



# Reaching European Green Deal objectives – role for nuclear

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# What does nuclear contribute to Europe's economy?



106

NUCLEAR REACTORS  
IN OPERATION IN THE EU

100

€ BILLION/YEAR

1.1 million

JOB

26%

EU ELECTRICITY  
PRODUCTION



# European Green Deal



## Topics followed by FORATOM

*list updated depending on the identified impact on nuclear*

### Climate ambitions

- EU Climate Law
- 2030 Climate Target Plan
- Review of relevant legislative measures – Energy Efficiency Directive review

### Clean, affordable and secure energy

- Assessment of the final National Energy and Climate Plans
- Strategy for smart sector integration
- Hydrogen strategy

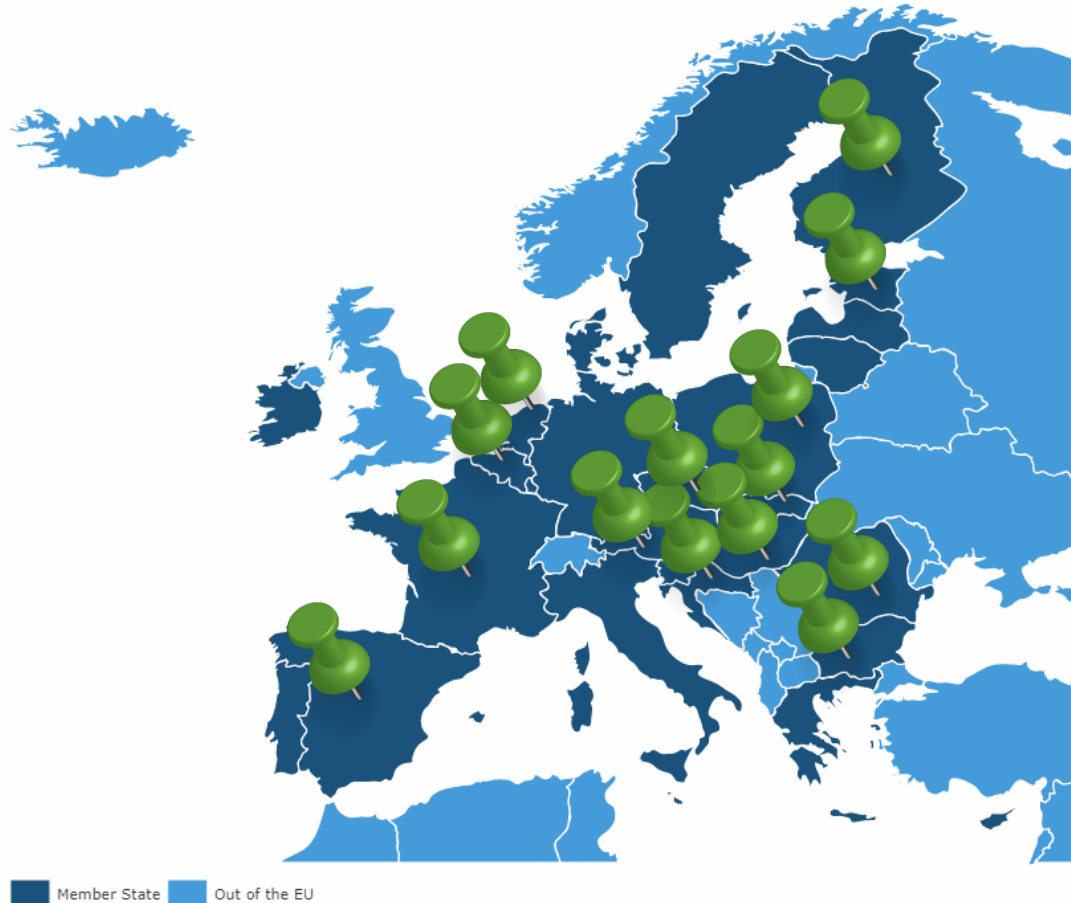
### Industrial strategy for a clean and circular economy

- EU Industrial strategy
- Circular economy

### Mainstreaming sustainability in all EU policies



# National Energy & Climate Plans



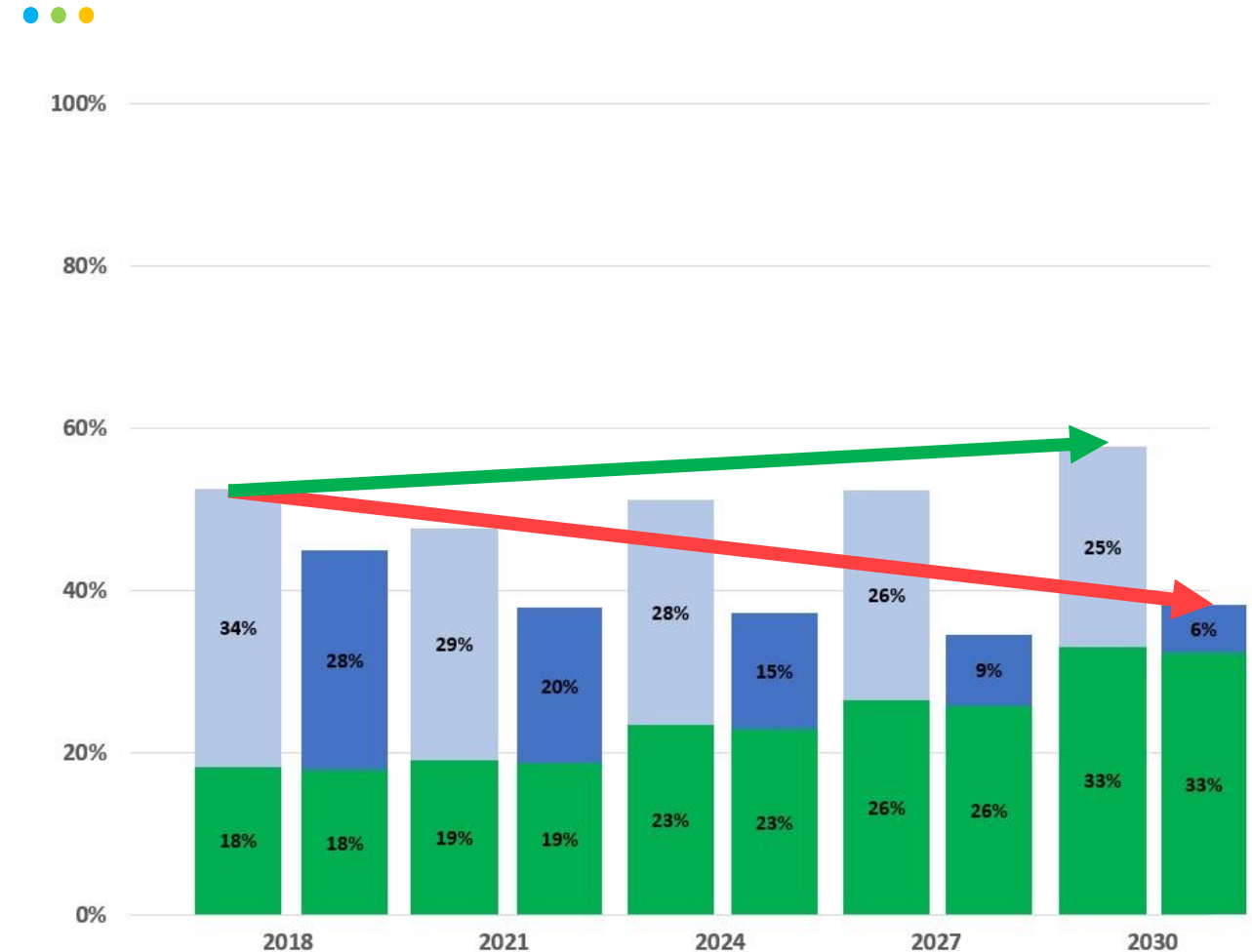
16 EU Member States with nuclear in their NECPs  
(existing reactors, R&I or new build plans)

	Nuclear Discussed positively to meet part of 2030 plans (LTO, NB or R&I)	Ongoing Nuclear Operations or NB mentioned	Nuclear to improve energy security (LTO and/or NB)	Nuclear to increase flexibility of energy systems	Nuclear R&I (inc SMRs, adv. reactors, innovation, L TO or SET Plan Action 10)
Belgium	✓				✓
Bulgaria	✓	✓	✓	✓	✓
Croatia	✓	✓	✓		
Czechia	✓	✓	✓	✓	✓
Estonia	✓				✓
Finland	✓	✓	✓	✓	✓
France	✓	✓	✓	✓	✓
Hungary	✓	✓	✓	✓	✓
Lithuania					✓
Netherland	✓	✓	✓	✓	✓
Poland	✓		✓	✓	✓
Romania	✓	✓	✓	✓	✓
Slovakia	✓	✓	✓	✓	✓
Slovenia	✓	✓	✓	✓	✓
Spain	✓	✓	✓	✓	✓
Sweden	✓		✓	✓	✓

# Role for Nuclear in decarbonisation

To achieve the intermediate decarbonisation targets in the transition towards 2050, the role of nuclear power plants will be crucial

- ✓ If the EU were to invest in maintaining a fully operational nuclear fleet over, then 58% of its electricity would come from low-carbon sources by 2030.
- ✓ The decrease in the share of low-carbon capacity resulting from not investing in nuclear LTO, will increase emissions in the medium term.
- ✓ In the longer run with 15% nuclear generation foreseen in 2050, most of the existing fleet will have to be renewed.



FORATOM calculation on the share of low-carbon electricity generation with (■) and without (■) LTO and renewables (■)



# Role for nuclear energy



✓ Nuclear power plants can **produce low-carbon hydrogen in a variety of methods** that would reduce the GHG emissions.

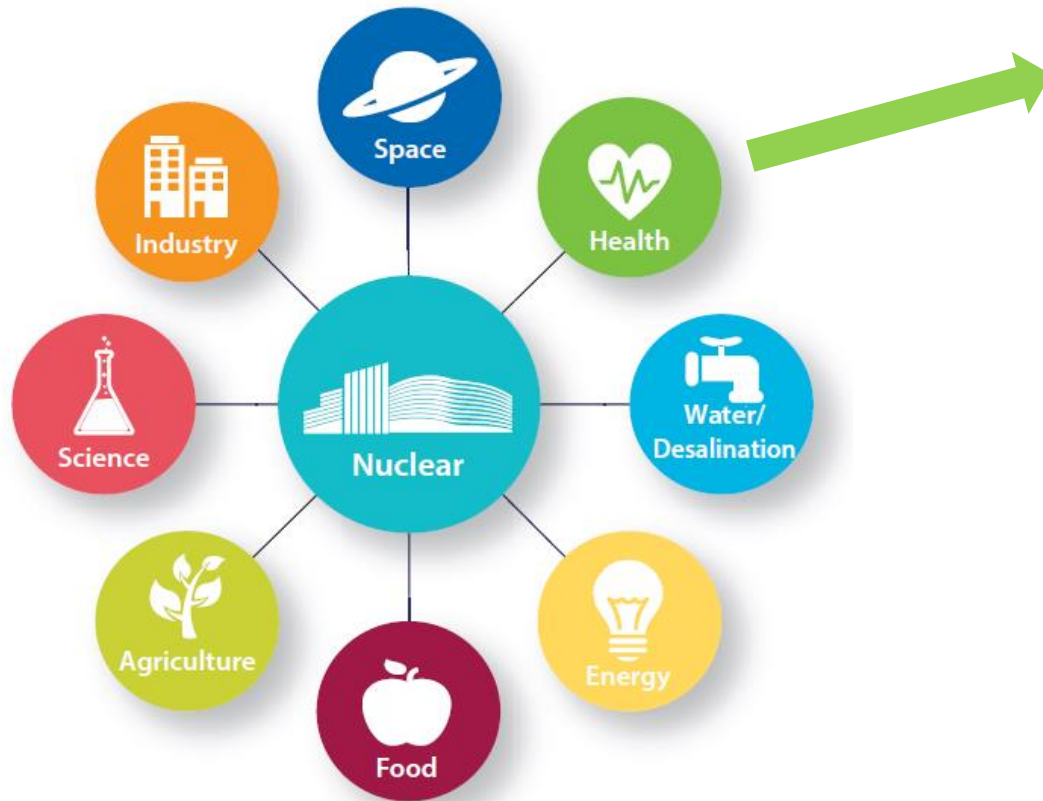
✓ Nuclear energy is a source of process heat for various industrial applications.

## In FORATOM's view:

- ✓ In Europe, the low-carbon hydrogen production through electrolysis using nuclear power might be **the most economical way** to achieve the hydrogen productivity levels foreseen by the EU strategy
- ✓ It is essential that the EU adopt a **technology-neutral approach** based on the impact of each technology on the CO2 emission reduction targets for both power and heat production.
- ✓ **EU should include the many applications which nuclear technologies are able to work in synergy with sector coupling such as district heating and industrial process heat.**

# FORATOM on non-power applications of nuclear

Nuclear: More than just power



As highlighted in an [open letter](#) signed by the European nuclear industry's leaders in mid-2020, plays an indispensable role in the medical sector – through diagnostic and therapeutic applications, to detecting and curing cancer, nuclear technology supports Europe's Beating Cancer Plan.

## European Nuclear Industry Open Letter: EU nuclear industry is ready to play an important part in supporting national and EU clean economic revival

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@VattenfallGroup & @ferminergia have signed a Letter-of-Intent to further expand their cooperation on #SMR. For the past year Vattenfall has participated in a feasibility study by Fermi Energia to explore the possibilities for the deployment of such reactors in



# WHAT WE ARE CALLING FOR

- Ensuring a stable, coherent and consistent policy environment which **encourages investment** in new build
- Working with regulators to **harmonise the regulatory frameworks** (eg “one-stop-shops”)
- Supporting **sector coupling** for all low-carbon technologies
- Developing a **strategic vision for nuclear**, including ambitious R&D projects and develop / improve high level competences
- Recognising the strategic importance of **maintaining EU independence** in the fields of energy, medicine and technological development