Ongoing nuclear investments across the EU & financing

Emmanuel Brutin, Director General

100 TWh Annual Conference, 9 September 2025

nuclearеurope

Membership

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

nucleareurope

Premium Corporate Members

CEZ GROUP

EDF

fortum

VATTENFALL

Westinghouse

Regular Corporate Members

enusa

FERMI.

HEXANA

KGHM POLSKA MIEDŹ

naarea

newcleo Futurable Energy

NUVIA

OSGE | ORLEN SYNTHOS GREEN ENERGY

POLSKIE ELEKTROWNIE JĄDROWE

ROLLS ROYCE SMR

Steady Energy

urenco The Energy to Succeed

nuclearneurope

walter tosto

What does nuclear contribute to the EU's economy?

100 Nuclear reactors in operation in the EU

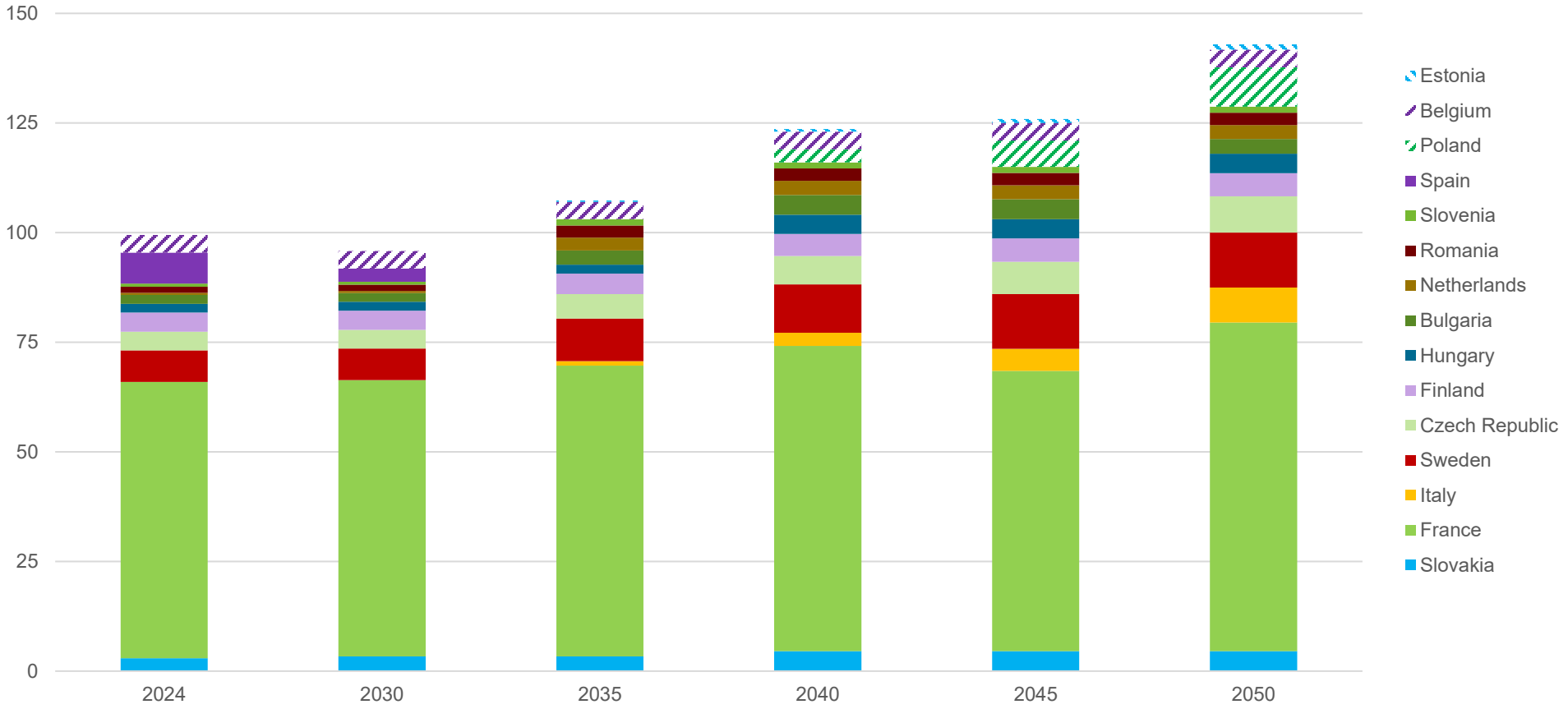
900 000 jobs

€ 100 billion/year

24% of the electricity Production (2024)

nuclearеurope

National Energy and Climate Plans (NECPs) – EU nuclear installed capacity (GW)

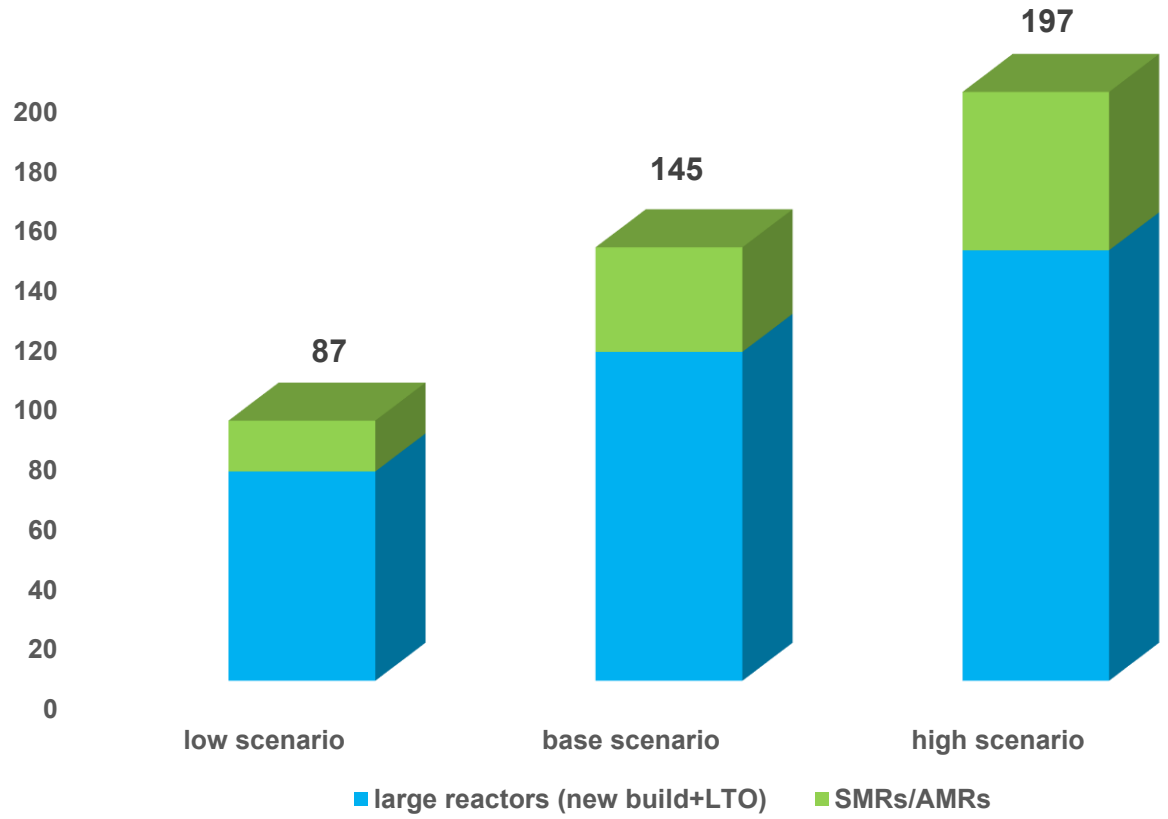


Nuclear capacities from final NECPs (2024)

No final NECPs available yet – figures taken from recent announcements*

* For the below Member States who didn't present the final NECPs yet, the figures are from the recent announcements:
Poland – NucNet (8 January 2025) Estonia – NucNet (13 June 2024) Belgium – NucNet (7 February 2025)

PINC (EU Illustrative Programme for nuclear, June 2025)– nuclear capacity projections in the different scenarios



Note: for the base scenario, the SMR installed capacity considered is 35 GW (average of the 17 GW and 53 GW scenarios)

nuclearеurope

nuclearеurope commissioned reports

- Following the statement made by the **Nuclear Alliance of the EU Member States in May 2023**, supporting a scenario with nuclear installed capacity of **150 GW in 2050**, nuclearеurope, commissioned 2 reports to analyse the impact on the EU from an:
  - energy and power systems perspective (Compass Lexecon), and
  - economic and social perspective (Deloitte)

- For both reports same three scenarios were taken into consideration

#100GW

Business as usual

100 GW of installed nuclear capacity in the EU

#150GW

Nuclear Alliance target

150 GW of installed nuclear capacity in the EU

#200GW

Change in paradigm

200 GW of installed nuclear capacity in the EU

nuclearеurope

Compass Lexecon - More nuclear supports greater EU industrial competitiveness

#150GW nuclear will:	#200GW nuclear will:
Save around 430 $MtCO_2$	Save around 500 MtCO2
Save €310bn in total power system costs	Save €450bn in total power system costs
Reduce gas consumption by about 180 bcm	Reduce gas consumption by about 220 bcm
Reduce dependence on hydrogen imports by up to 33%	Reduce dependence on hydrogen imports by up to 61%
Generate clean H2 production savings of around €83bn	Generate clean H2 production savings of around €125bn

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

nuclearеurope

Deloitte study - Current impact of the nuclear sector

2023 IMPACT

251.2 bn. EUR — **Contribution to the EU's economy**

883,700 — average **number of jobs sustained** by the nuclear sector

38 bn. EUR — **disposable household income*** due to the activities of the EU nuclear industry

45.8 bn. EUR — **public revenues generated through tax payments** due to the nuclear sector

*net salary

nucleareurope

nuclearеurope priority issues

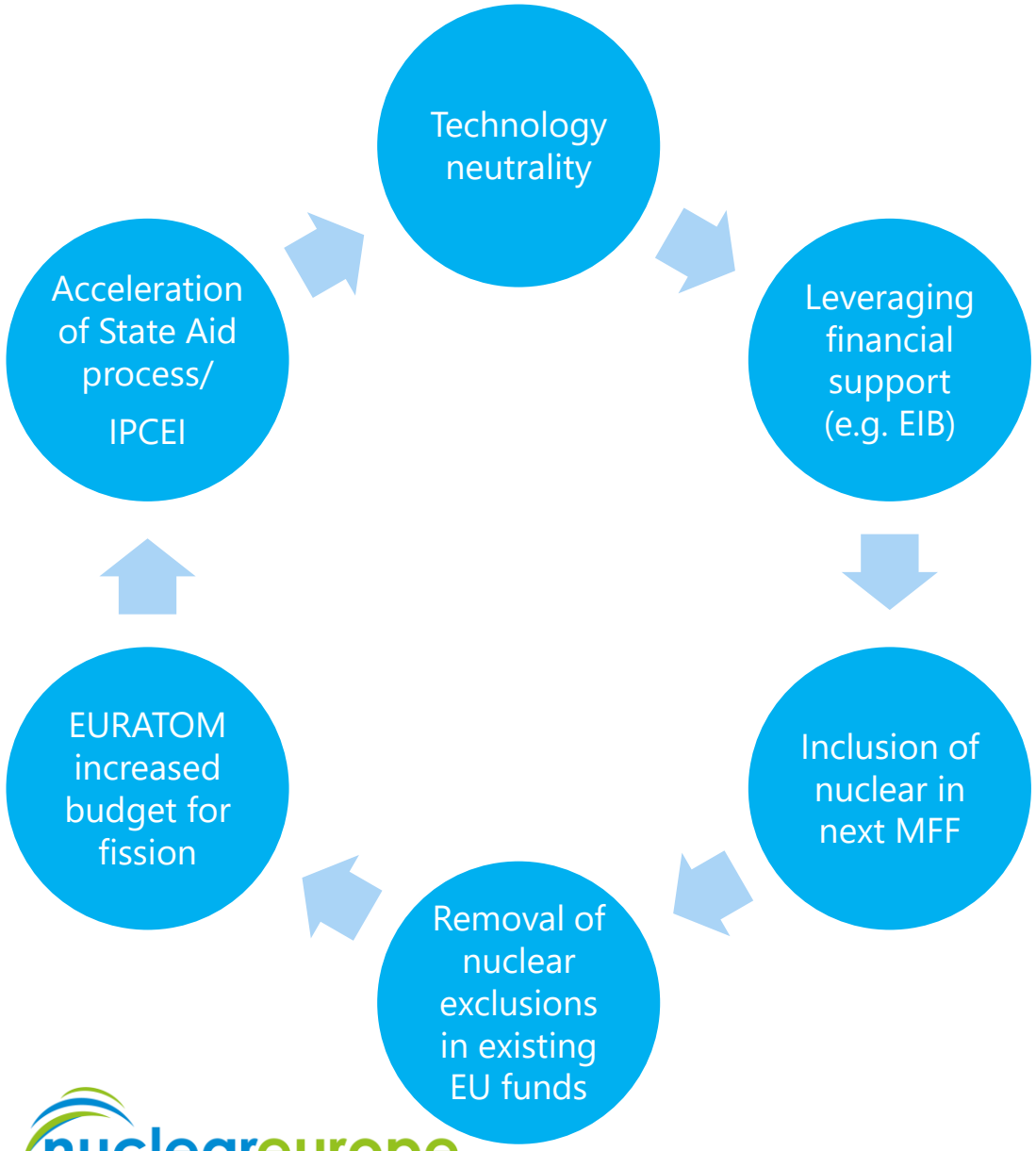
1. **Clean Industrial Deal**
2. **Nuclear financing**
3. **Nuclear investments/PINC**
4. **2040 framework/target**
5. **SMR Industrial Alliance**

nuclearеurope

Nuclear financing

Key specificities of Nuclear financing:

- Different needs: LTO / new large-scale / SMRs
- Costs of capital is a key challenge
- Need for long-term frameworks (PPA, CFDs, State Aid…)



nuclearеurope

Thank you!

nuclearеurope

PINC – our views

1. Recognising the role of nuclear

- Nuclear is a strategic sector for Europe (energy system integration, energy sovereignty, decarbonisation, supporting energy-intensive industries, medical applications…)

2. Assessing the scale of the investments needed

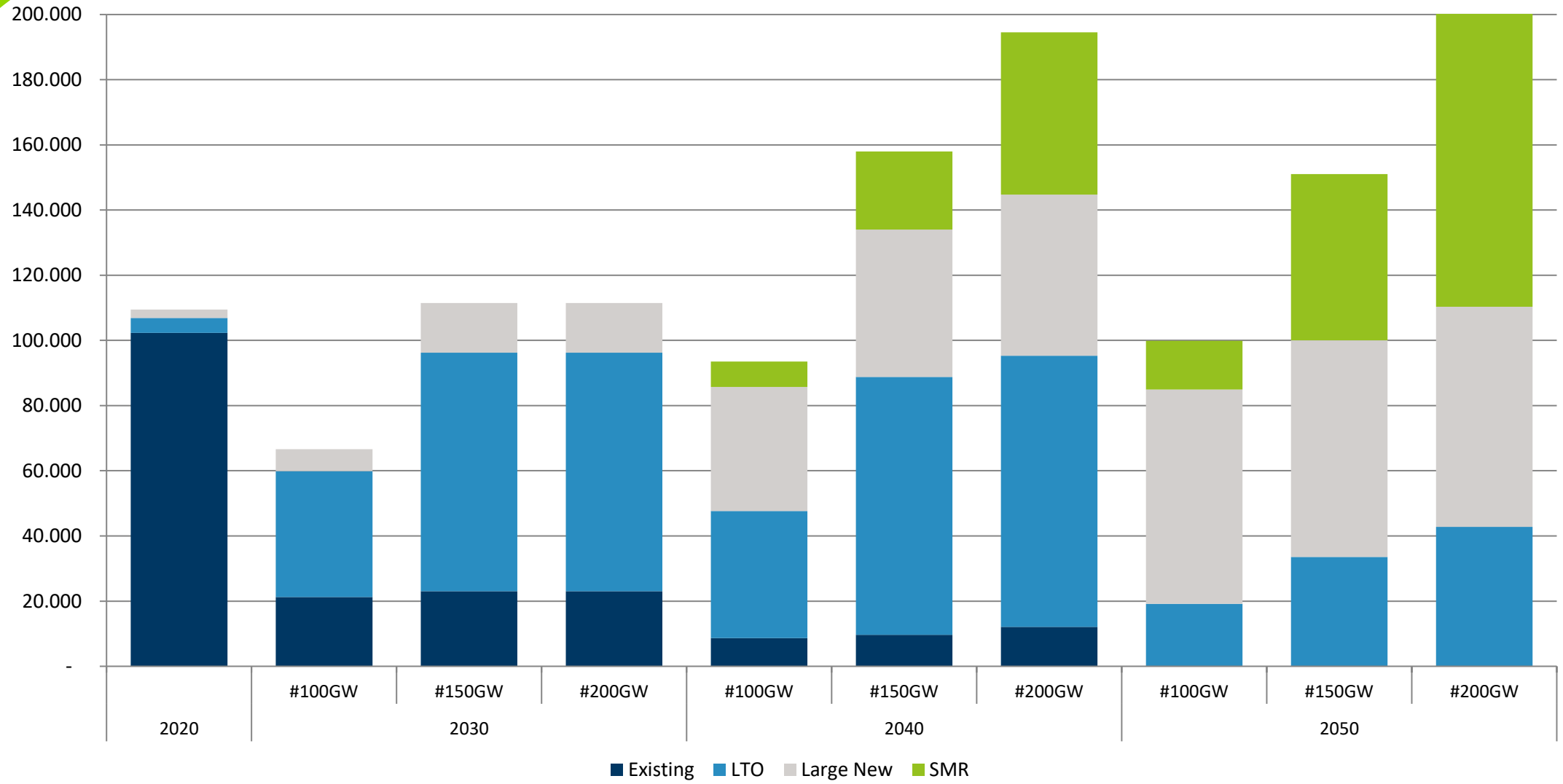
- Lifetime extension, new large-scale reactors, SMRs
- Support for the entire value chain is needed (fuel cycle, equipments, skills…)

3. Accompanying the PINC with a concrete action plan

- A level playing field for all net zero technologies
- An ambitious 2040 framework
- Access to EU financing and funding– both existing and future EU funds
- Streamlined State Aid process
- Fair taxation schemes
- Supporting measures for research, skills, value chain and SMRs

nuclearеurope

Nuclearеurope scenarios for Compass Lexecon and Deloitte reports



LTO – Long Term Operation

nuclearеurope

European Industrial Alliance on SMRs – Objectives

Application

SCAN ME

FAQ

SCAN ME

Declaration

SCAN ME

ToR

SCAN ME

grow-EU-SMRS-ALLIANCE@ec.europa.eu

Main Objective

Facilitate & accelerate the development, demonstration, & deployment of SMRs projects in Europe in the early 2030s.

Specific Objective I

Provide **customised support** to all SMR projects deemed eligible for support under the Alliance

Specific Objective II

Enabling conditions to ensure the further deployment, operation, and maintenance of SMRs in the **medium and long term.**

nuclear europe

SNETP Sustainable Nuclear Energy Technology Platform