

IGD-TP 5<sup>th</sup> Exchange Forum  
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# The Sustainable Nuclear Energy Technology Platform

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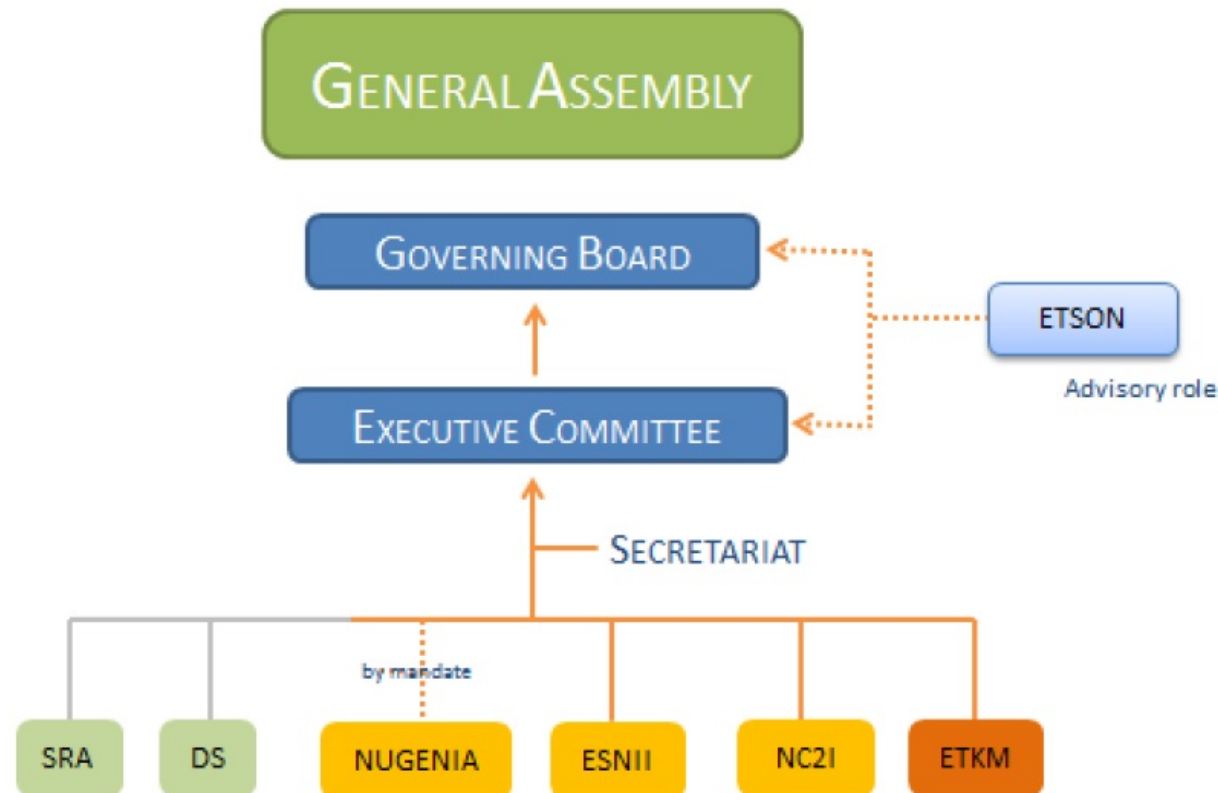
# The EC's SET-Plan and the SNETP

- Nuclear fission energy delivers safe, sustainable, competitive, continuous and carbon-free energy to Europe's citizens and industry.
- The Strategic Energy Technology Plan (SET-Plan) – a collective vision of the EC's Stakeholders for fission to contribute to Europe's transition to a low-carbon energy mix by 2050.
- SNETP drives the European R&D necessary for nuclear fission to contribute to the SET-Plan.

## The SNETP Vision

- Achieving sustainable and continuous production low-carbon of energy
- Improving economic performance
- Improving the utilisation of natural resources and minimising waste
- Displacing fossil fuels for non-electrical applications through cogeneration of electricity and process heat
- Continuously improving safety
- Increasing resistance to proliferation

# SNETP Structure



- SRA: STRATEGIC RESEARCH AGENDA
- DS: DEPLOYMENT STRATEGY
- ETKM: EDUCATION, TRAINING & KNOWLEDGE MANAGEMENT
- NUGENIA: NUCLEAR GENERATION II & III REACTORS ASSOCIATION
- ESNII: EUROPEAN SUSTAINABLE NUCLEAR INDUSTRIAL INITIATIVE
- NC2I: NUCLEAR COGENERATION INDUSTRIAL INITIATIVE
- ETSO: EUROPEAN TECHNICAL SAFETY ORGANISATION NETWORK

# The 3 Pillars of SNETP



- **NUGENIA** - R&D supporting safe, reliable and competitive operation of Gen II & III reactors.
- **ESNII** - promotes Gen IV fast reactors to preserve resources and to minimise waste.
- **NC2I** – to demonstrate the use of nuclear energy for the low-carbon cogeneration of process heat and electricity.

# Strategic Research & Innovation Agenda



Six R&D domains:

- Safety vision
- Sustainability of the nuclear fuel cycle
- NUSGENIA – Gen II & III
- ESNII – Gen IV fast reactors
- NC2I – Nuclear co-generation
- Cross-cutting R&D topics

www.SNETP.eu



# SNETP Membership

Today, SNETP gathers more than 100 European stakeholders from:

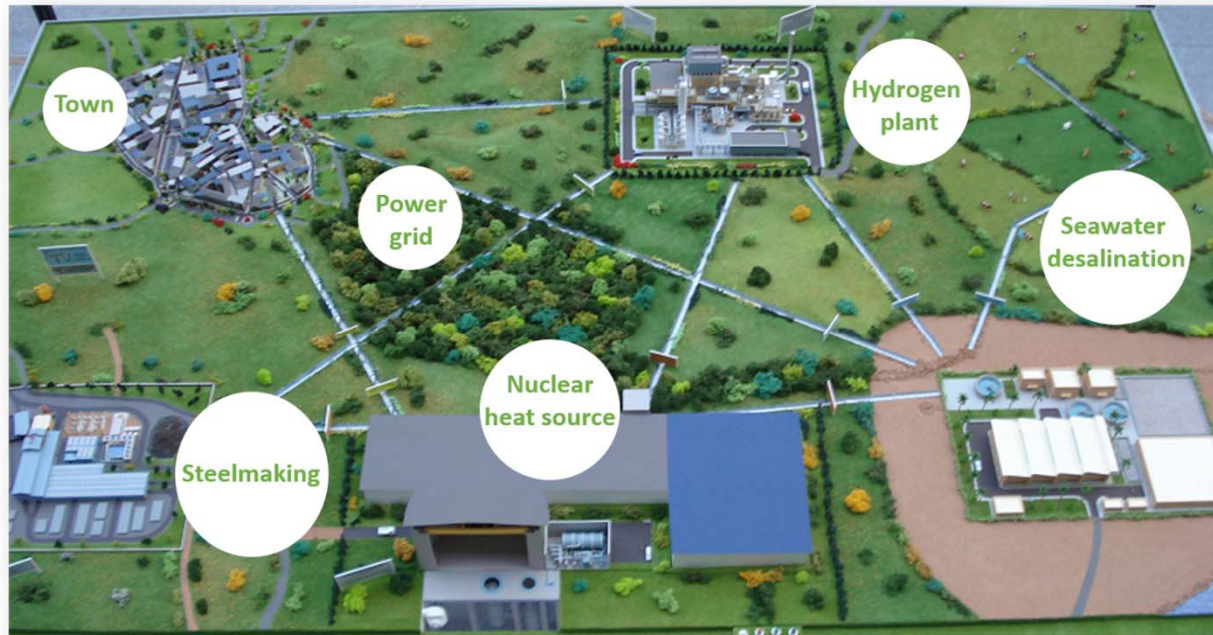
- Industry
- Research
- Academia
- Technical safety organisations
- Non-governmental organisations
- National representatives

## The work of the pillars

- NUGENIA and ESNII pillars are to be covered by subsequent presentations in this session.
- Nuclear Co-generation Industrial Initiative - **NC2I** ....



# non-electric applications of nuclear energy



Lower temperature applications: e.g., seawater desalination, district heating

- uses for waste heat so can be served by all reactors types

Higher temperature applications: e.g., chemicals production, oil refining, hydrogen production or steelmaking.

- can only be served by the High Temperature Reactor, or HTR.

# SNETP Fuel Cycles Working Group

- In Autumn 2013 SNETP established a cross-cutting fuel cycles group
- Purpose of the group is to look at fuel cycle scenarios and associated impacts on disposal within EU member states, accepting that some states wish for:
  - A closed fuel cycle
  - An open fuel cycle
  - Phase-out of nuclear energy
- To attempt an EU-wide view of the fuel cycle whilst respecting the sovereignty of the member states.
- To act as the main interface between SNETP and IGD-TP

# SNETP-IGD-TP Collaboration



First activities:

- Joint exchange forums (e.g., this meeting)
- Production of the joint fact sheet on nuclear energy and geological disposal.

Next steps:

- To be discussed today,
  - E.g., elaboration of issues introduced in the fact sheet