

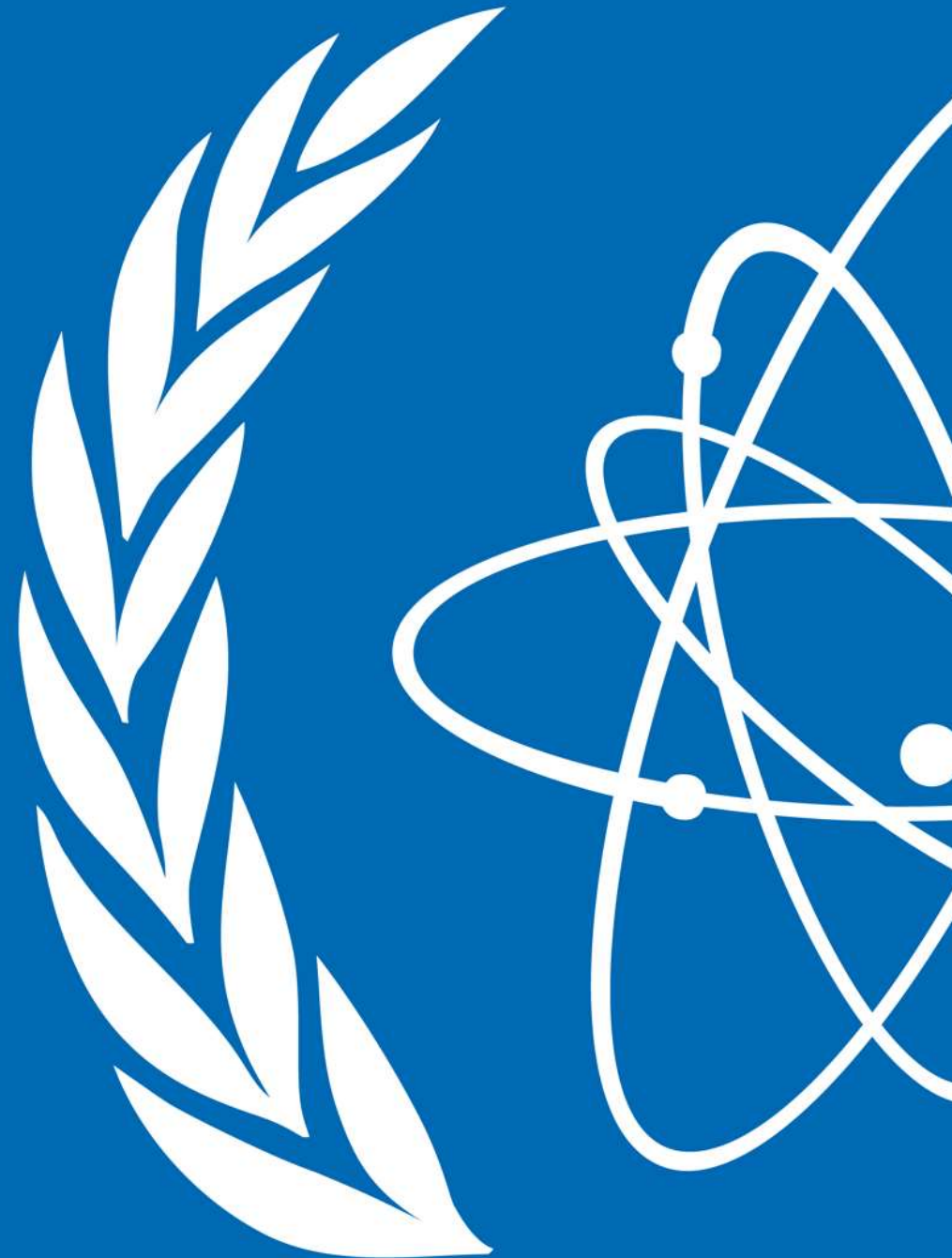
INPRO's Role in Supporting Embarking Countries in Strategic Planning for Sustainable Nuclear Energy

**International Project on Innovative Nuclear
Reactors and Fuel Cycles (INPRO)**

Maxim Gladyshev, INPRO Task Lead, IAEA
Carolynn Scherer, INPRO Section Head, IAEA

25th INPRO Dialogue Forum on Nuclear Energy Development in
Embarking Countries

17-21 November 2025, Nairobi, Kenya

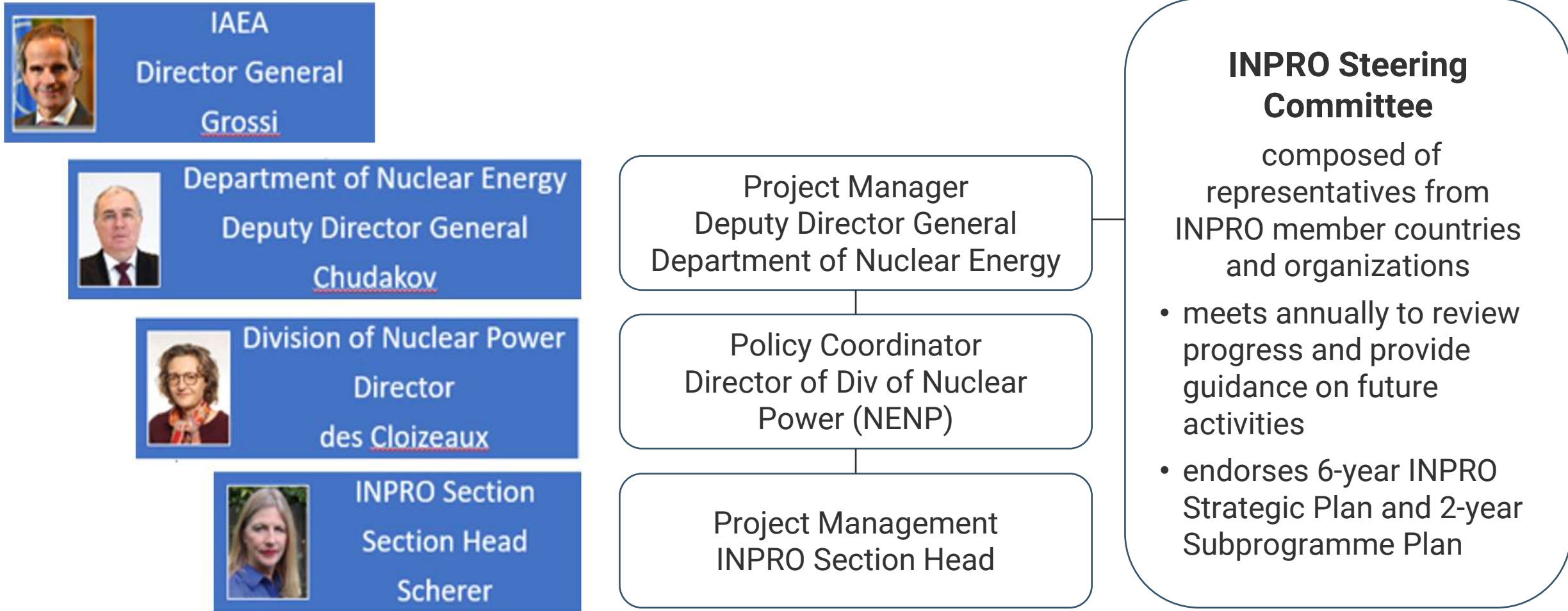


International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO)



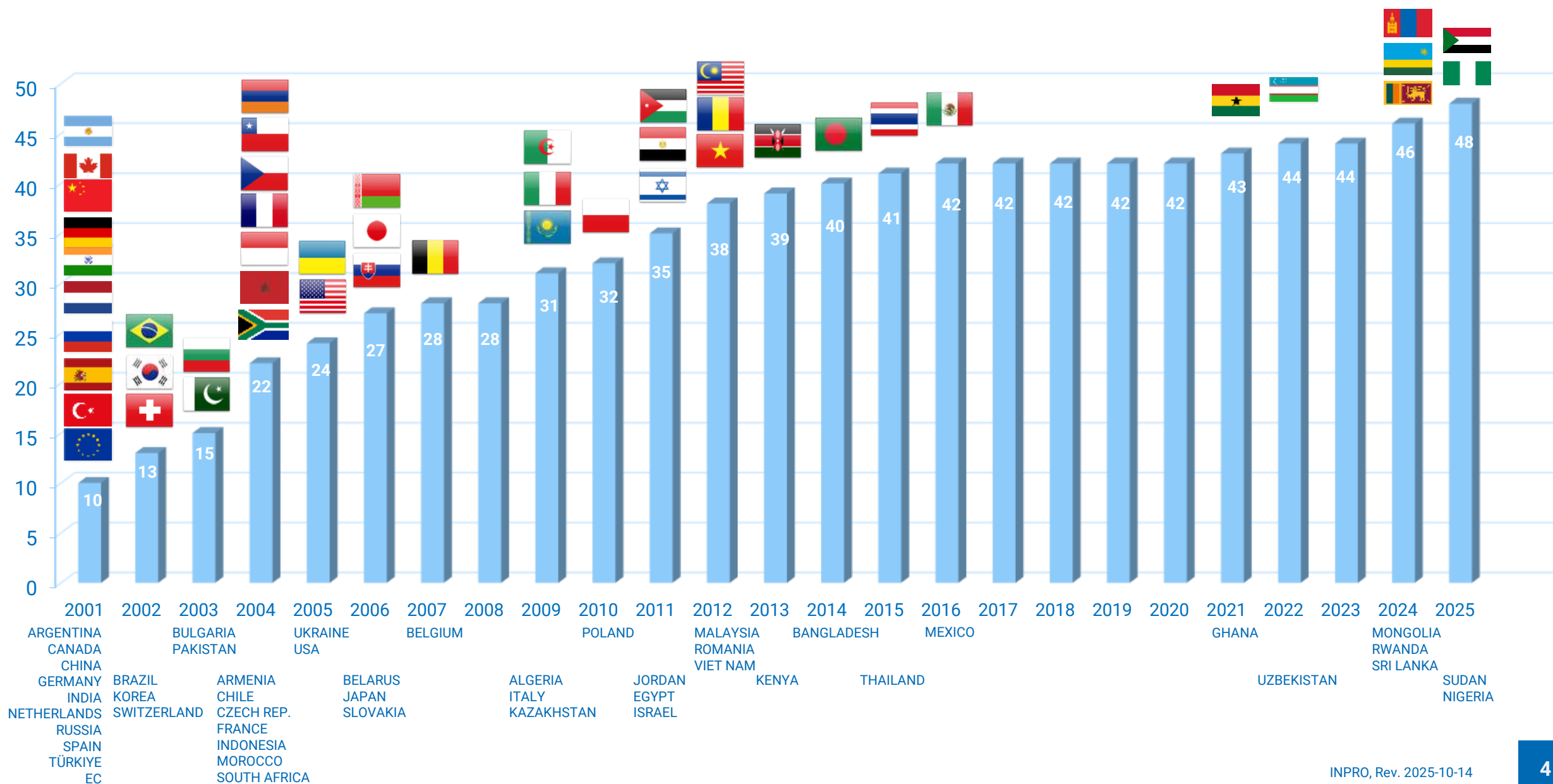
www.iaea.org/inpro

INPRO Project and INPRO Section in IAEA Structure



INPRO is funded primarily by extra-budgetary contributions of its members

49 INPRO Members 2025: 48 Member States + EC



INPRO Membership

IAEA Member States and recognized international organizations can join INPRO and benefit from:

- international cooperation facilitated by INPRO
- INPRO tools, models, publications and expertise
- Participation in the INPRO Dialogue Forums and in collaborative projects
- Results and findings of INPRO studies
- Planning of activities and bringing national expertise to the Project through their representative in the INPRO Steering Committee

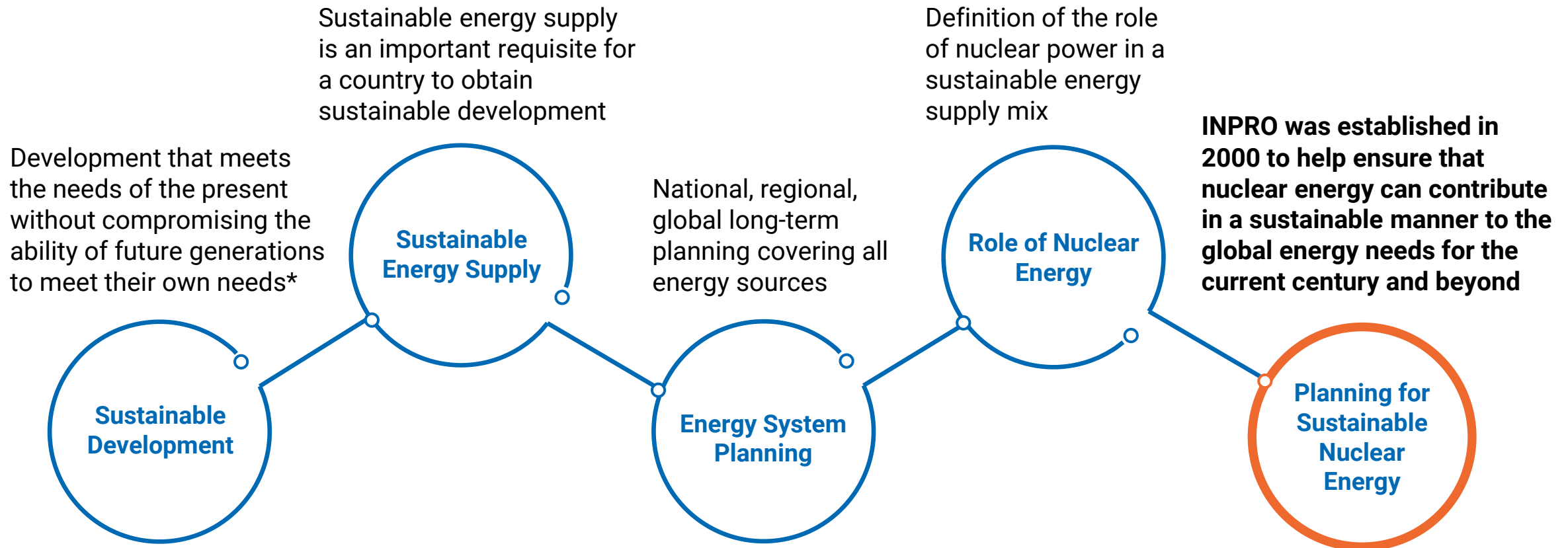
Participation modes and ways to contribute to the Project:

- Providing extra-budgetary funds
- Providing cost-free experts to work with the INPRO Section at the IAEA
- Performing agreed nuclear energy system assessment studies using the INPRO methodology
- Participating in INPRO collaborative projects

INPRO Mission and Vision

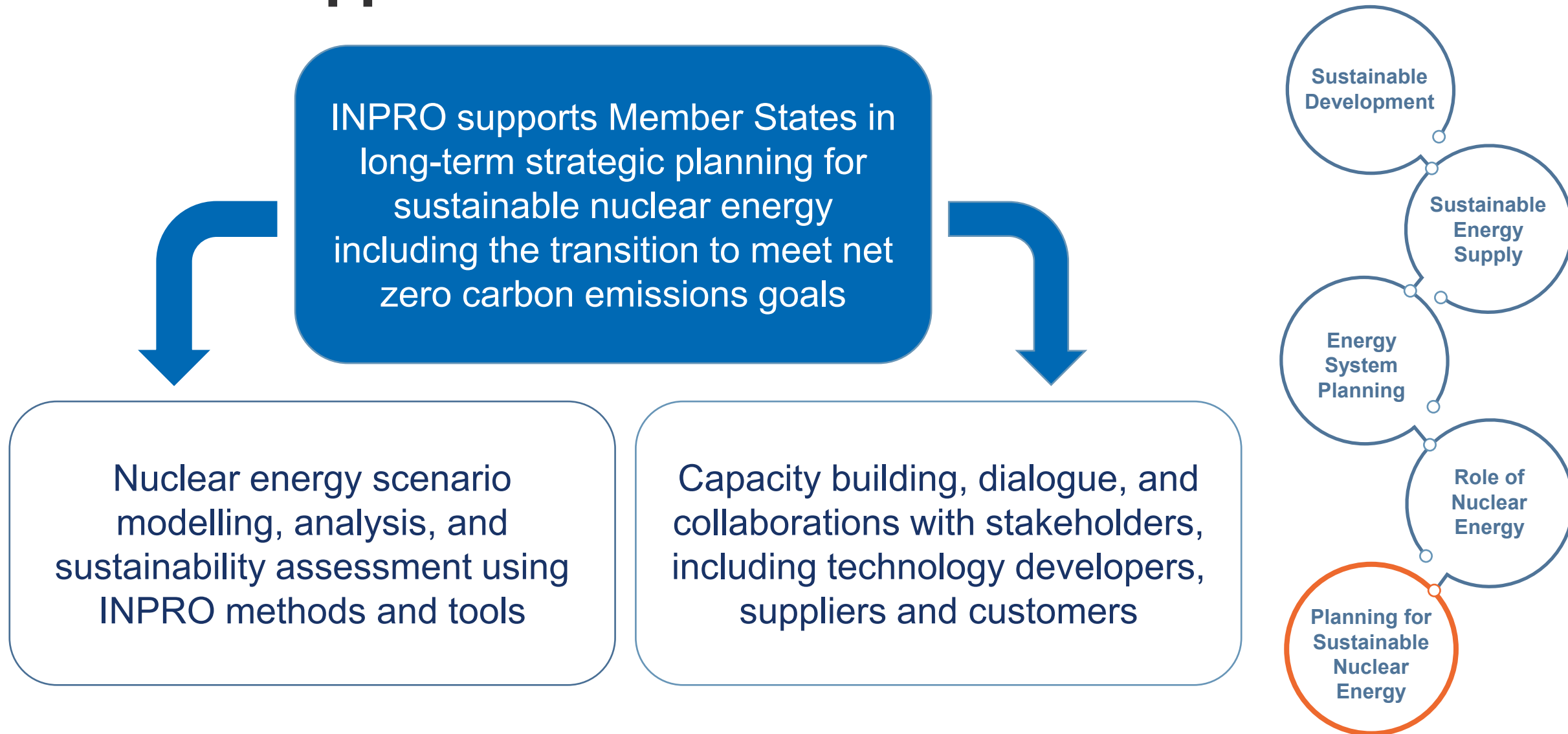
IAEA Statute, ARTICLE II: Objectives

The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world



* Our Common Future: Report of the UN World Commission on Environment and Development (Brundtland Commission), 1987

INPRO Support to Member States



Collaborative Projects in Task 1: Global Scenarios

Sustainable Deployment of SMRs (ASENES SMR)

- Provide formulation of promising scenarios and success factors for the deployment of sustainable nuclear energy system with SMRs, including prospective models of cooperation
- 17 case studies from 13 MSs
- Participants: Armenia, Bangladesh, Belarus, China, Indonesia, Jordan, Mexico, Pakistan, Romania, Russia, Thailand, Türkiye, Ukraine

Multi-recycling of Fuel (STEP FORWARD)

- Provide formulation of promising scenarios and success factors for the deployment of sustainable nuclear energy system with SMRs, including prospective models of cooperation
- 16 case studies from 14 Member States
- Participants: France, Ghana, Indonesia, Kenya, Rep. of Korea, Pakistan, Russia, Thailand, Türkiye, Ukraine, USA

IAEA TECDOC SERIES

Analysis Support for
Enhanced Nuclear
Energy Sustainability
Pilot Study on
“Sustainable
Deployment Scenarios
for Small Modular
Reactors” (ASENES
SMR)



2026

IAEA TECDOC SERIES

Analysis Support for
Enhanced Nuclear
Energy Sustainability
Pilot Study “Potential
of Innovative Nuclear
Installations to Support
Multi-Recycling of Fuel
in a Nuclear Energy
System “STEP
FORWARD”



2026

Collaborative Projects in Task 2: Innovations

Institutional and Legal Aspects of Prospective Deployment of Fusion Plants

- Support the fusion community in its effort to accelerate the development and implementation of fusion based facilities and integrated fusion-fission systems within the next decades
- Kick-off Feb 2022

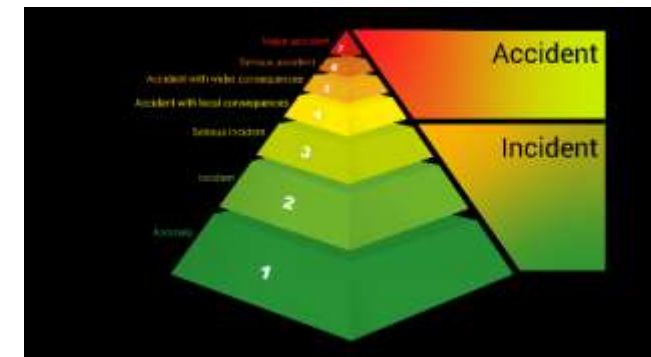
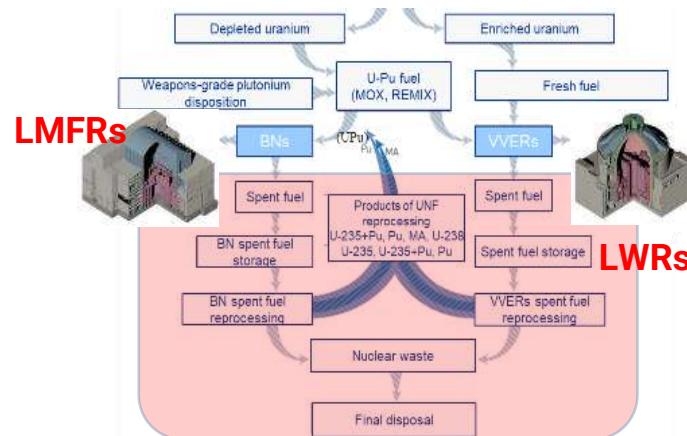
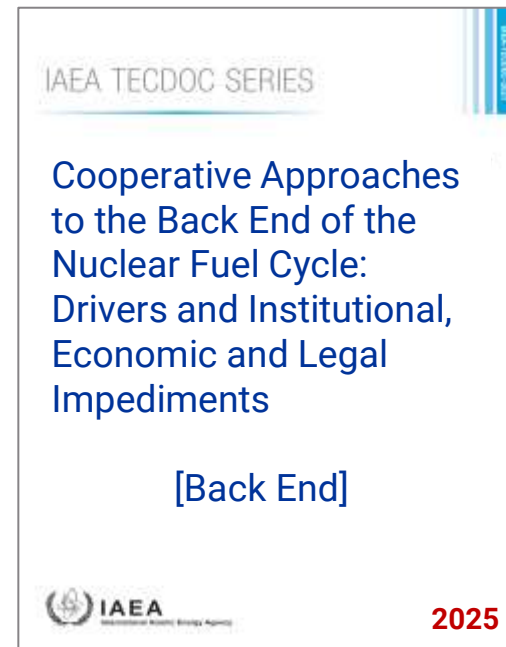


Case Study on Nuclear Hydrogen Systems: Drivers and Institutional, Economic and Legal Impediments

- Support developers of nuclear-hydrogen systems and future users in their effort to accelerate the technology development by identification of possible long-term sustainability gaps
- Kick-off Meeting Jan 2023



Collaborative Projects in Task 2: Innovations Upcoming Publications



Task 3: Sustainability Assessments and Strategies

Nuclear Energy System Assessment (NESA) for SMR

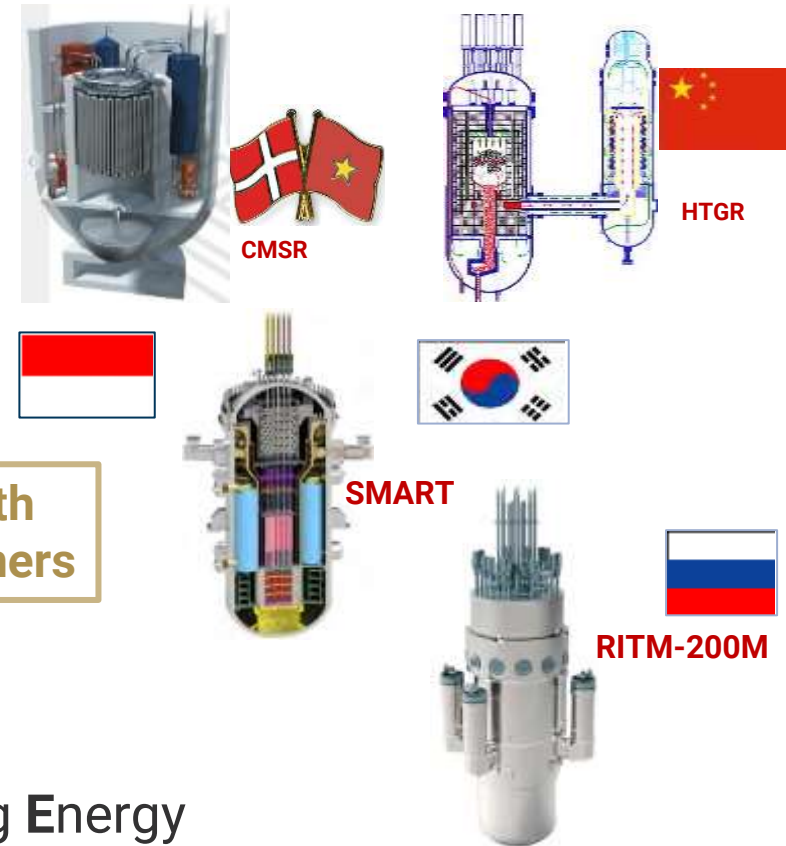
- Viet Nam and Seaborg (Denmark) – CMSR
- Indonesia – SMART (Republic of Korea)
- China –HTR – CNPE
- Russian Federation – RITM-200M

Member State Support

- NESA Training, reviews, Advisory Service
- Wiki pages and Support package

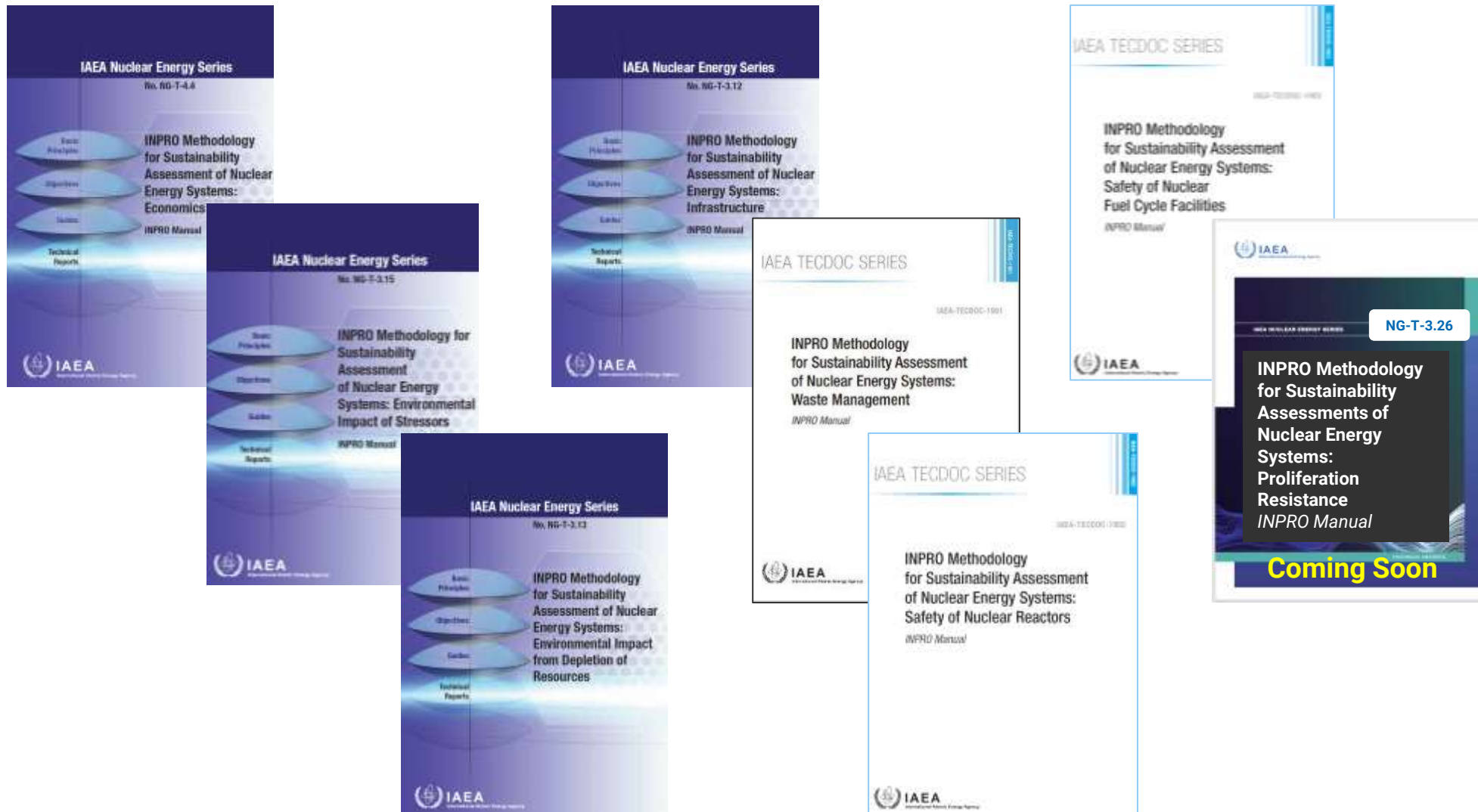
New Collaborative Project FRAMES launched

- The IAEA's INPRO developed the **FR**amework for **M**odelling **E**nergy **S**ystems (**FRAMES**) with the purpose of providing analytical support to decision makers on the role of nuclear power in future energy systems towards energy security and sustainability



Working with
MSs & designers

Task 3: INPRO Methodology for Nuclear Energy System Assessment (NESA)

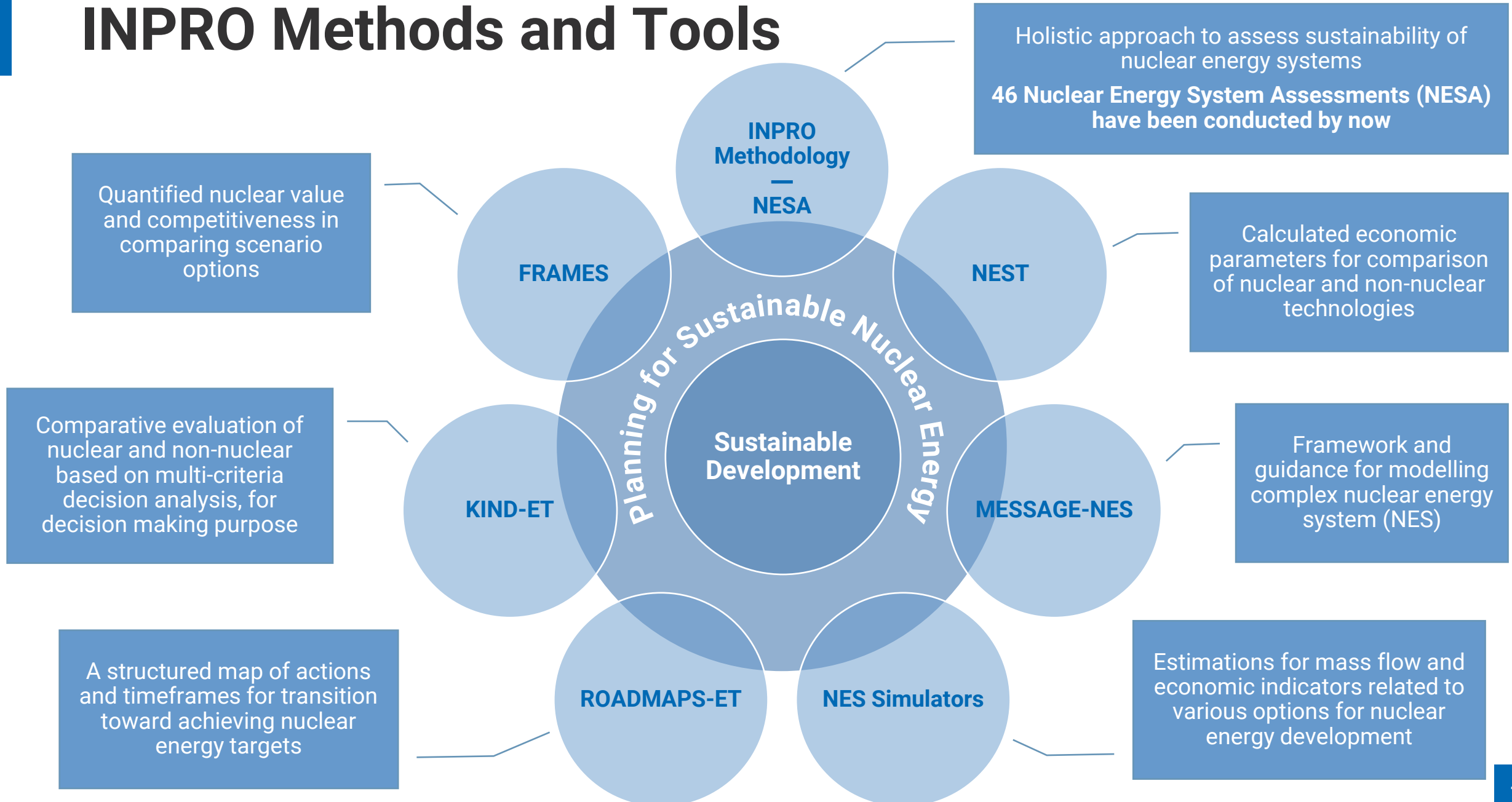


Fossil Fuel – to – Nuclear Energy Transition

- New Collaborative Project
- **Launched in Oct 2025**
- Examples: Repurposing or transitioning coal to nuclear
 - Romania
- Reduce Environmental Impacts

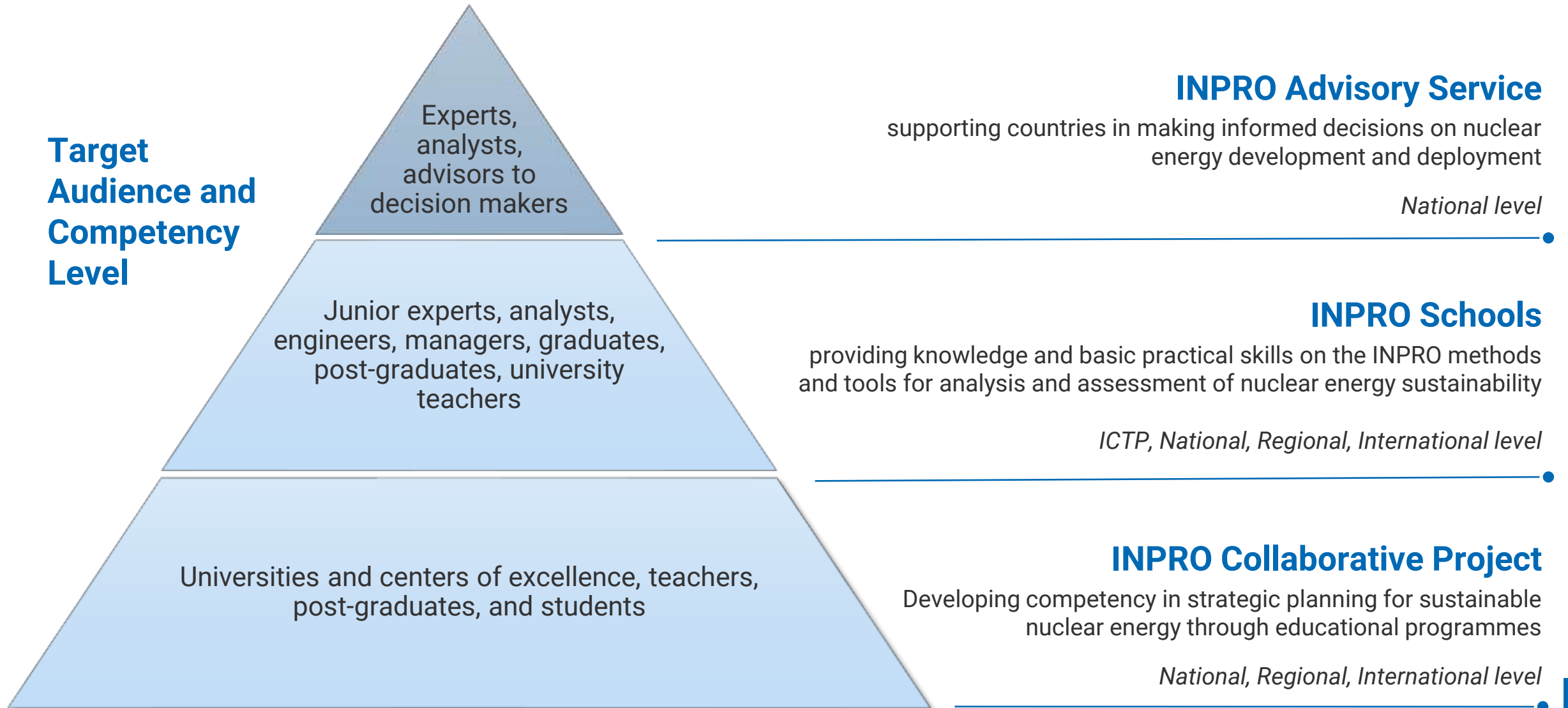


INPRO Methods and Tools



Building Capacity in Strategic Planning for Sustainable Nuclear Energy

Target Audience and Competency Level



Experts,
analysts,
advisors to
decision makers

INPRO Advisory Service

supporting countries in making informed decisions on nuclear energy development and deployment

National level

Junior experts, analysts,
engineers, managers, graduates,
post-graduates, university
teachers

INPRO Schools

providing knowledge and basic practical skills on the INPRO methods and tools for analysis and assessment of nuclear energy sustainability

ICTP, National, Regional, International level

Universities and centers of excellence, teachers,
post-graduates, and students

INPRO Collaborative Project

Developing competency in strategic planning for sustainable nuclear energy through educational programmes

National, Regional, International level

INPRO Dialogue Forums

- To bring together nuclear technology users and technology holders from all IAEA interested Member States and facilitate discussion among them
- To consider jointly the actions required to achieve desired innovations in nuclear reactors and fuel cycles
- Through these events, technology holders can better understand the needs and concerns of technology users and technology users can better understand the possibilities and limitations of technologies and services
- Twenty-four INPRO Dialogue Forums have been held since 2010
- 25th INPRO Dialogue Forum on Nuclear Energy Development in Embarking Countries **17–21 November 2025, Nairobi, Kenya, first on African Continent**



Webpage for the 25th INPRO Dialogue Forum



The screenshot shows the IAEA NUCLEUS website. The header includes the IAEA.org logo, the NUCLEUS logo, and a search bar. The navigation menu includes Home, Collaborative Projects, Dialogue Forum, and NES Simulators. The main content area is titled "25th INPRO Dialogue Forum on Nuclear Energy Development in Embarking Countries" and includes the dates "17–21 November 2025 | Nairobi, Kenya". Below the title is a graphic of a city skyline with a giraffe. The text describes the forum's purpose and objectives.

IAEA.org NUCLEUS

Search this site

Home Collaborative Projects Dialogue Forum NES Simulators

25th Dialogue Forum, 2025

Past Dialogue Forums

- 24th Dialogue Forum, 2025
- 23rd Dialogue Forum, 2024
- 22nd Dialogue Forum, 2024
- 21st Dialogue Forum, 2023
- 20th Dialogue Forum, 2023
- 19th Dialogue Forum, 2021
- 18th Dialogue Forum, 2021
- 17th Dialogue Forum, 2019
- 16th Dialogue Forum, 2018
- 15th Dialogue Forum, 2018
- 14th Dialogue Forum, 2017
- 13th Dialogue Forum, 2016
- 12th Dialogue Forum, 2016
- 11th Dialogue Forum, 2015
- 10th Dialogue Forum, 2015
- 9th Dialogue Forum, 2014
- 8th Dialogue Forum, 2014
- 7th Dialogue Forum, 2013
- 6th Dialogue Forum, 2013

25th INPRO Dialogue Forum on Nuclear Energy Development in Embarking Countries

17–21 November 2025 | Nairobi, Kenya



The INPRO Dialogue Forums offer a platform for technology holders, technology users and other stakeholders to share information, perspectives and knowledge on issues related to sustainable nuclear energy development. The Dialogue Forums focus not only on technology, but also institutional aspects, such as market resources, effects of regulation, public acceptance, and contribution to sustainable development.

The 25th INPRO Dialogue Forum, first one to be held in Africa, will explore nuclear energy potential, unique challenges, and aspirations for sustainable energy solutions in newcomer countries. This Dialogue Forum will particularly focus on long-term strategies for nuclear power programs and the role of nuclear energy in reducing carbon emissions, fostering innovation, and ensuring sustainable development. The forum will feature keynote speeches, presentations, and discussions involving Member States and international organisations.

The following are the objectives of the 25th INPRO Dialogue Forum.

1. Discuss long-term strategies for nuclear energy programmes by Member States to ensure successful and sustainable deployment, including taking advantage of advancements in nuclear technologies.



<https://nucleus.iaea.org/sites/INPRO/Pages/df-25.aspx>

26th Dialogue Forum Planning

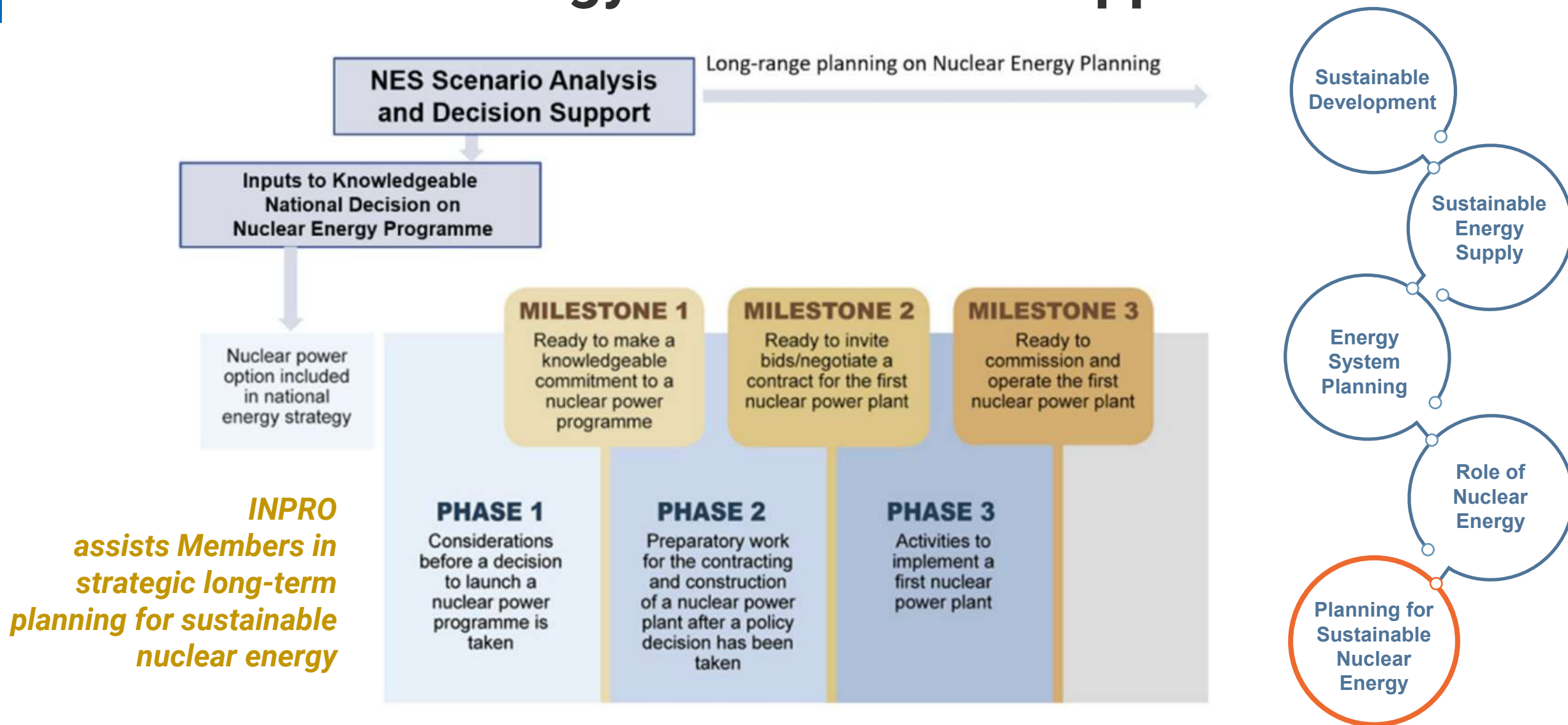
26th INPRO Dialogue Forum on
Deployment of Nuclear Energy
Systems for
Applications Beyond Electricity

24-28 August 2026



Bangkok, Thailand

INPRO Methodology and Milestone Approach





Thank you!
