United Nations
Framework Classification for Resources
Supplemental Specifications for Nuclear Projects

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- World Nuclear Association Nuclear Fuel report estimates that nuclear generating capacity will increase from 376 GWe (2019) to 776 GWe (2040)
- Uranium annual requirements would increase from ~70,000 (tU) to 139,000 (tU)
- To meet 2030 Agenda for Sustainable Development and Paris Agreement potentially more nuclear energy will be required.

Source: WNA The Nuclear Fuel Report 2019
The report supports policy formulation in interested nuclear countries to define locally relevant pathways for the introduction of nuclear energy to support sustainable development within the UNFC framework.

Chapter outline

1. Introduction
2. Sustainable Development and Nuclear Energy
3. Nuclear Development Considerations
4. National and Regional considerations
5. Nuclear Technology Options
6. Nuclear Energy Entry Pathways
The purpose of the document is to provide guidance for the application of UNFC to nuclear projects in alignment with the Sustainable Development Goals (SDGs).

UNFC provides a unified classification scheme for nuclear projects, including raw material (uranium (U) and thorium (Th)) production, refining, conversion, enrichment, and spent fuel management.
The nuclear fuel cycle can be seen as a fully integrated system.

Nuclear project – is defined as a operation in the nuclear fuel cycle that provides the basis for environmental, social, economic and technical evaluation and decision-making.
Nuclear can support Energy-as-a-Service (EaaS) business model by providing a range of energy services:

- reliable base load electricity
- low grade heat for district heating
- generation of hydrogen and synthetic fuel
- high temperature process heating

Source: U.K. BEIS
Environmental-socio-economic viability – E Axis

• Impacts on SDGs
• Climate action
• Policy, regulations and governance
• Sustainability principles for uranium production
• International safeguards
• Resource efficiency
• Radiation protection
• End of life and wastes
• etc
Classification of nuclear project

Technical feasibility - F Axis
- Baseline data collection
- Milestones and decision gates

Level of confidence - G Axis
- Measurement of heavy metals
- Geologic type of uranium and thorium deposits

Global distribution of identified Uranium resources

Source: OECD NEA and IAEA 2020: Uranium 2020: Resources, Production and Demand
Thank you!

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