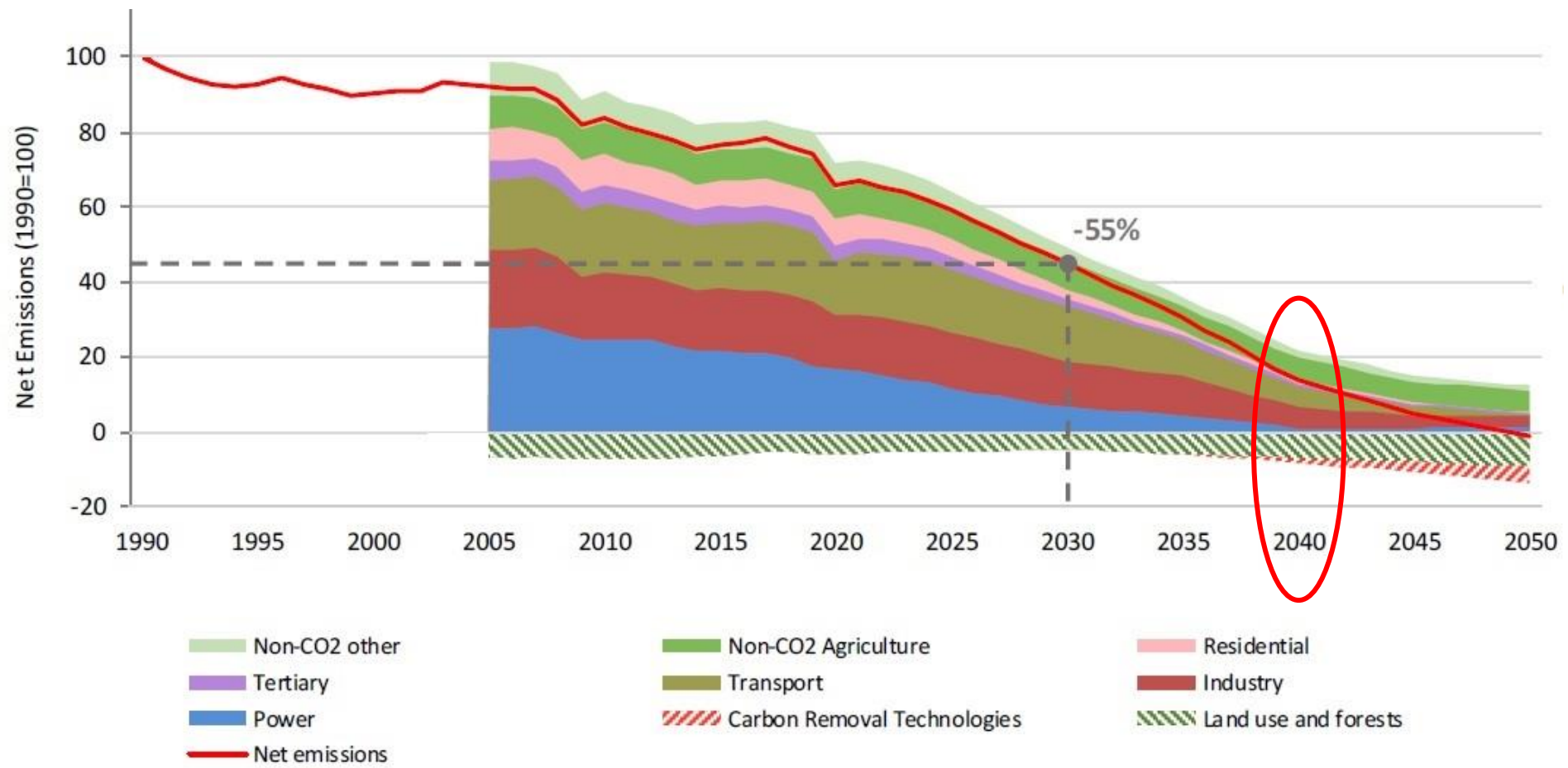


EEF Dinner Debate

Yves Desbazeille – Director General

13 June 2023

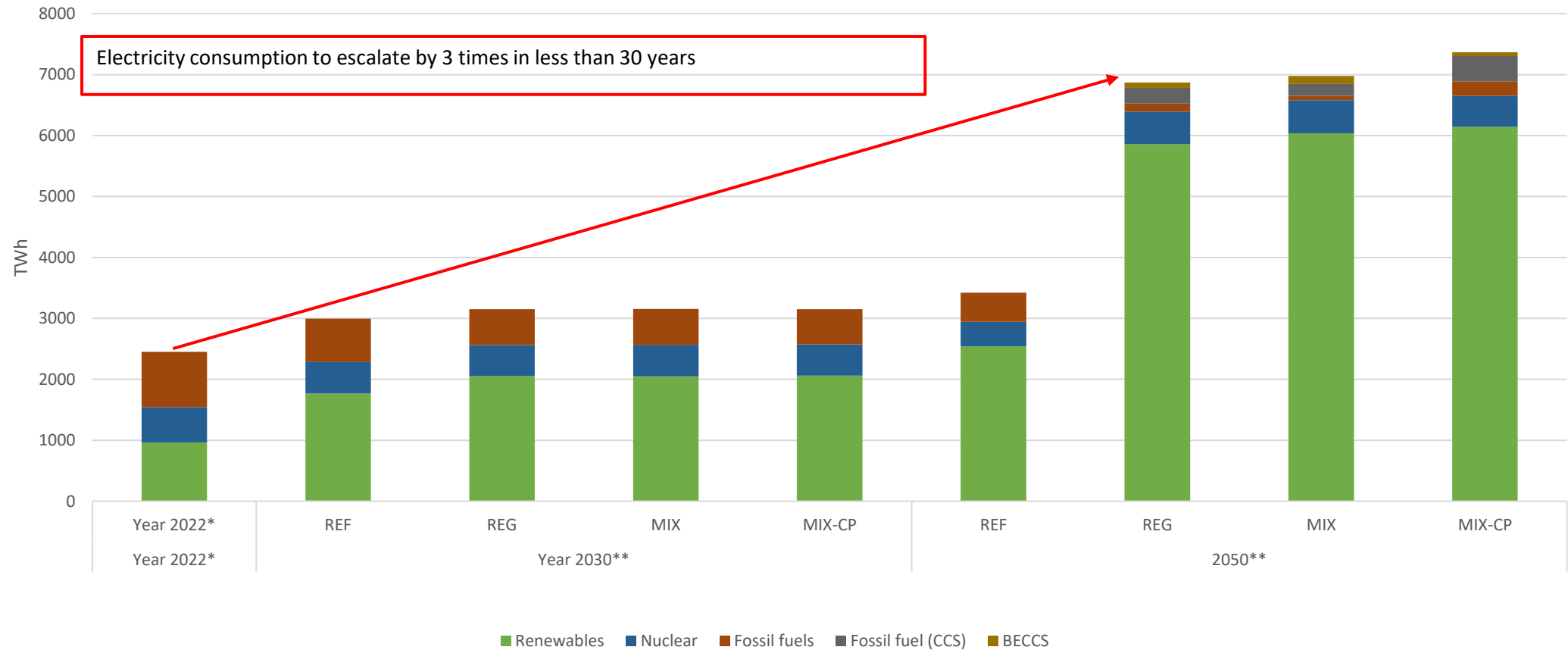
Decarbonisation of the EU economy



Source: Stepping up Europe's 2030 climate ambition - COM(2020) 562 final



...with a very strong push on electrification to meet the Net Zero ambition



Gross electricity generation in the EU

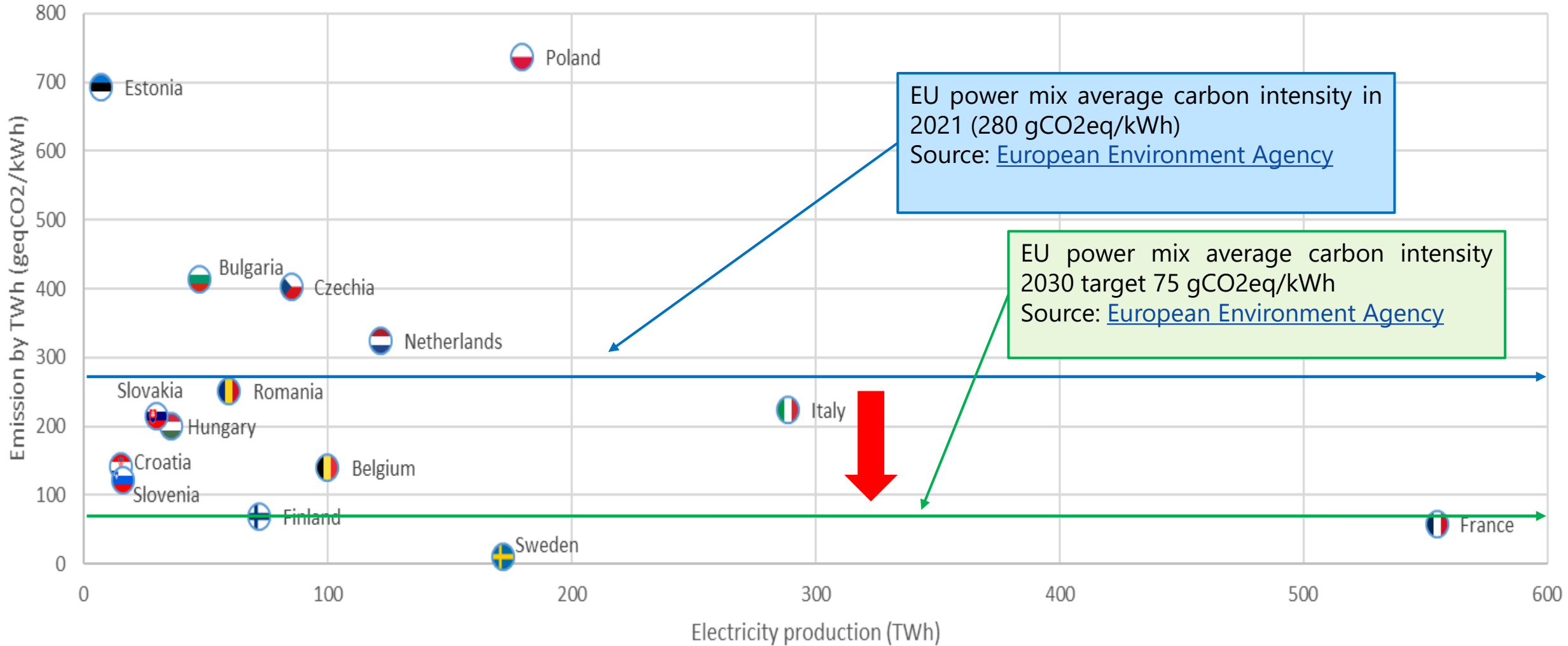
Sources:

* energy-charts.info using ENTSO-E data

** [Policy scenarios for delivering the European Green Deal](#)



EU power production CO2 intensity – 2022



The EU's needs to decarbonize are massive...across all sectors

⚡ Electricity

1600 TWh/y

EU Low carbon electricity production to be deployed by 2040

80GW

European Nuclear capacity to be replaced by 2050 (end of life)

🌐 Hydrogen

>20 Mt H₂/y

REPowerEU Market Estimate for 2030

1000 TWh/y

Equivalent additional clean electricity demand

🔥 Industrial heat

~1250 TWh_{th}/y*

Iron – Steel, Non-metallic minerals and chemicals heat demand in EU

> 45% market

Heat < 400°C

🏠 District heat

~500 TWh_{th}/y**

Current district heat demand in EU

> 2/3 fossil-fueled

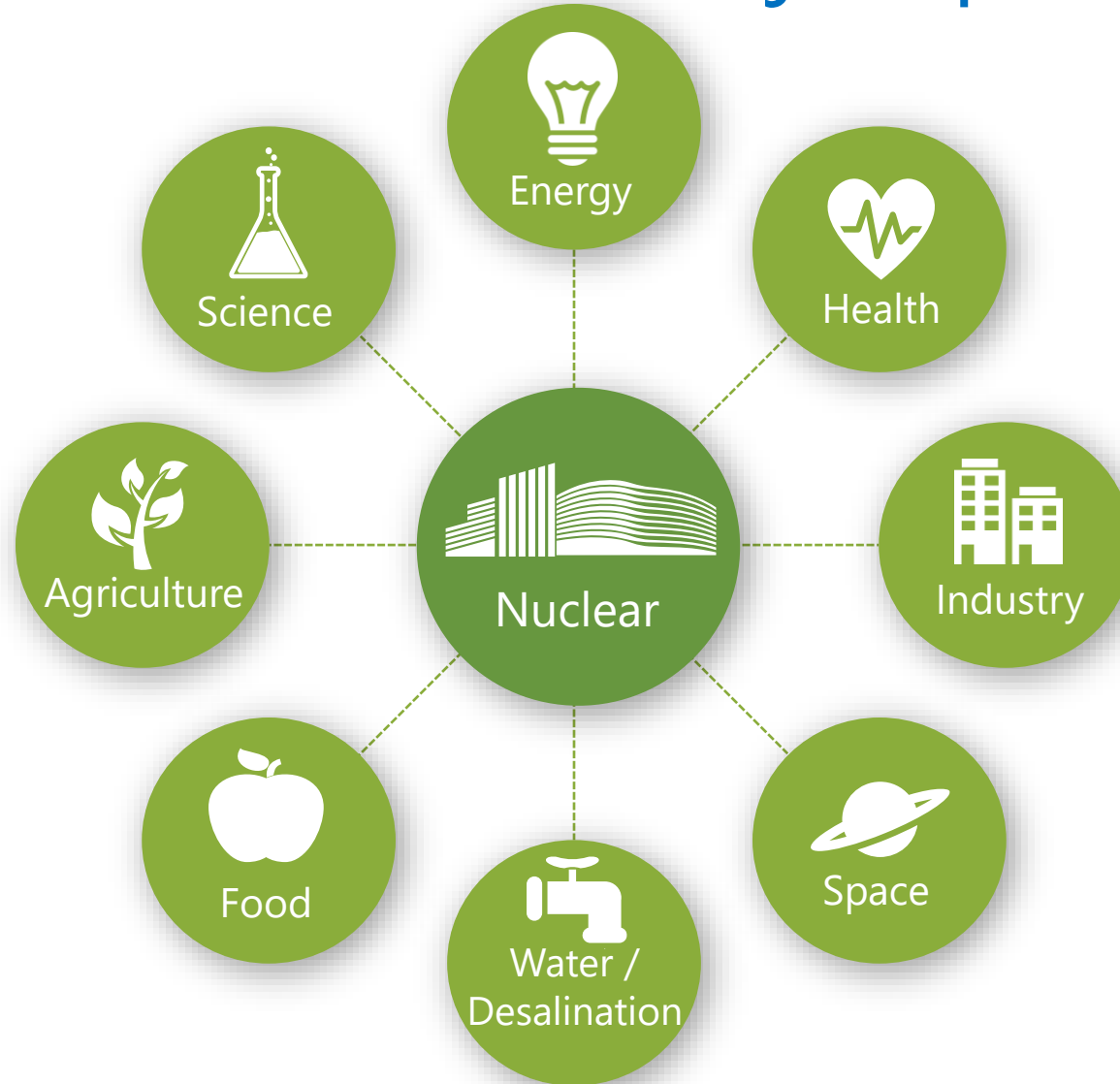
Assets to be retired and replaced in the coming two decades

*IAEA report on [Industrial Applications of Nuclear Energy](#) – 2017

** Calculations based on:

- [Statistics | Eurostat \(europa.eu\)](#)
- [D2.3 \(wedistrict.eu\)](#)
- [Country Profiles | Euroheat & Power](#)

Nuclear: more than just power



Nuclear facilities in Europe: an ecosystem...



Some World class EU companies in the nuclear business...



Civil works

- Bouygues Construction 
- Eiffage 
- VINCI Construction 
- Astaldi 
- ACS Group 

NSSS (systems and components)

- Framatome 
- Siemens 
- Westinghouse EMEA  with implementations , , , 
- Skoda 
- ENSA 

I&C

- Schneider Electric 
- Siemens 
- Framatome , 
- ABB 


Mechanical equipments

- Framatome 
- Skoda 
- Walter Tosto 
- Sulzer 
- KSB Group 
- Technatome 
- GEAST , 

Electrical equipments

- Siemens 
- Scheider Electric 
- ABB 
- Alstom 
- Nexans 
- Ansaldo Nucleare 






Piping & cabling

- Tecnatom 
- Nuvia 
- Ansaldo Nucleare 
- Prysmian Group 

Research

- CEA 
- SCK CEN 
- CIEMAT 
- JRC 
- CERN , 
- F4E (ITER) 






Front End

- Orano 
- Urenco 
- Westinghouse , 
- Framatome 
- Enusa 

Operators

- EDF 
- Fortum 
- CEZ 
- EPZ 
- Iberdrola 
- Vattenfall 

Back End

- Orano 
- Covra 
- Cyclife , 
- SKB 
- Posiva 

Impact on jobs & growth of a 150 GW nuclear scenario

580
bn. EUR

in **EU GDP** generated annually by nuclear sector,
equal to a **1.5 - 2%** share of EU GDP

1,300,000

average **number of jobs** generated and maintained
annually by the nuclear sector

50%

of the total number of **jobs in the nuclear sector will be highly skilled**, equaling a number of **600,000**

34
bn. EUR

average **trade surplus** generated
annually within the European nuclear sector

Net-Zero Industry Act (NZIA)

[NZIA](#), published on 16/03, aims at simplifying the regulatory framework, and improving the investment environment for the EU's manufacturing capacity of technologies that are key to meet the Union's climate neutrality goals and ensure that our decarbonised energy system is resilient whilst contributing to reducing pollution (...). NZIA proposes 2 categories of technologies:

Category	Net-Zero Technologies*	Net-Zero Strategic Technologies
Benefits	<ul style="list-style-type: none"> - Simplification: One-stop shop, online access to info, faster permitting (12-18 months) - Innovation: Regulatory Sandboxes - Competences and skills 	<p>The Net-Zero Technology ones plus:</p> <ul style="list-style-type: none"> - Facilitated access to markets through benefitting from sustainability and resilience criteria in auctions (15-30% weight of award criteria), public procurement and other public schemes - Benchmark for manufacturing capacity of strategic net-zero technologies to reach at least 40% of EU's annual deployment needs by 2030 - Possibility to become a Strategic Net-Zero Technology Project
Eligible nuclear Technologies	Advanced technologies to produce energy from nuclear processes with minimal waste from fuel cycle (Gen IV), SMRs & related "best-in-class fuels"	<p>Note : In comparison, the US IRA will give a v.significant support to nuclear:</p> <ul style="list-style-type: none"> • +\$30b to existing fleet over 10y • 30+10% tax credit for new build • >\$600m support in new fuel

NZIA should better reflect the risk of (non-) level playing field with US IRA's support scheme

* Technical Readiness Level (TRL) should be 8 (system complete and qualified)

Enabling factors for a thriving nuclear industry



Technology neutral public policies



Support for research and innovation




Focus on the supply chain



Ensure that the industry has enough people with the right skills

Thank you!

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