

NUCLEAR INNOVATION ²⁰22 CONFERENCE

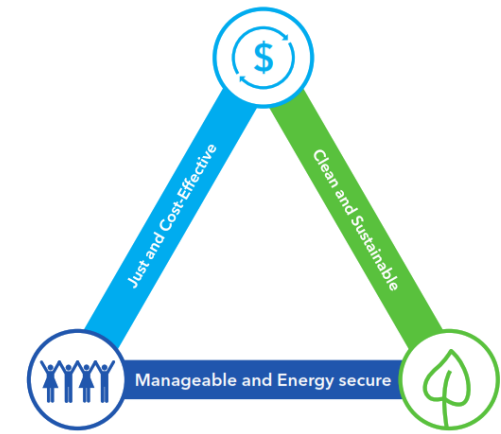


SUSTAINABLE DEVELOPMENT GOALS

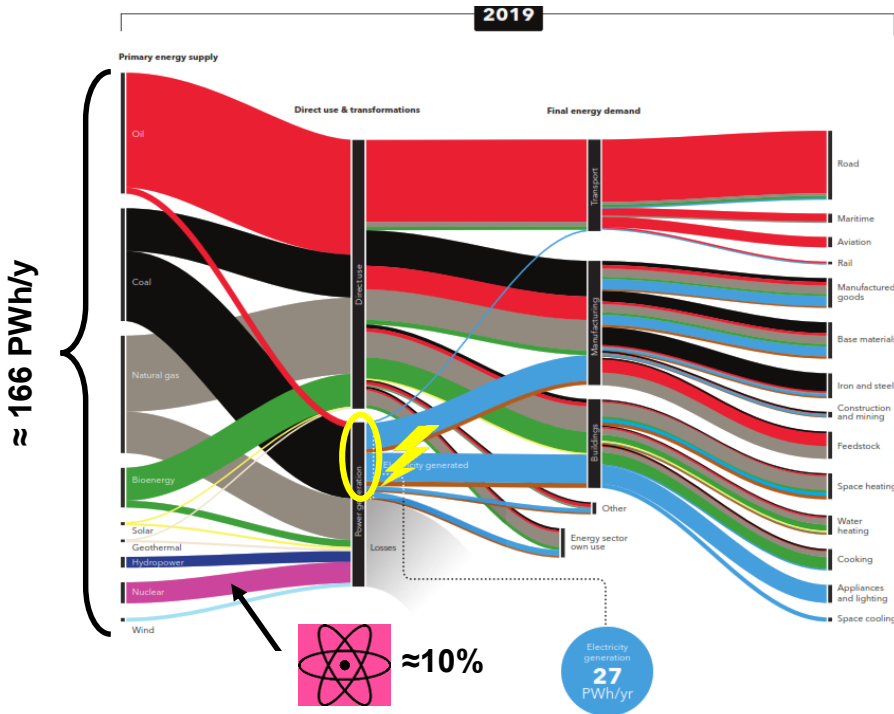


Ensure access to affordable, reliable, sustainable and modern energy for all

The energy transition trilemma

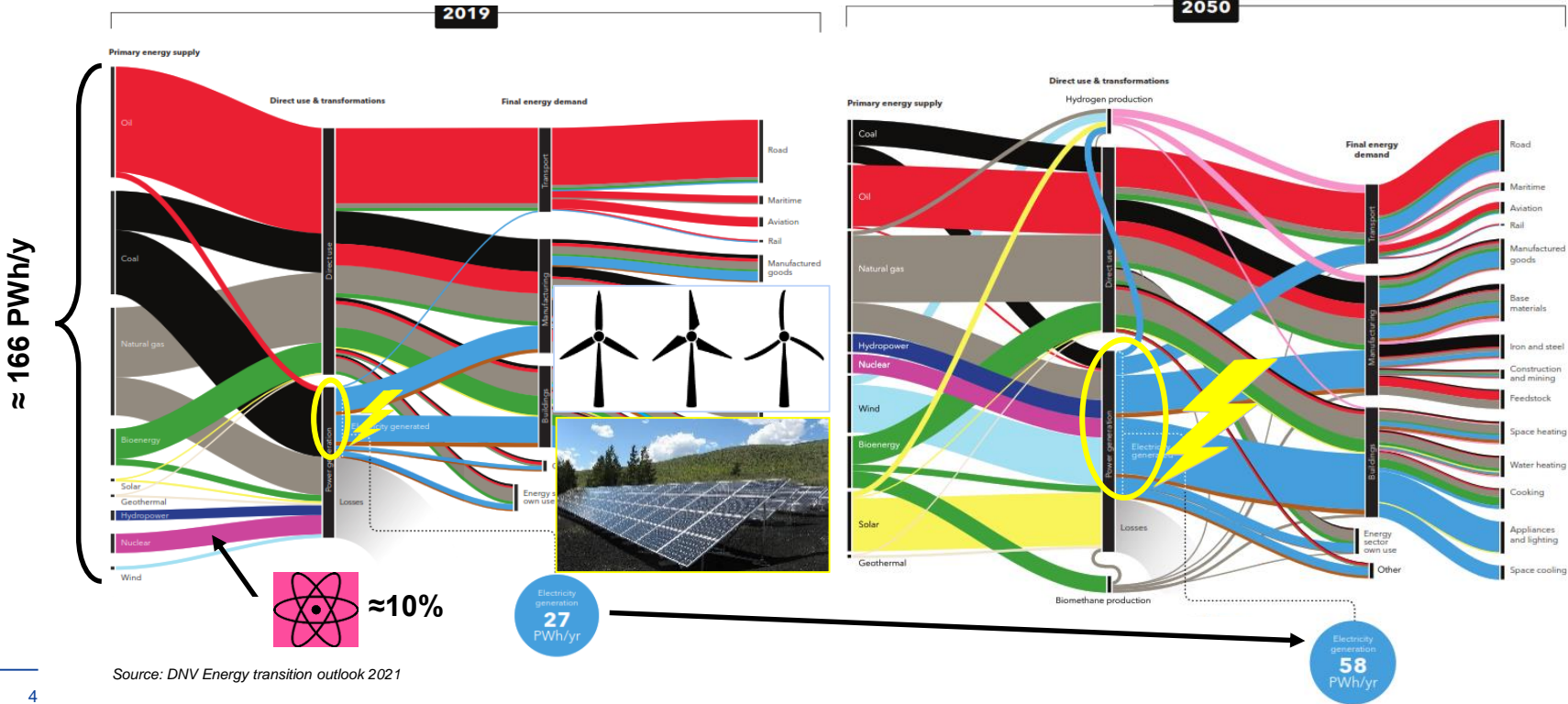


Energy outlook & transition

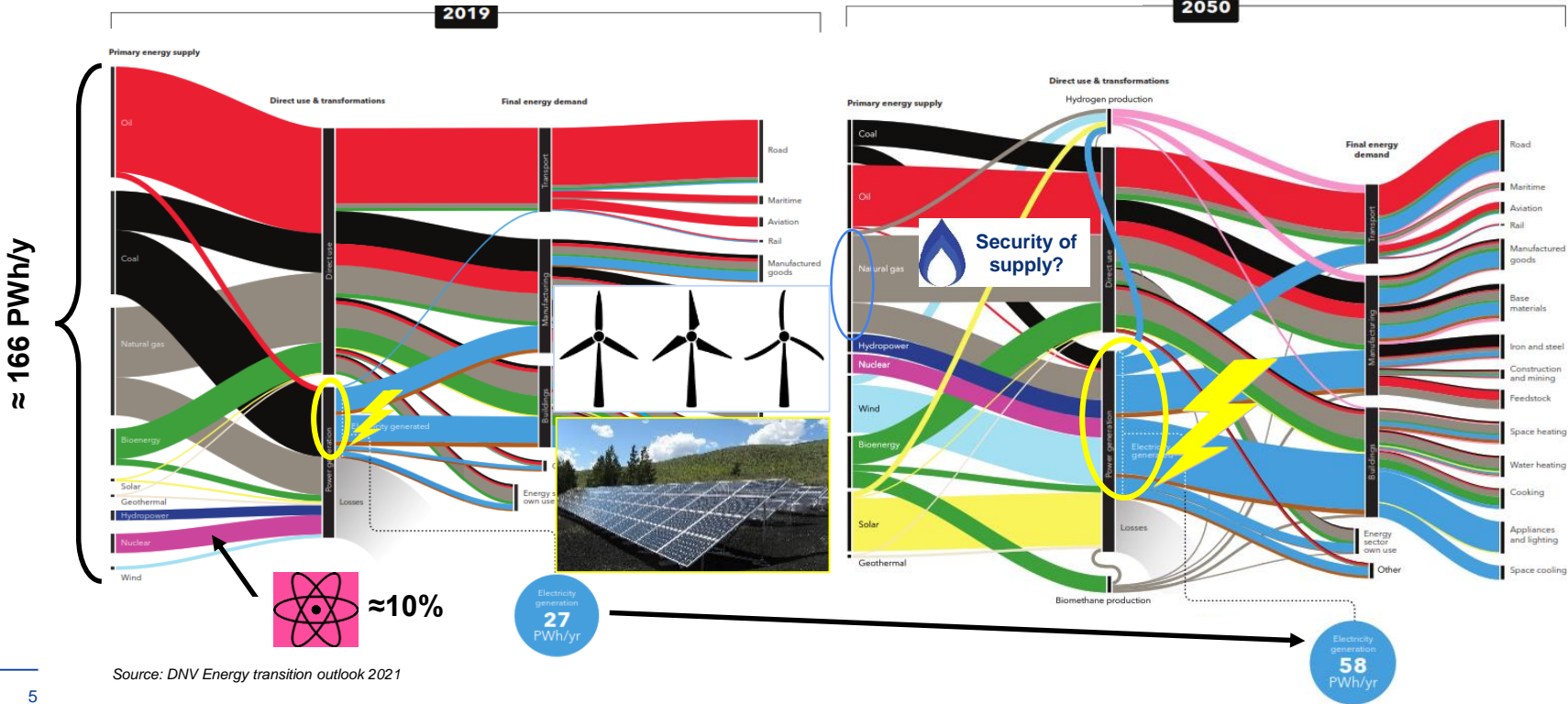


Source: DNV Energy transition outlook 2021

Energy outlook & transition

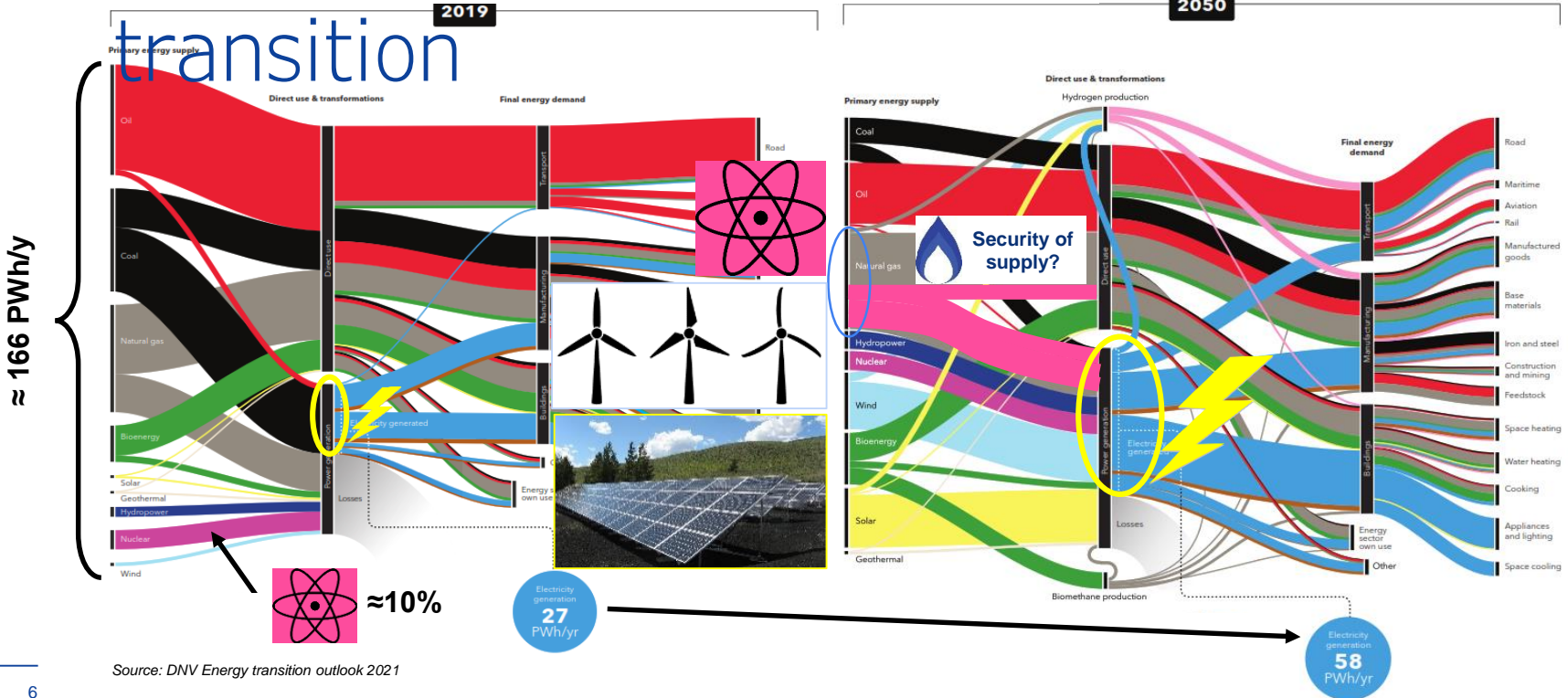


Energy outlook & transition

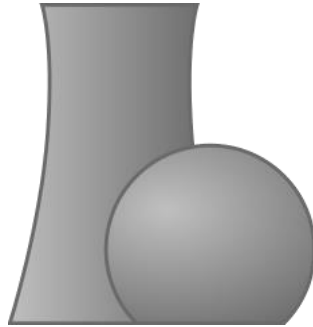


Source: DNV Energy transition outlook 2021

Energy outlook & transition

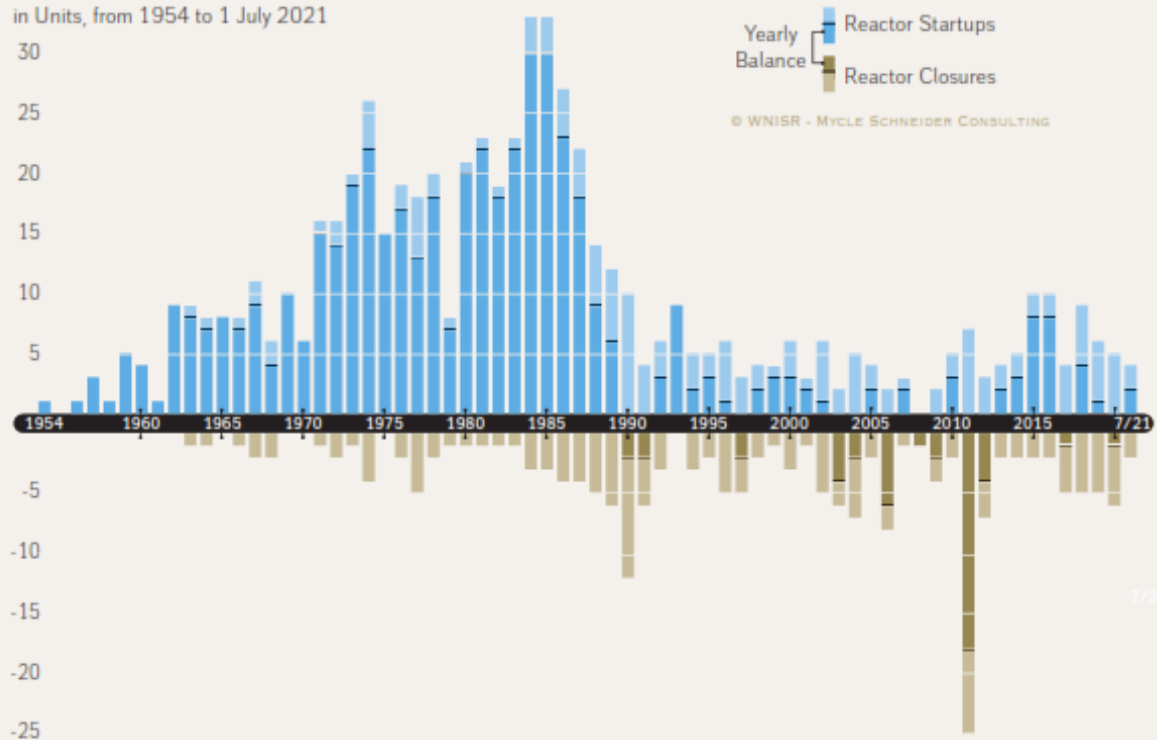


Contribution of Nuclear Power



Reactor Startups and Closures in the World

in Units, from 1954 to 1 July 2021

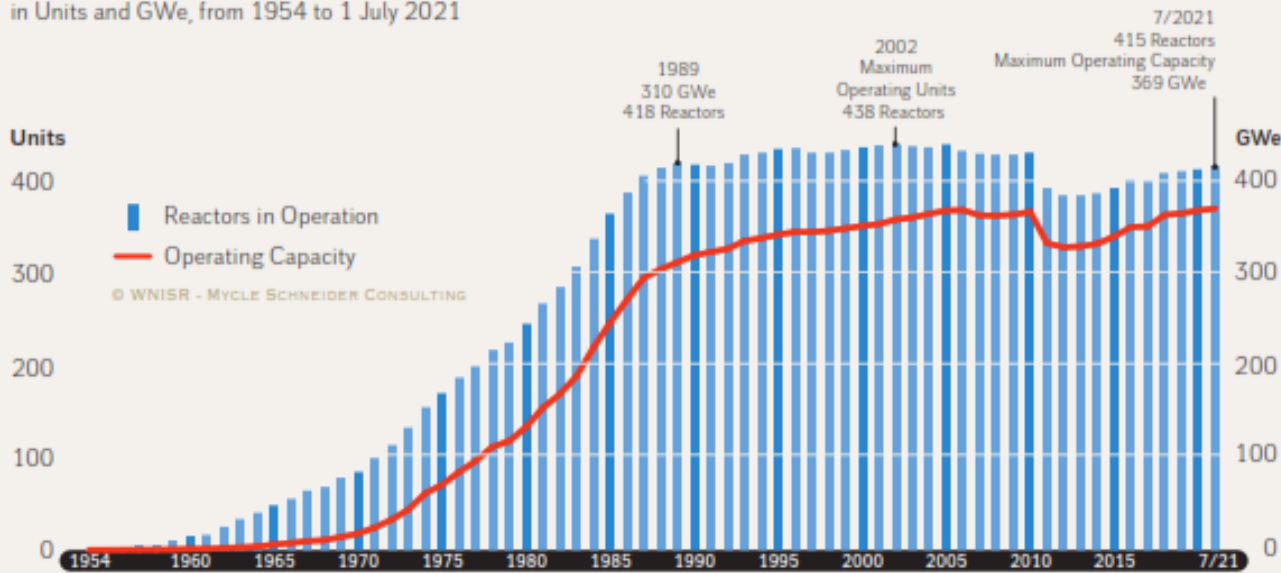


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Nuclear Reactors and Net Operating Capacity in the World

in Units and GWe, from 1954 to 1 July 2021



Sources: WNISR, with IAEA-PRIS, 2021

Innovations in the industry

- LTO 60 - 80 program development

- Design Certification / GDA processes

- Modular construction techniques
- (Small) Modular designs

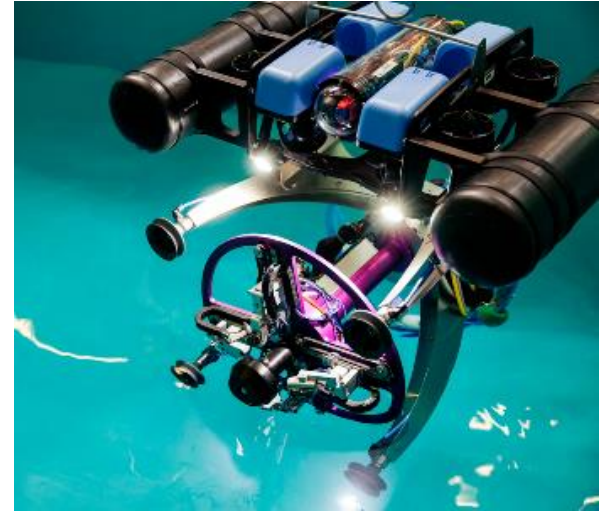
- Increased power output
- Passive systems & state of the art safety concepts

- Digitalization of MMI

- Accident Tolerant Fuel

- Additive manufacturing

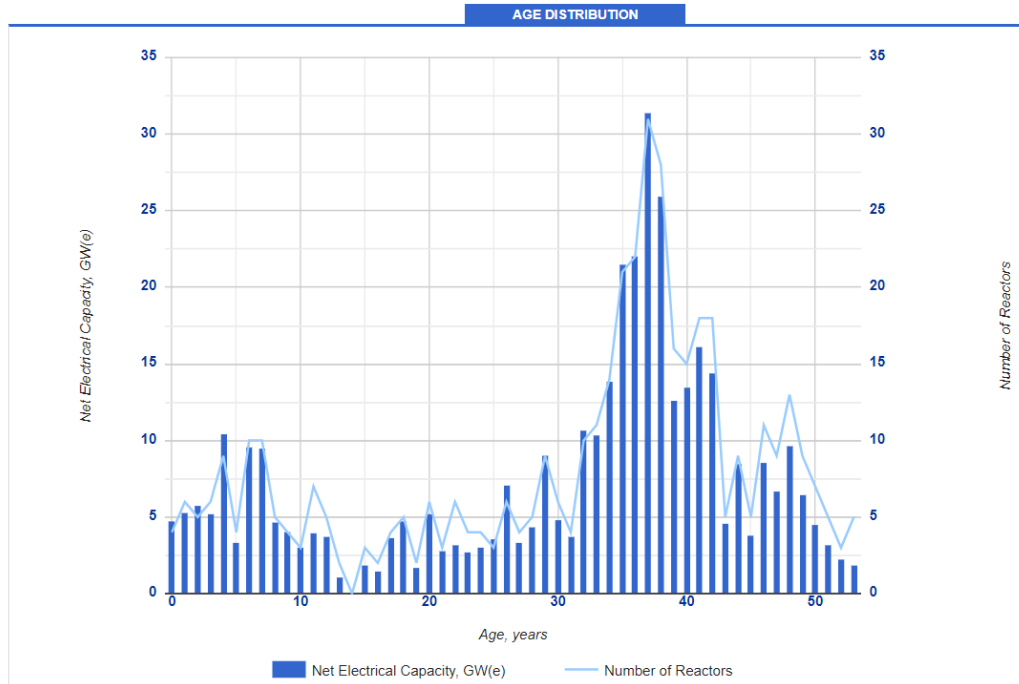
- Advanced Numerical Modelling & Simulations



However...

Age of current fleet of reactors

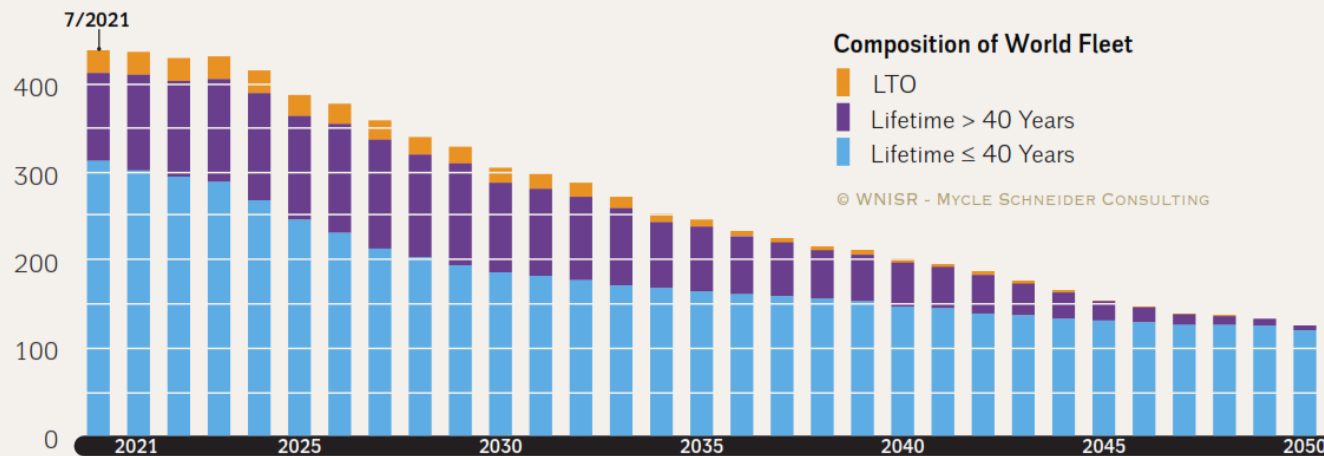
Age Distribution



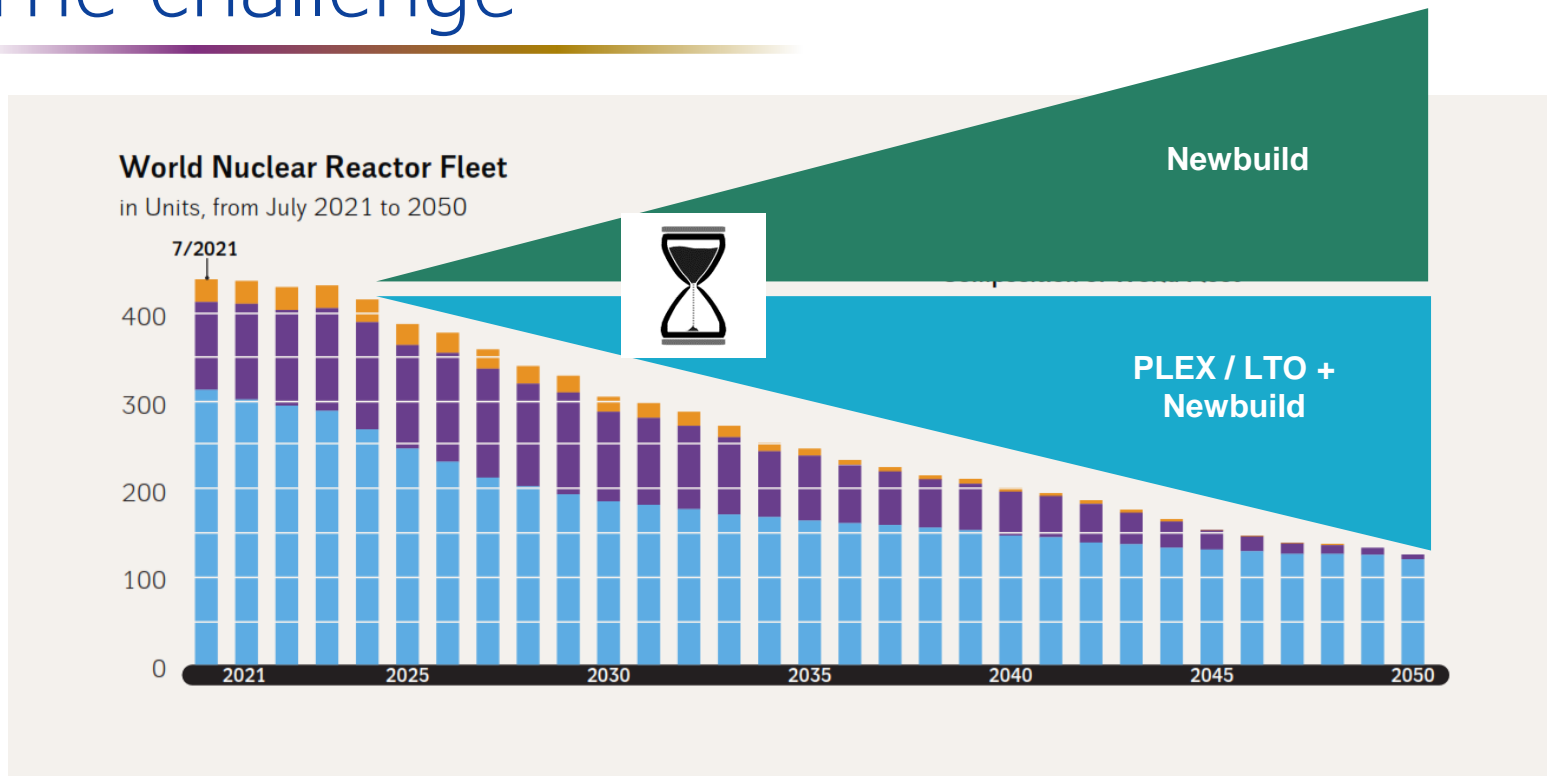
Projection of ageing NPPs

World Nuclear Reactor Fleet

in Units, from July 2021 to 2050



The challenge



Paradigm shift

Initial topic: What is the potential value of nuclear technology?

Current challenge:



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Why are we bringing
you all together?

ENERGY



HEALTH



INNOVATION



SOCIAL RELEVANCE

We believe that advanced nuclear solutions will create future breakthroughs in healthcare and energy. It is our responsibility to ensure safety of the entire nuclear lifecycle. We advance nuclear solutions in the interest of people and planet.

Common challenges...or opportunities?

LTO



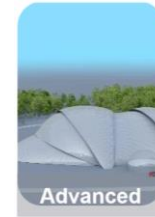
- Safety demonstration
- Obsolescence
- Maintaining qualified and motivated personnel
- Ageing of components
- Scoping

Newbuild



- Licensing
- Financing
- Building competent workforce
- Ageing mgt
- Construction mgt
- ..

Advanced



- Licensing
- Commercialisation
- R&D infrastructure
- New Materials & Fuels
- ..

Common challenges...or opportunities?

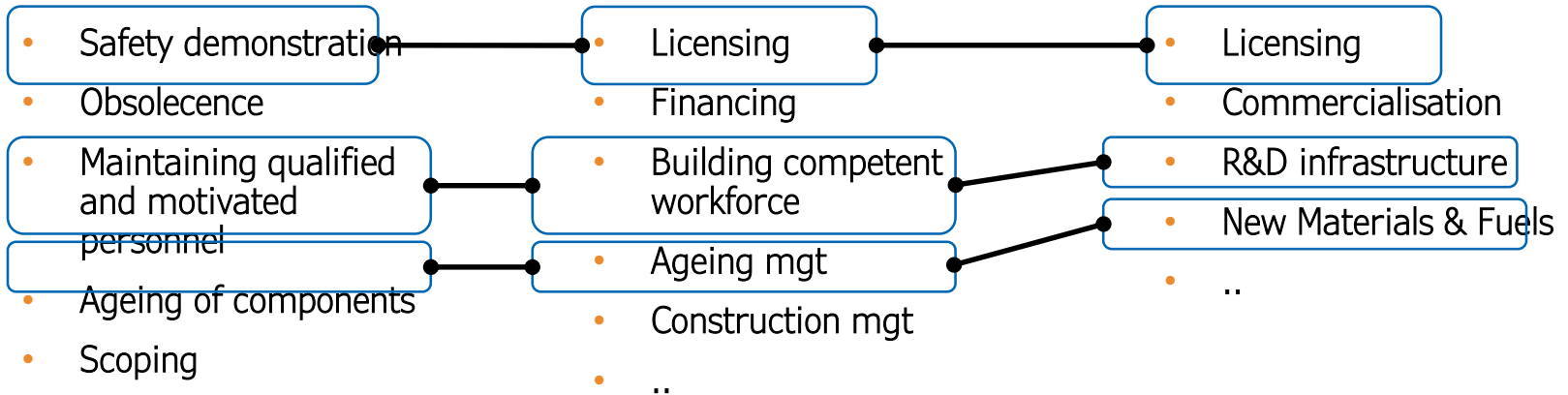
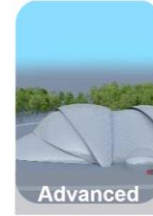
LTO



Newbuild



Advanced



Let's align to
accelerate nuclear
innovations!

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