

## SESSION 2: ADDRESSING CLIMATE CHANGE CHALLENGES

### PANEL 2.2: Monitoring and mitigation of the impact of climate change



Marina BELYAEVA  
Russian Federation

**Deputy Director, International Relations/ Director, Department of International Cooperation, State Atomic Energy Corporation ROSATOM**

Marina Belyaeva is a leading Russian expert in the area of non-proliferation, export control, safeguards implementation and nuclear energy promotion. She manages a number of ROSATOM projects in the area of international cooperation, such as the promotion of nuclear technology on global markets, the strengthening of nuclear safety and non-proliferation regimes, and the active participation in international events and forums





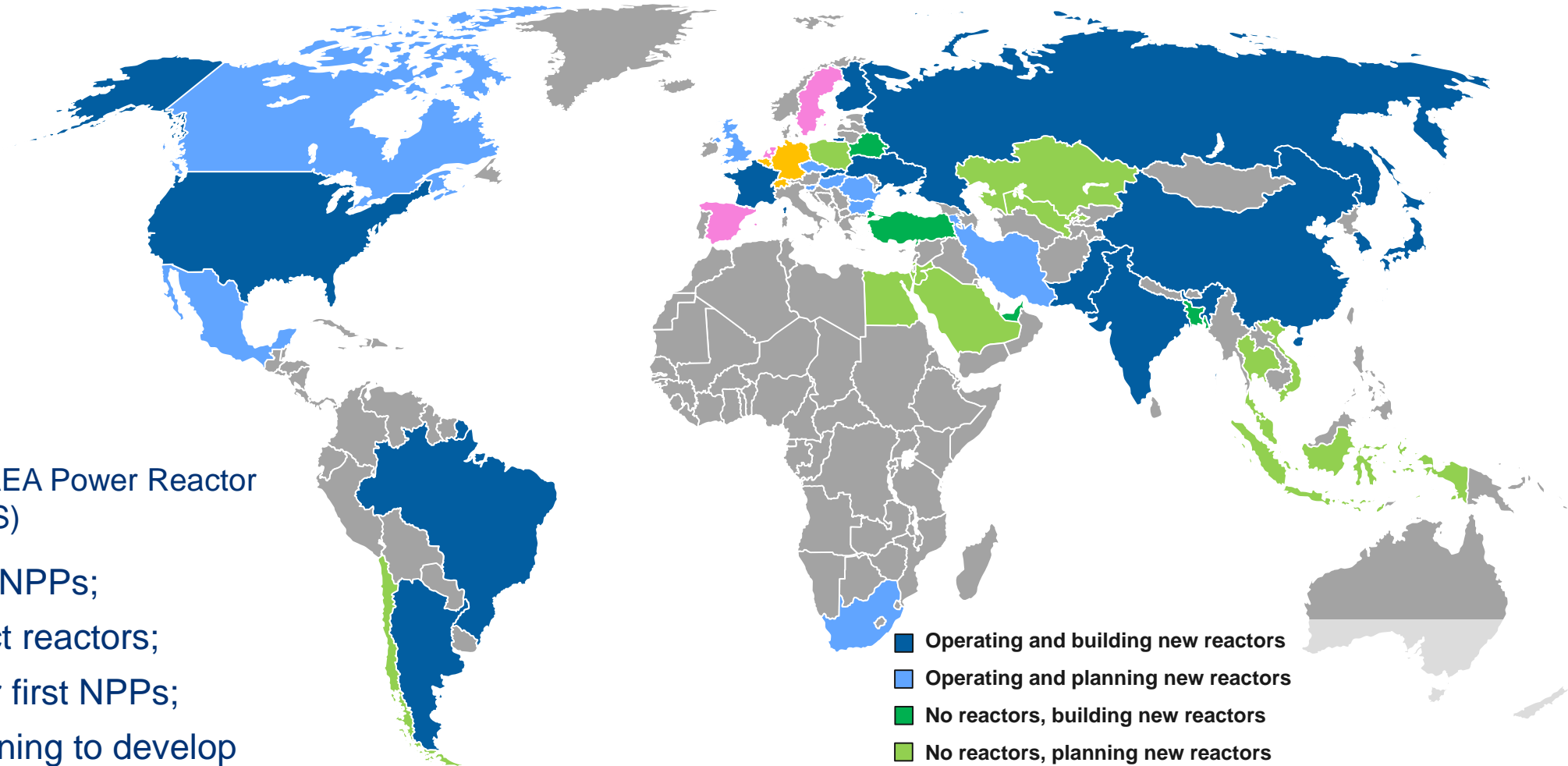
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**THE STATE ATOMIC ENERGY CORPORATION ROSATOM**

# **Nuclear power – a way to high quality of life and addressing climate change challenges**

**Ms. Marina Belyaeva,**  
Director  
Department of International Cooperation  
State Atomic Energy Corporation “Rosatom”

# NPP Operation and Construction



According to WNA and IAEA Power Reactor Information System (PRIS)

**30 countries** operate NPPs;

**16 countries** construct reactors;

**4 countries** build their first NPPs;

**12 countries** are planning to develop national nuclear energy programmes

- Operating and building new reactors
- Operating and planning new reactors
- No reactors, building new reactors
- No reactors, planning new reactors
- Operating reactors, stable
- Operating reactors, decided to phase out

# Nuclear Power Impact to Economy and Quality of Life



Each \$ 1 invested in NPP earns:

\$ 1,9 to local suppliers;  
\$ 4,3 to national GDP;  
\$ 1,4 of tax income

NPP construction provides **3000 jobs** on the construction site and up to **10 000 jobs** in the sphere of nuclear infrastructure

60-year life-cycle of an NPP with two VVER-1200 units **increases GDP** approximately **by \$ 40-60 bln**

## ECONOMY growth

R&D  
Efficiency Boost

Education  
& Training

Fundamental  
Science

Local Industry  
Development

New Knowledge  
& Technologies



## better LIFE

Food Safety &  
Security

Longer Life  
Expectancy

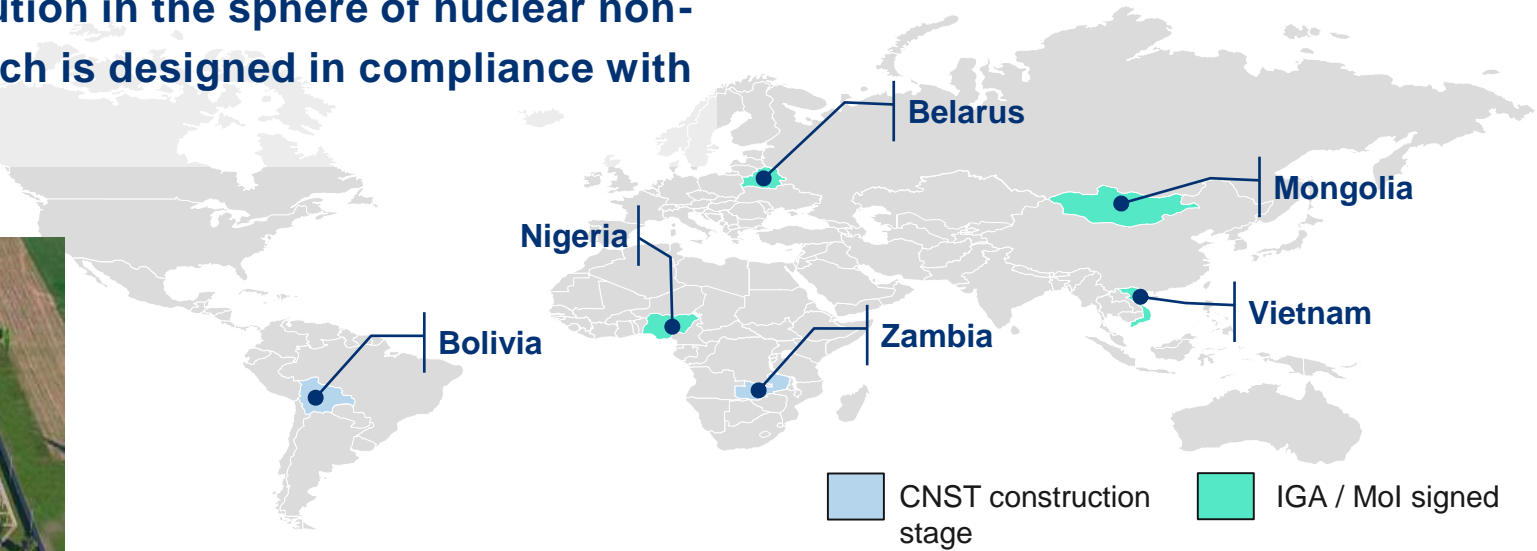
Higher  
quality  
of hygiene

Environment  
Protection  
& Sustainability

# Centres of Nuclear Science and Technology (CNST)

➤ CNST – is an innovative complex solution in the sphere of nuclear non-power applications development, which is designed in compliance with the needs of a specific country

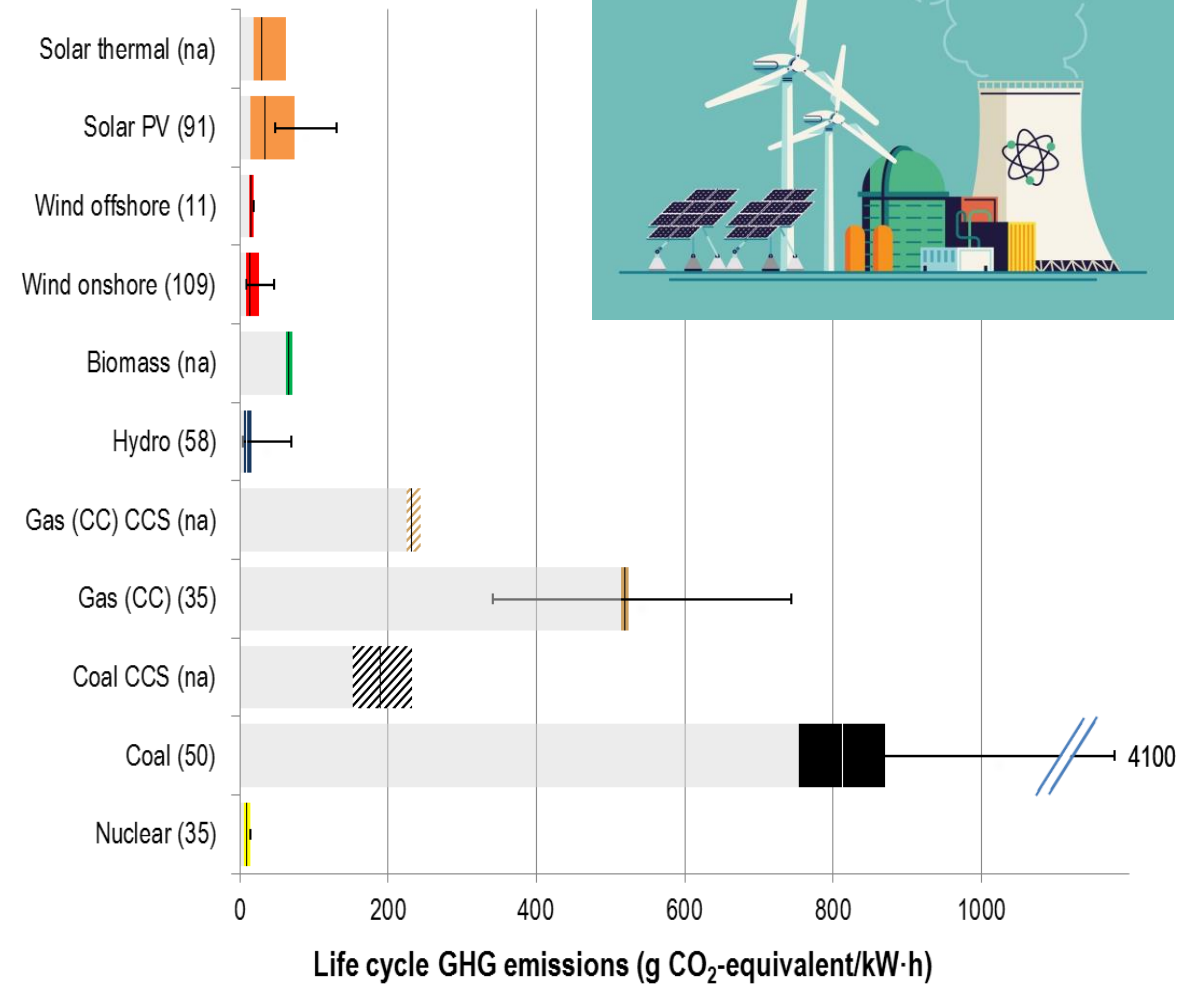
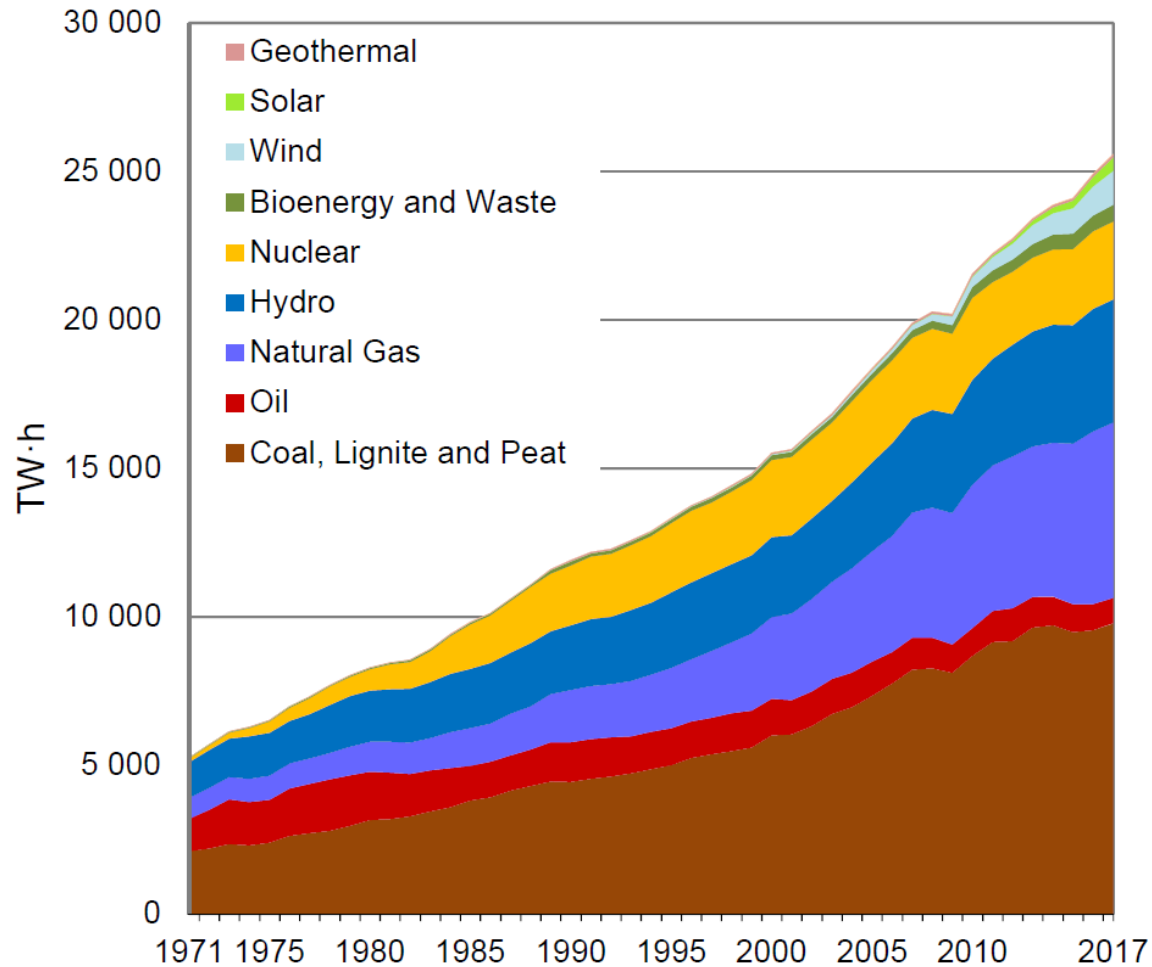
Possible CNST master plan



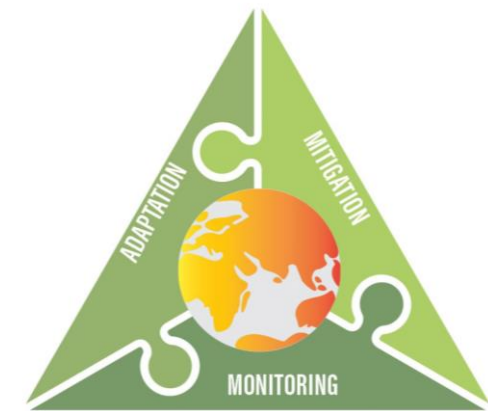
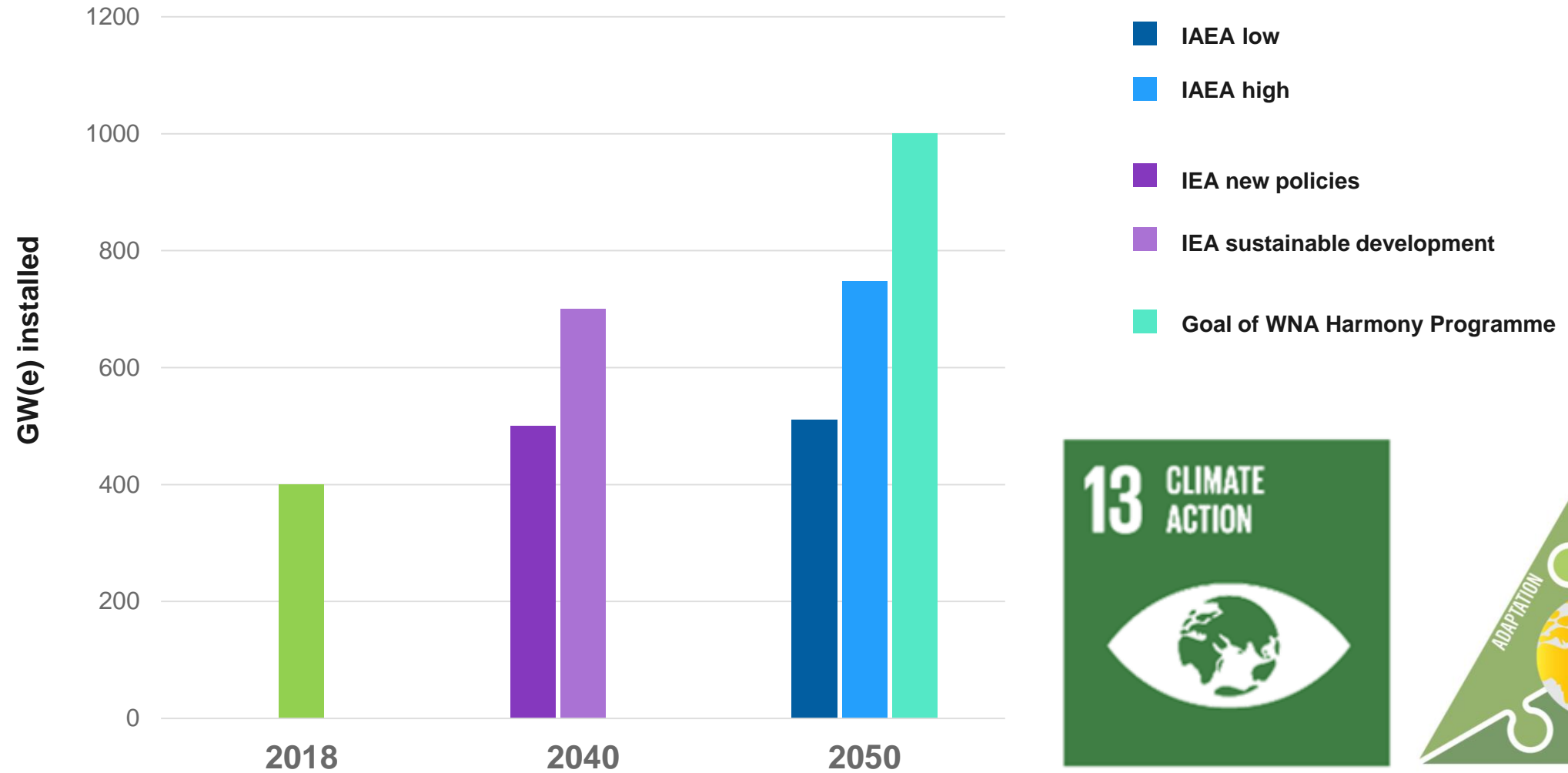
CNST could be constructed in **various modifications**

- ① **RESEARCH REACTOR AND LABORATORIES**  
Generation and application of neutrons and ionizing radiation
- ② **RADIOBIOLOGY LABORATORY AND GREENHOUSE**  
Agricultural research & radiobiological experiments
- ③ **RADIATION MATERIAL SCIENCE COMPLEX**  
Materials science research & development
- ④ **NUCLEAR MEDICINE CENTER**  
Radiopharmaceuticals production, diagnostics, therapy
- ⑤ **MULTIPURPOSE IRRADIATION CENTER**  
Product and material sterilization, product irradiation

# Share of Nuclear Generation in World Energy Production and its Impact on Climate



# Nuclear Power Development Projections





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THANK YOU FOR ATTENTION!