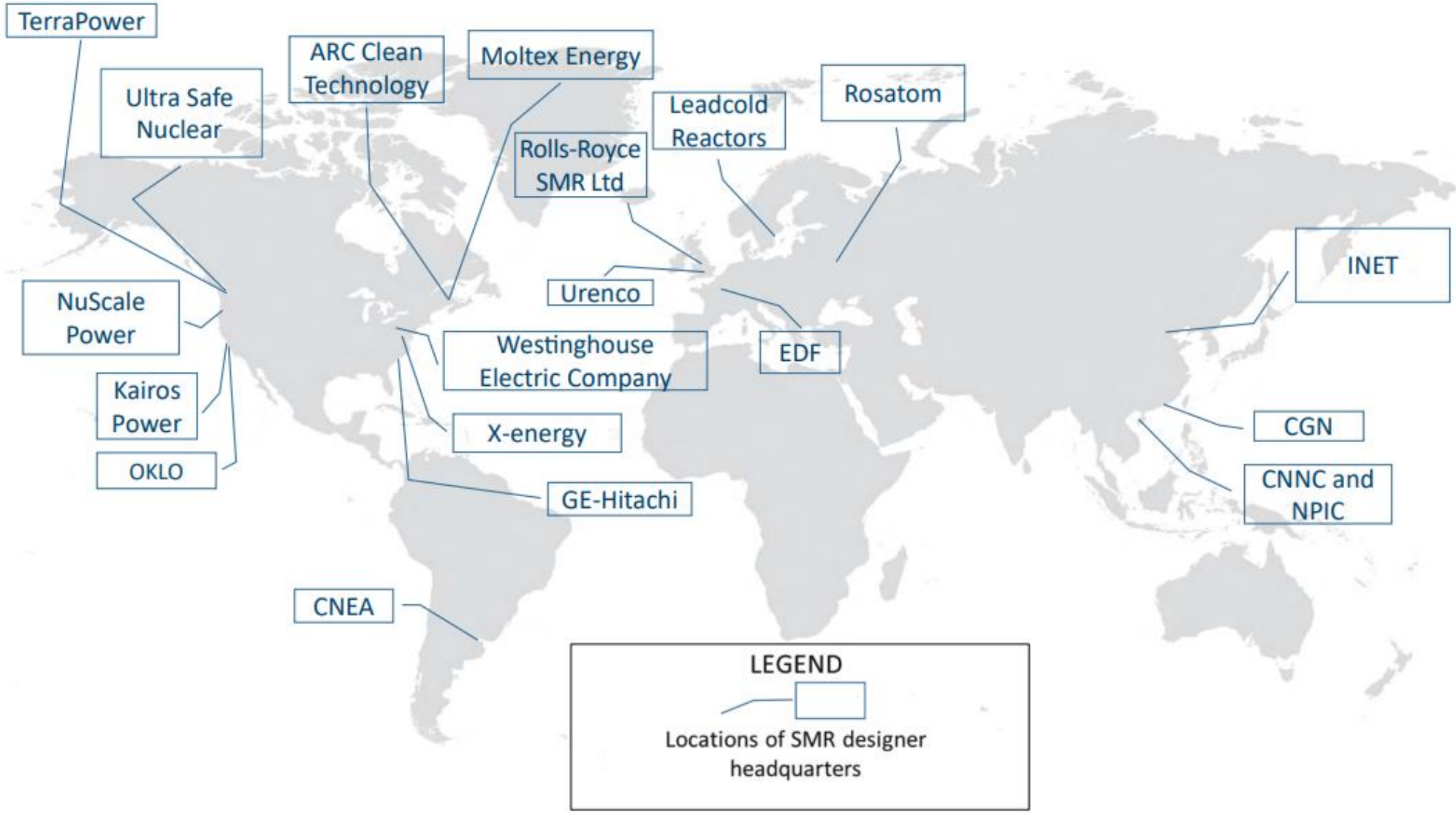
BNLA SMR Conference
22 Sept 2023

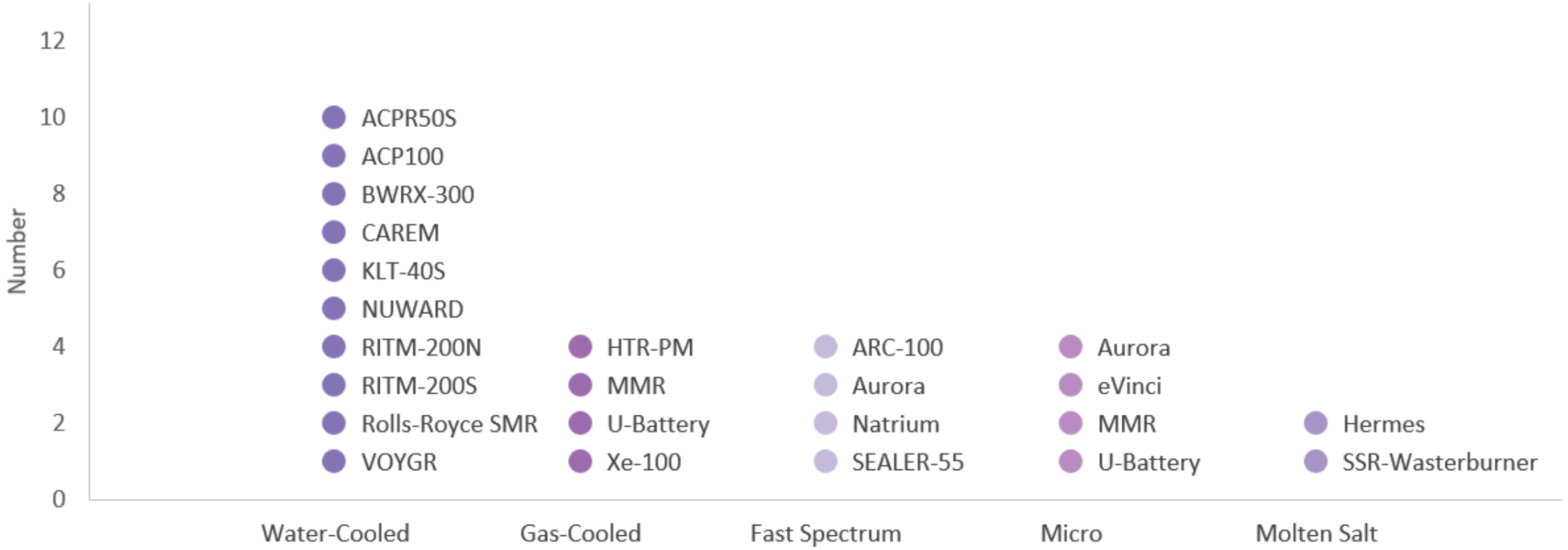
International Persectives Introduction

Marc Deffrennes

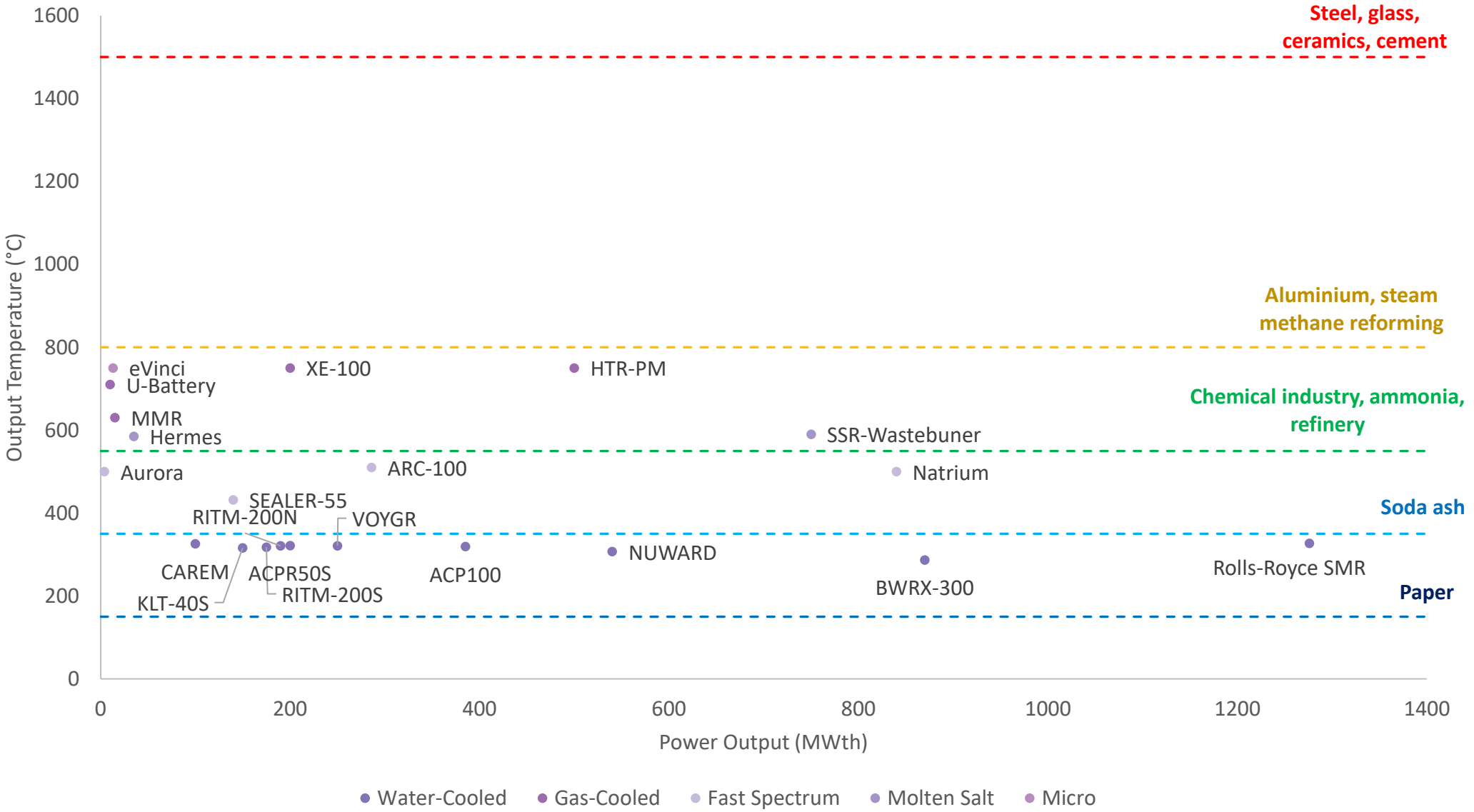
SMRs under development around the world



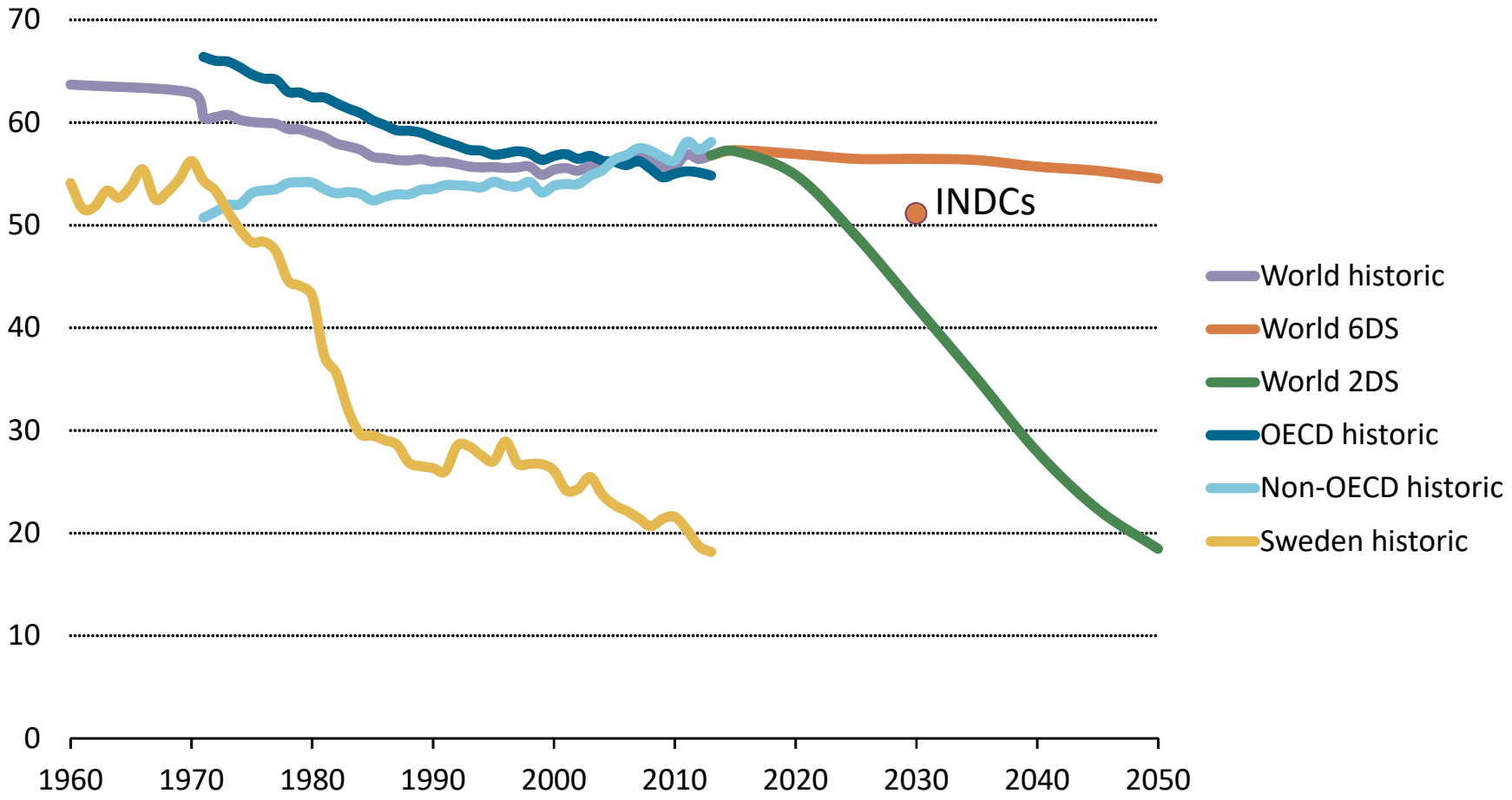
Reactor concepts



Sizes and temperatures



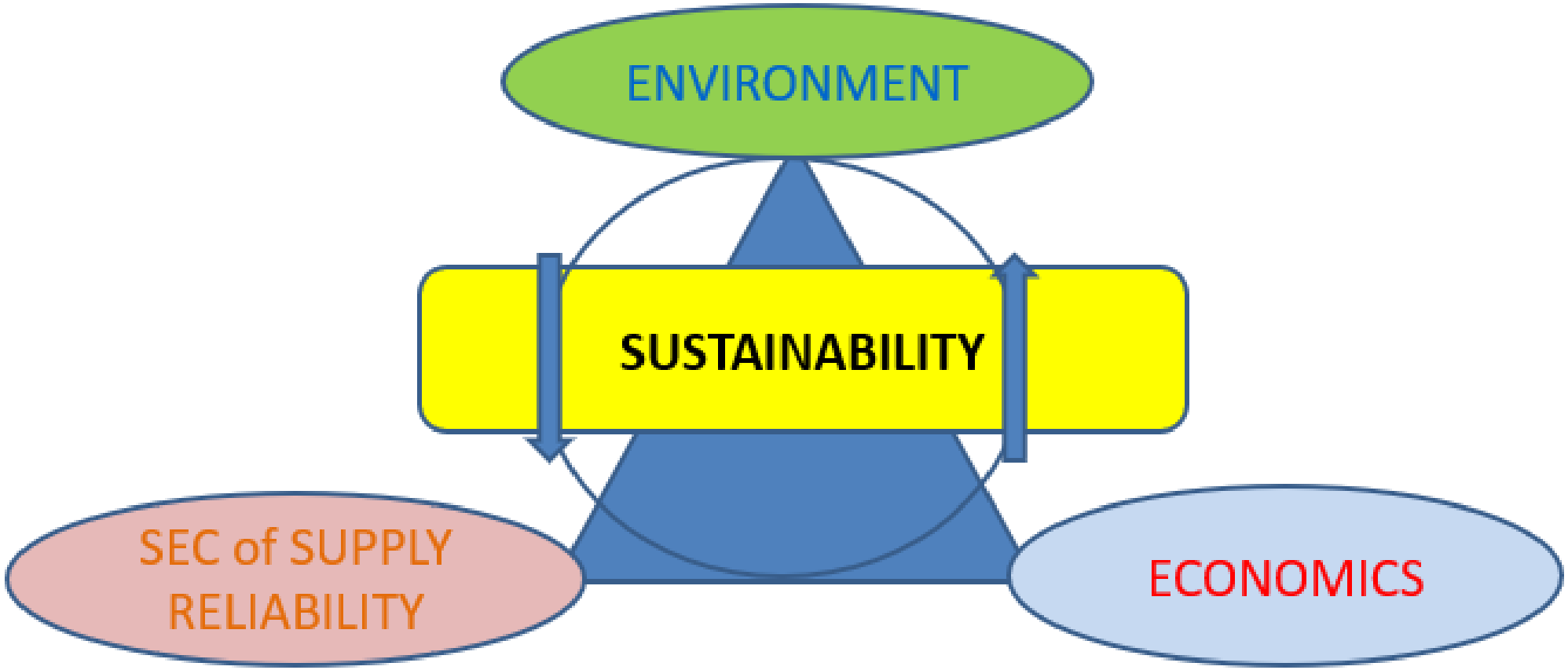
2°C requires a drop in the carbon intensity of primary energy (tCO2/GJ)



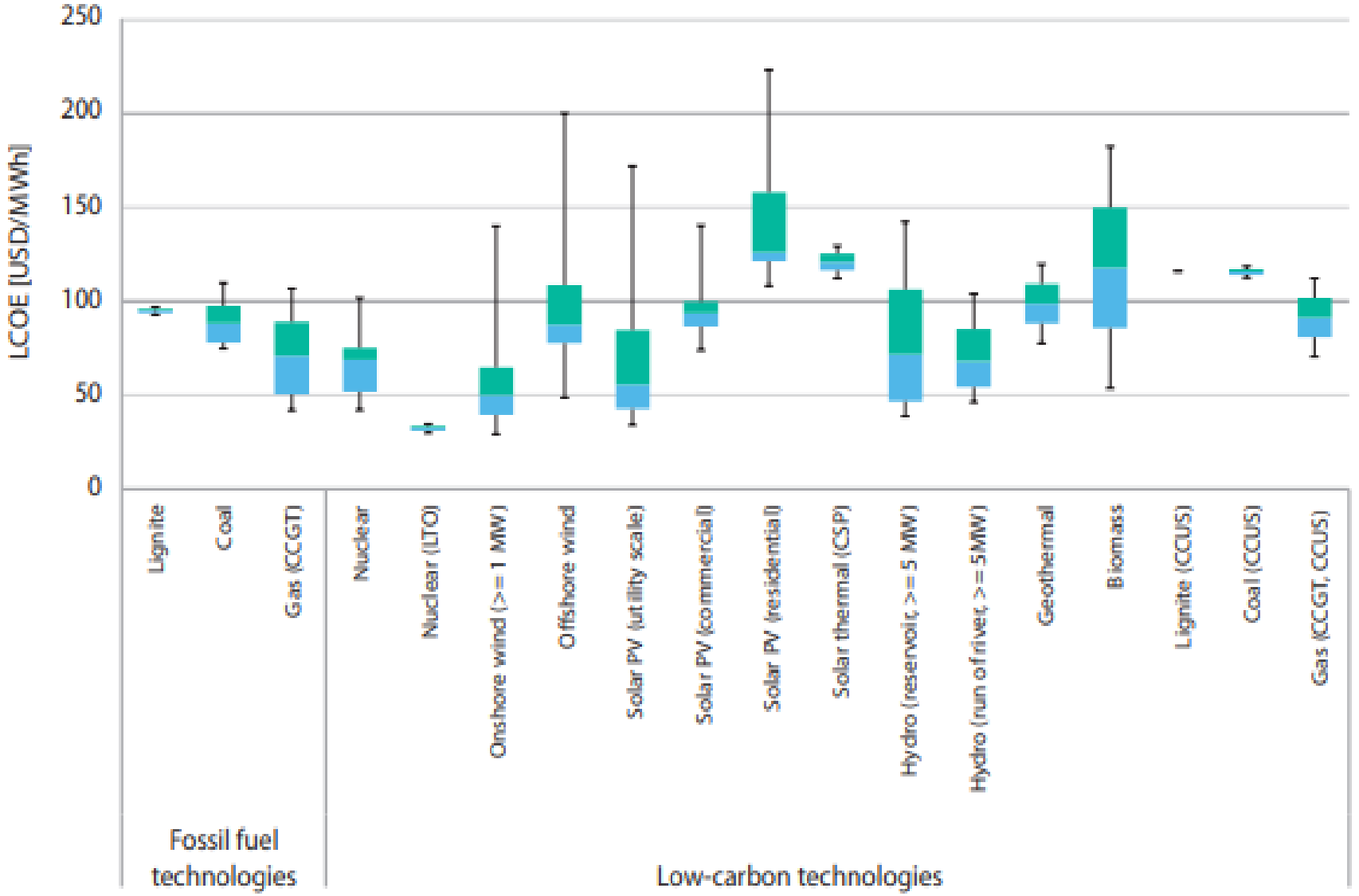
…which has been stable on a global level over the last 50 years.

Source: Energy Technology Perspectives, 2016

Beyond CO2… Global Challenges
A better Triangle for Energy Policy

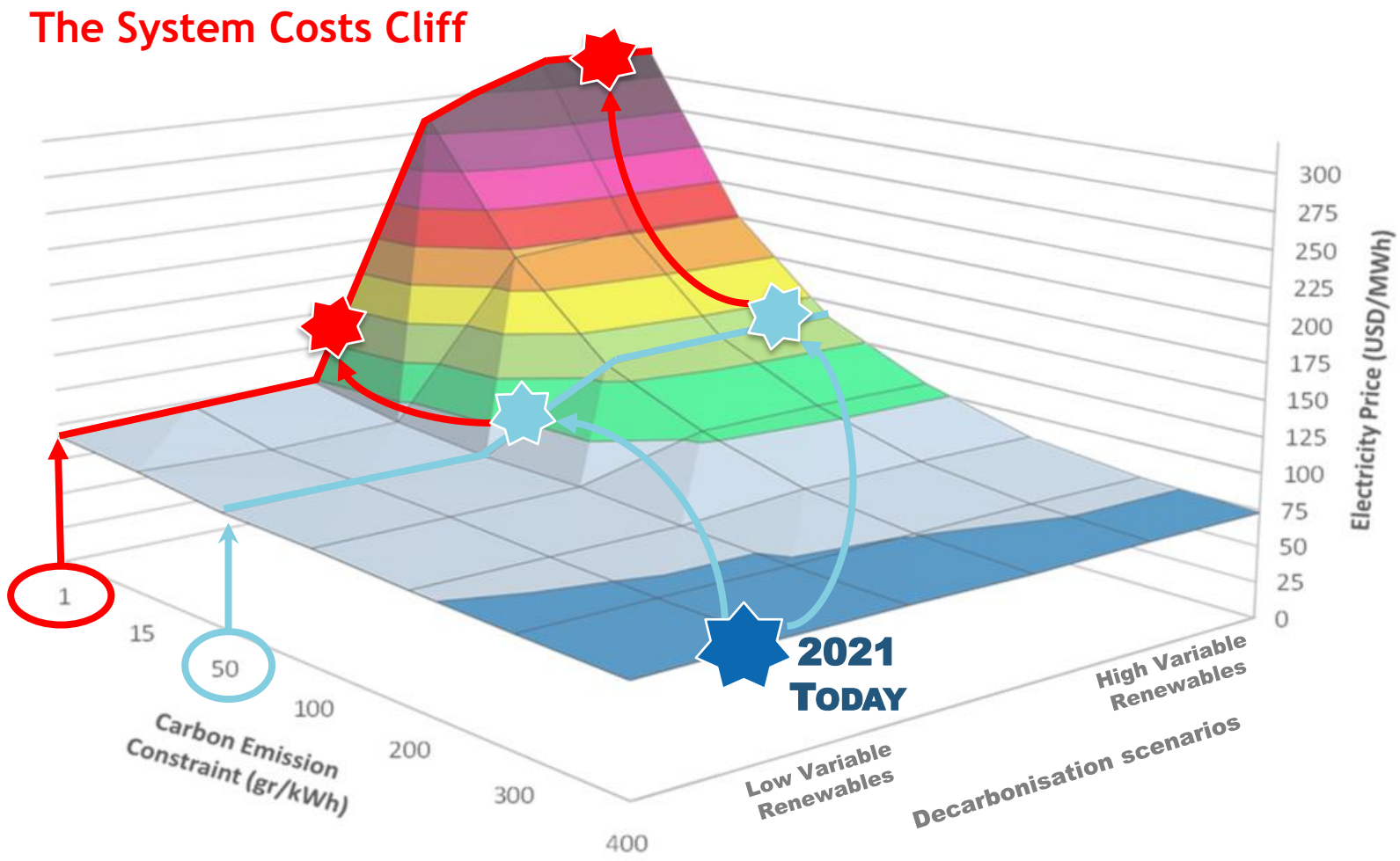


Levelized Cost of Electricity LCOE IEA NEA PCGE 2020



Note: Values at 7% discount rate. Box plots indicate maximum, median and minimum values. The boxes indicate the central 50% of values, i.e. the second and the third quartile.

Charting a Path to Net-Zero Electricity

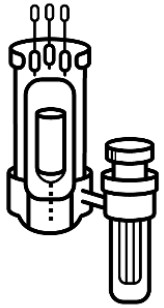


Source: NEA

The Full Potential of Nuclear Energy to Contribute to Emissions Reductions

Long Term Operation

Large Gen-III Reactors



Small Modular Reactors

H_2

Non-Electrical applications

Complementary nuclear technologies and applications

What About SMRs in this context ???

- **International Perspectives**
  - **Nuclear Energy Agency OECD – SMR Dashboard**
  - **International Atomic Energy Agency – SMRs in nuclear role**
  - **European Commission - SMR Research**
  - **Nucleareurope – EU SMR PrePartnership**
  - **UK – Supply Industry**

- Technologies
- Legal aspects
- Economics and Financing