Contribution of nuclear power to the mitigation of greenhouse gas emissions

IAEA Scientific Forum

Nuclear Technology for Climate

Mitigation, Monitoring, Adaptation

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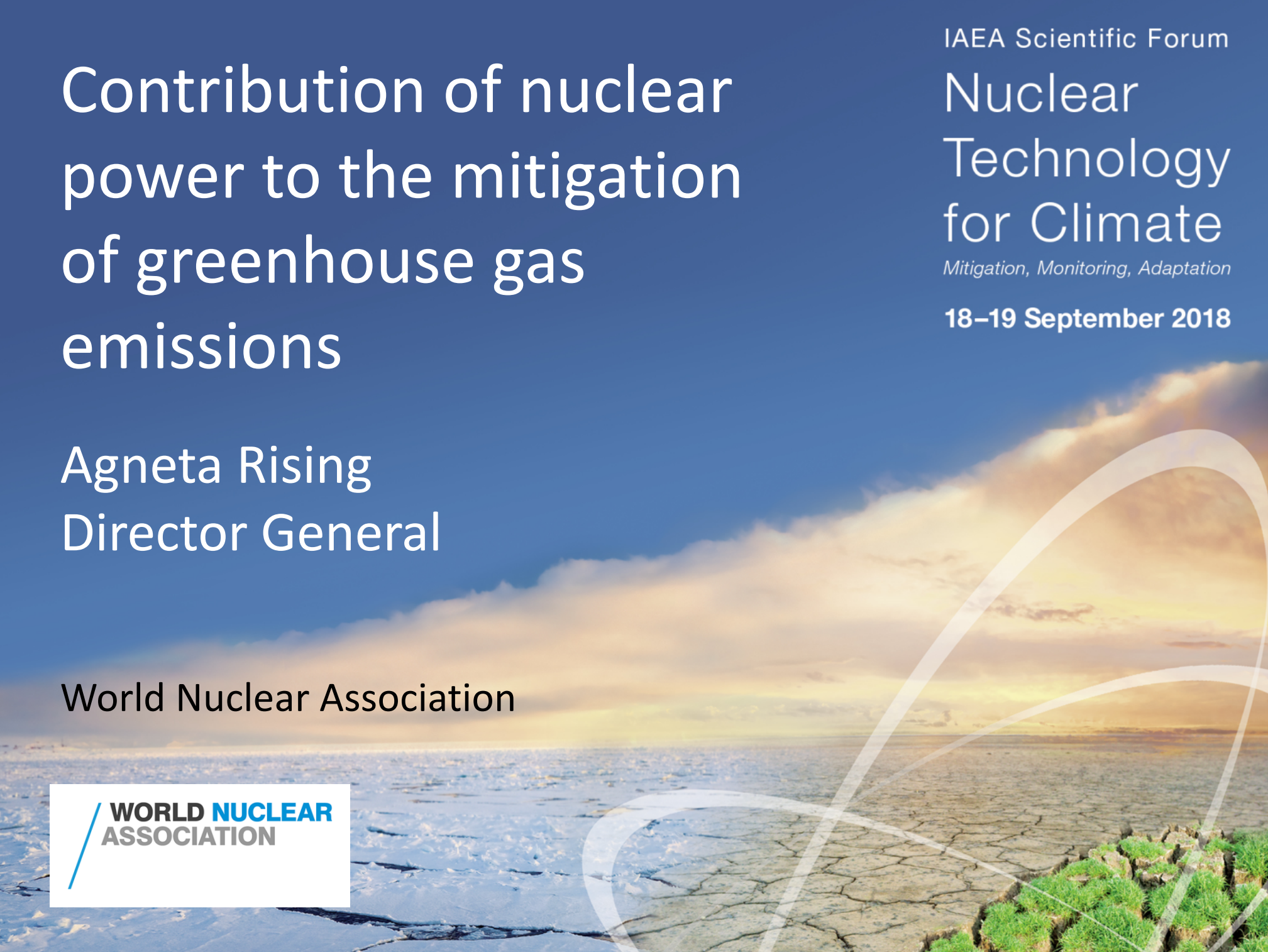
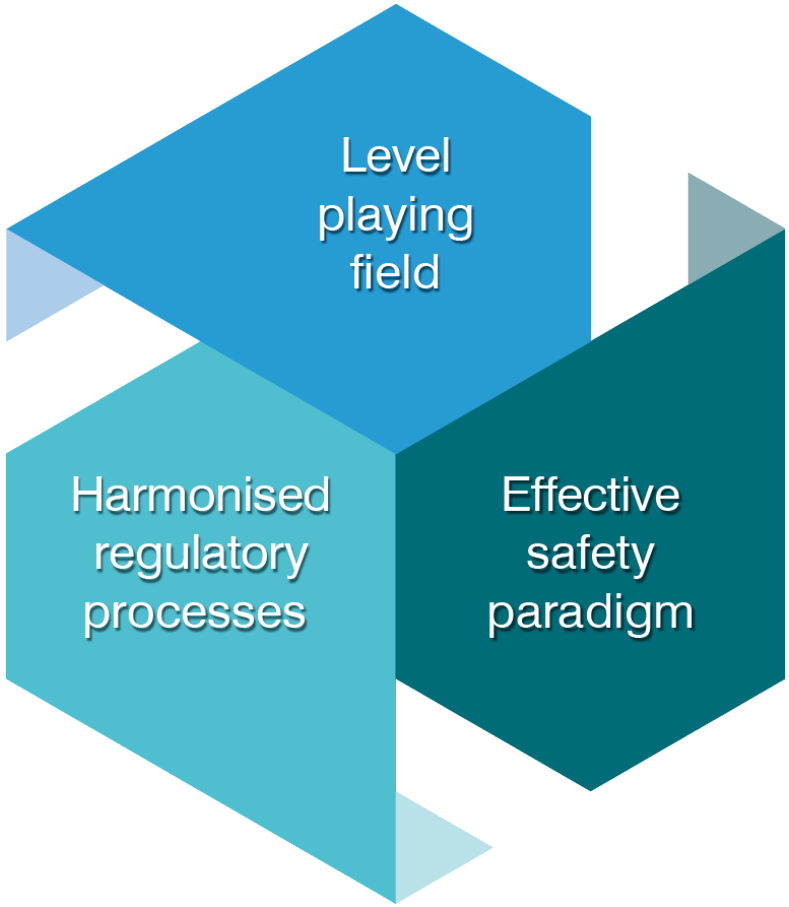


Harmony goal: ready to deliver more nuclear to ensure 2 degree scenario

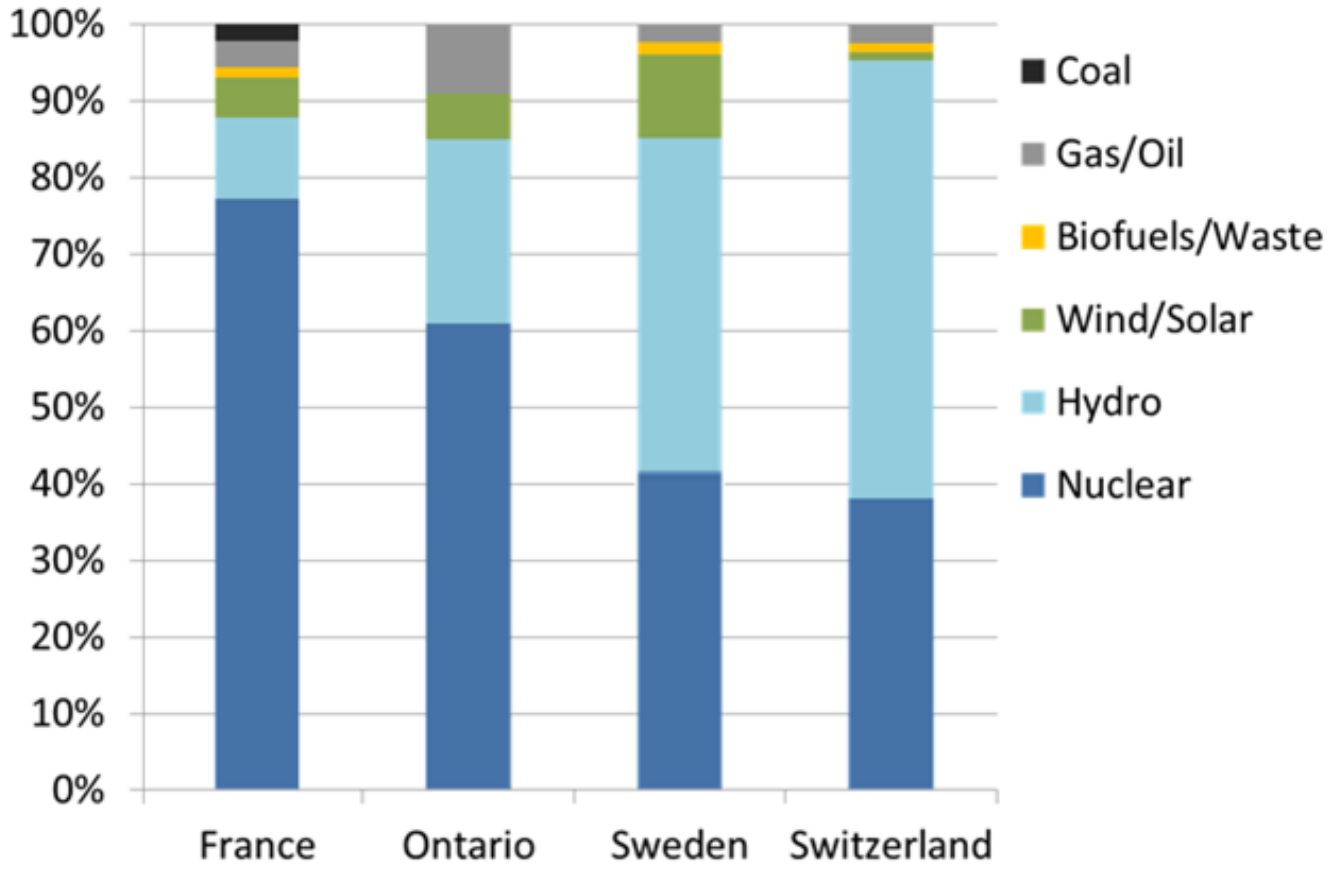


1000 gigawatt new nuclear capacity by 2050

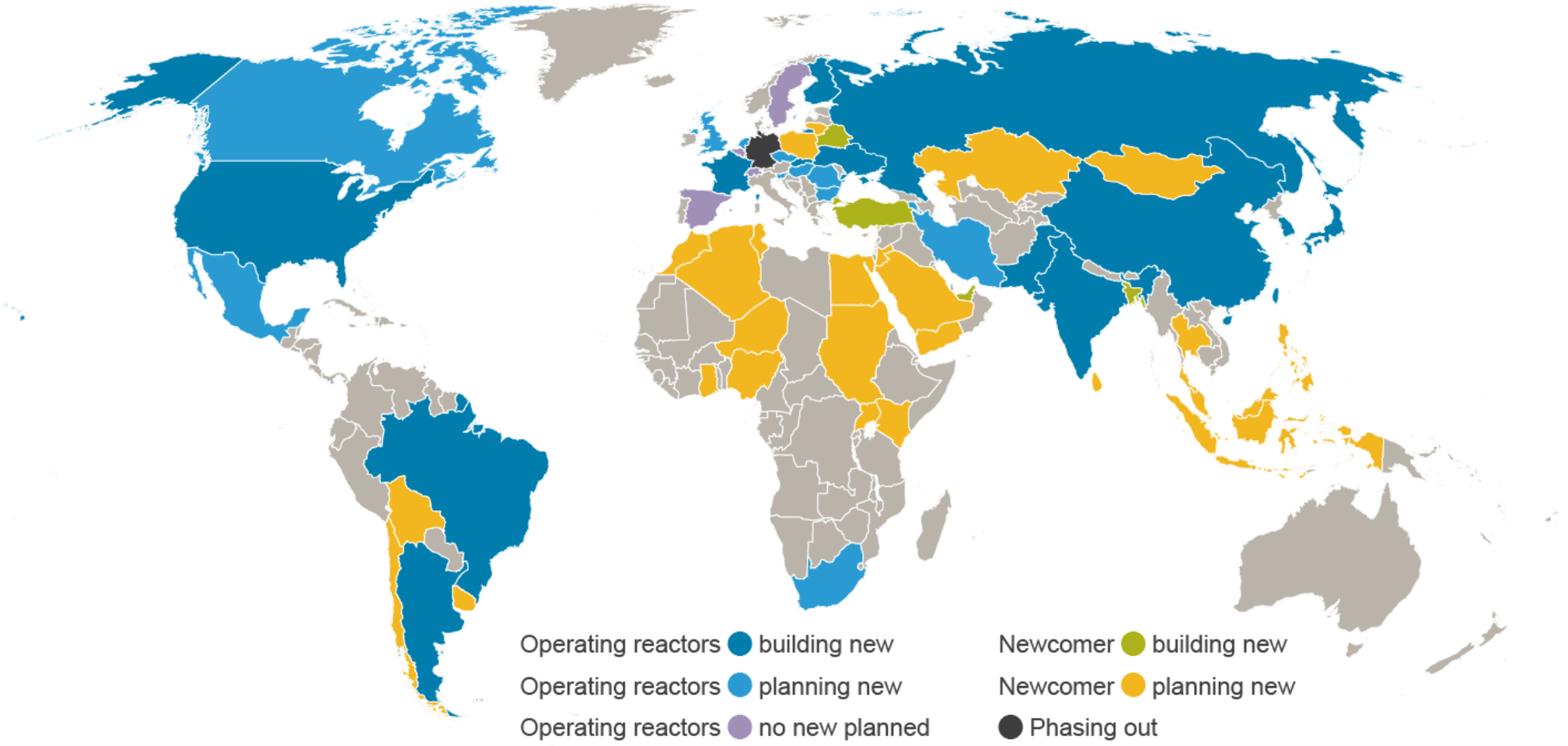
25% of electricity supply 2050

Nuclear energy to deliver reliable, affordable and clean electricity

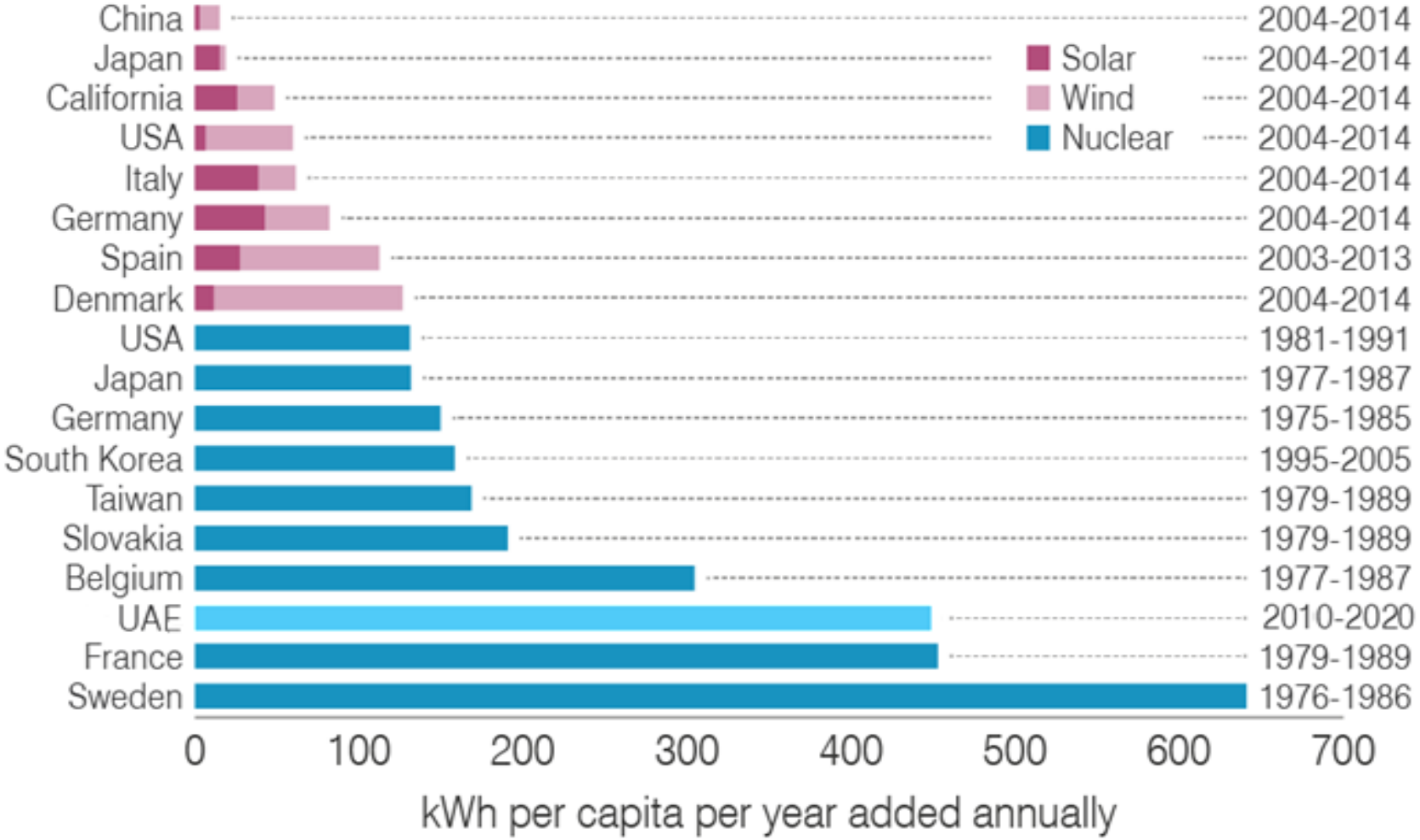
Nuclear is an important part of the low carbon solution



Nuclear's growing global generation

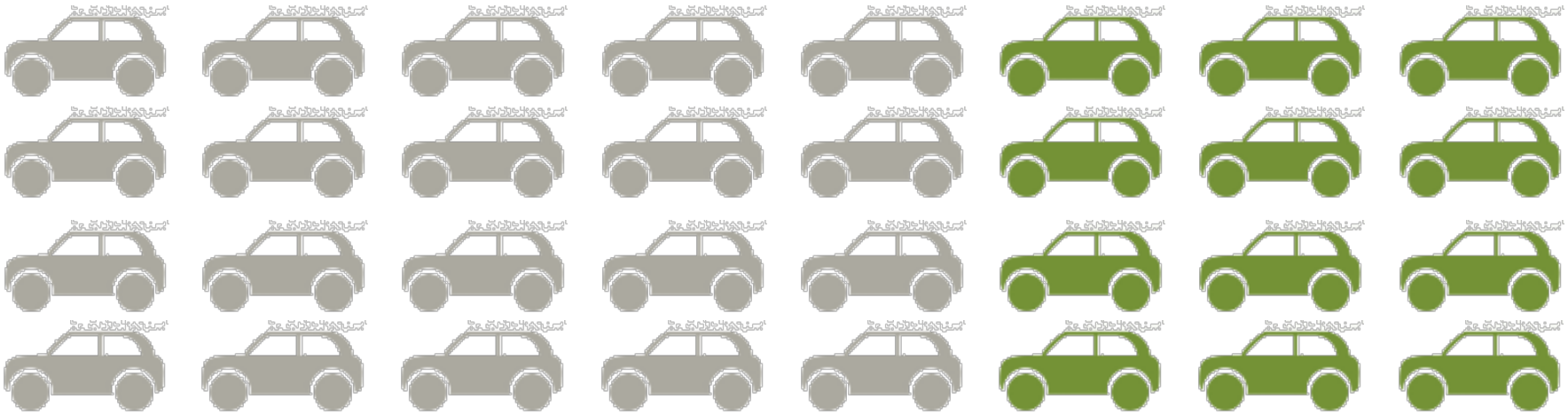


Nuclear makes quick, lasting decarbonisation possible



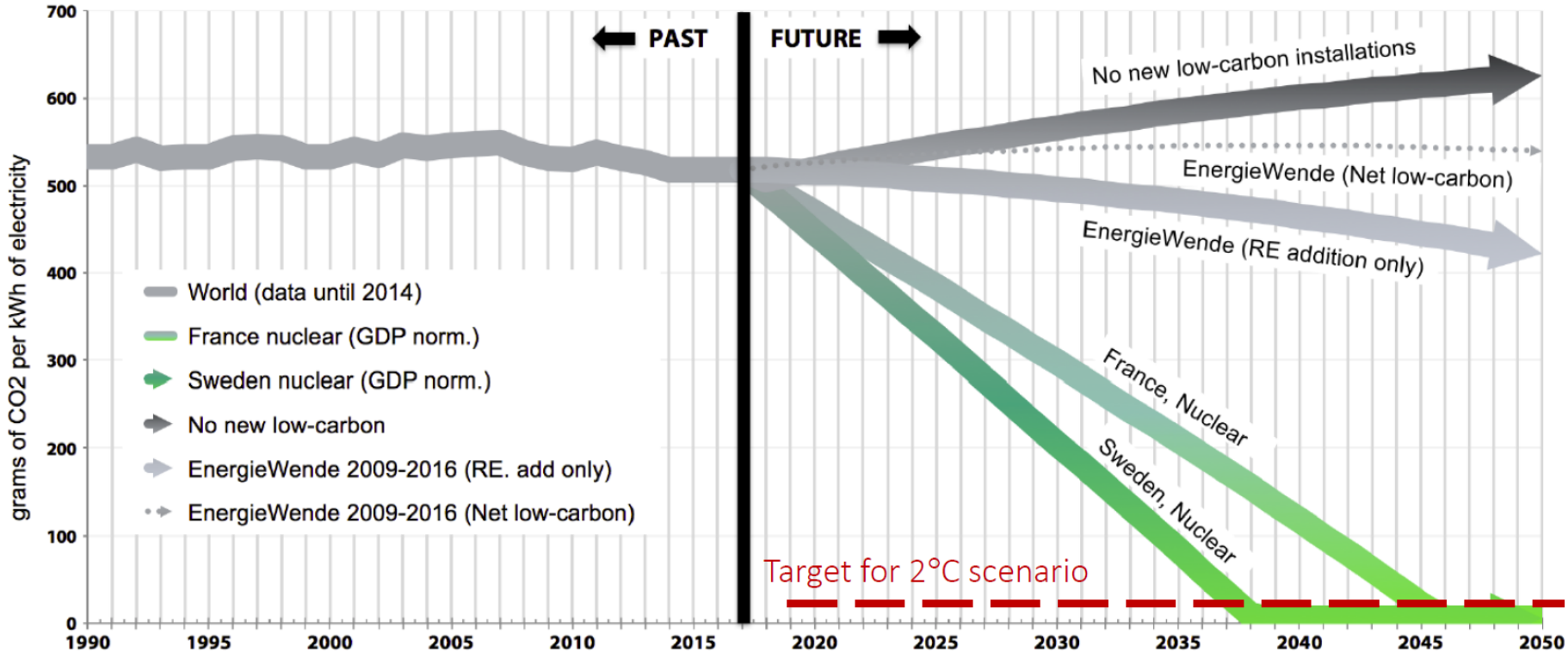
Nuclear is low-carbon, clean energy

- Replacing electricity generation from nuclear in 2016 with gas or coal would result in an additional 1.2-2.1 Gigatonnes of CO_2 equiv. emissions[1,2]
- Nuclear avoids emissions equivalent to removing 1/4 to 1/3 of all cars on the road globally[3].



1. IEA Electricity Information generation data; 2. IPCC 2014 median estimates for gCO2 equivalent for coal, gas and nuclear; 3.Based on EPA estimates of annual average emissions of 4.6 tonnes CO2 / car.

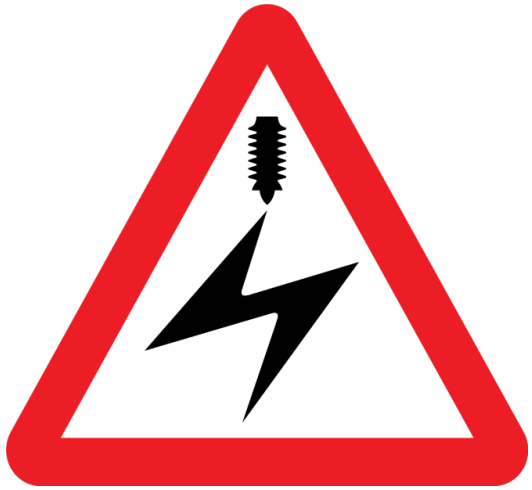
The scalability argument



Source: Staffan Qvist, 2018

What needs to be addressed to make this happen?

- There are currently several barriers standing in the way of achieving the Harmony goal.



Electricity market failure

Multiple regulatory barriers

Misconception of risks and benefits

What we need to do to deliver the Harmony goal of 1000 GW new nuclear capacity by 2050