, hydrogen, carbon capture, utilisation and storage...), whilst providing these sectors with a framework that incentivises investments and adequate mechanisms to combat carbon leakage.
- Provide a level playing field for all net-zero sources of energy used to decarbonise industrial processes (electricity, heat, hydrogen).
- Ensure an adequate EU financing framework, including under the next Multiannual Financial Framework (MFF), to support R&D as well as the deployment and scaling of SMRs and AMRs by the early 2030s, while improving access to capital for these technologies and introducing new de-risking tools to enhance their attractiveness for investors.
- A stable and reliable carbon price is crucial to steer long-term investments and support a smooth transition. We welcome the upcoming revision of the EU Emissions Trading System (EU ETS) to ensure alignment with the 2040 climate target. Preserving the integrity of the carbon market is key to maintaining investor trust.

CONCLUSION

Nuclear is an essential component of the current European energy system, and supports the stability of the power system by generating affordable, constantly available net-zero electricity, as well as heat (including high temperature). By reducing reliance on gas and coal, nuclear energy plays a vital role in driving the decarbonisation of our economies and societies while strengthening Europe's energy security.

In the coming decades, nuclear will keep playing a major role in the energy transition, and ultimately within a decarbonised energy system. As seen in the latest [Nuclear Illustrative Programme \(PIN\)](#) as well as in the final National Energy and Climate Plans (NECPs), nuclear capacity is set to grow, reaching close to 150 Gigawatt (GW) by 2050, confirming that nuclear will remain a pillar of net-zero energy production in Europe.

The 2040 climate targets should account for this role by adopting ambitious, technology neutral provisions which will attract investments in all net-zero technologies.

These targets should also be accompanied by an enabling policy framework, which accounts for the need to electrify uses, incentivise the adoption of decarbonised energy solutions and supports the production of low-carbon heat and hydrogen from nuclear.

About us

nucleareurope is the Brussels-based trade association for the nuclear energy industry in Europe. The membership of nucleareurope is made up of 15 national nuclear associations and through these associations, nucleareurope represents nearly 3,000 European companies working in the industry and supporting around 0.9 million jobs.



Avenue des Arts 56
1000 Brussels
tel +32 2 502 45 95
www.nucleareurope.eu

