Overview of nuclear in EU

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Membership

The membership of nucleareurope is made up of 15 national nuclear associations and several corporate members



Premium Corporate Members



Corporate Members



What does nuclear contribute to the EU's economy?





Status of EU's power sector

EU generation mix in 2024



Source: nucleareurope calculations based on eurelectric ELDA



EU 2024 power production CO2 intensity



The Energy Trilemma



Shifting EU balance of powers



European Alliance of Member States supporting nuclear energy development in their countries.

Observatory status: Italy.

Invited status: UK.

Countries that start thinking about nuclear: Estonia, Denmark, and many others with also private initiatives like Greece.

Meeting of the Nuclear Alliance in Paris on 16 May 2023

- Member states participating: France, Belgium, Bulgaria, Croatia, Estonia, Finland, Hungary, Netherlands, Poland, Czech Republic, Romania, Slovenia, Slovakia and Sweden.
- Italy participated as observer and UK as invited country.
- During the meeting, a <u>statement</u> was released.
- Ministers discussed the positive impact of nuclear energy on the European economy: they acknowledged that <u>nuclear</u> power may provide up to 150 GW of electricity capacity by 2050 to the European Union (vs roughly 100 GW today)



Photo by <u>@Paul_Messad</u> @EURACTIV_FR nucleareurope

An increased ambition for a European nuclear future

The latest EC scenarios updates from the projected share of nuclear show a steady decrease despite ¹⁴⁰ the obvious benefits that a significantly higher ₁₂₀ scenario provides to the EU system in a deep decarbonization scenario. ¹⁰⁰

Based on this, nucleareurope promotes an ⁸⁰ upscaled scenario of at least 150 GW* capacity in 2050

This scenario requires:

- The current share of 24% electricity production to be maintained in the EU.
- Part of the needs from hard-to-abate heavy industries in terms of decarbonized heat, hydrogen, etc. to be covered by SMRs (from early 2030s) and AMRs later on (from 2040s).
- Mobilization of industry and decisionmakers both at EU & national levels





Nuclear and energy sector integration





nucleareurope commissioned reports

- Following the statement made by the Nuclear Alliance in May 2023, supporting a scenario with nuclear installed capacity of 150 GW in 2050, nucleareurope, commissioned 2 reports to analyse the impact on EU's from:
- energy and power systems perspective (Compass Lexecon) and
- economic and social perspective (Deloitte)
- > For both reports same three scenarios were taken into consideration



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<u>Compass Lexecon</u> - More nuclear supports greater EU industrial competitiveness

#150GW nuclear will:

Save around 430 MtCO₂

Save €310bn in total power system costs

Reduce gas consumption by about 180 bcm

Reduce dependence on hydrogen imports by up to 33%

Generate clean H2 production savings of around €83bn

Save around 500 MtCO2

Save €450bn in total power system costs

Reduce gas consumption by about 220 bcm

Reduce dependence on hydrogen imports by up to 61%

#200GW nuclear will:

Generate clean H2 production savings of around €125bn

Leading to greater EU competitiveness in a more climate friendly, affordable & secure energy system



EU policies and initiatives: state of play for nuclear





Nuclear: more than just power



Thank you! Andrei Goicea (<u>andrei.goicea@nucleareurope.eu</u>)

