Flexible and Sustainable Back End solutions

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Strategy and Considerations for the Back-end of the Fuel Cycle

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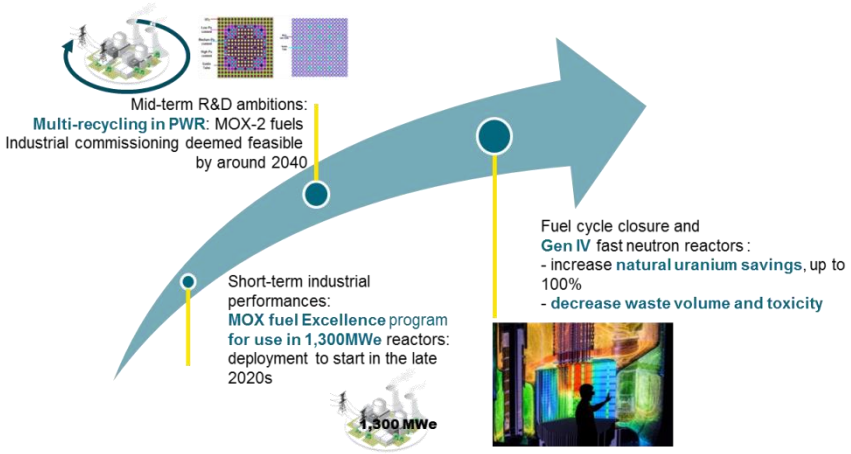
Back end strategy and considerations

The French case: promote circular economy towards the closure of the fuel cycle



A dynamic in 3 stages based on incremental development

- Industrial mastery of reprocessing and recycling technologies through Orano recycling platform:
  - a strategic asset with 40 years of experience, shared worldwide
  - the enabler to move to advanced fuel cycle
- Plutonium multi-recycling in LWR prepares the perspective of a potential industrial deployment of a fleet of Fast Reactors in the second half of the 21st century

Nuclear requires continuous innovations in fuel cycle and waste management services to maintain/enhance public support

Importance to continue R&D efforts:

- **enhance safety, reduce environmental impacts**
- **minimise waste burden**
- **improving resource-use efficiency**

Enhance international collaboration by facilitating shared infrastructure:

- **Not only focusing on potential future disposal, benefiting from standardised waste forms, but also for reprocessing/recycling starting from existing assets**
- **R&D centres necessary to develop advanced nuclear technologies**

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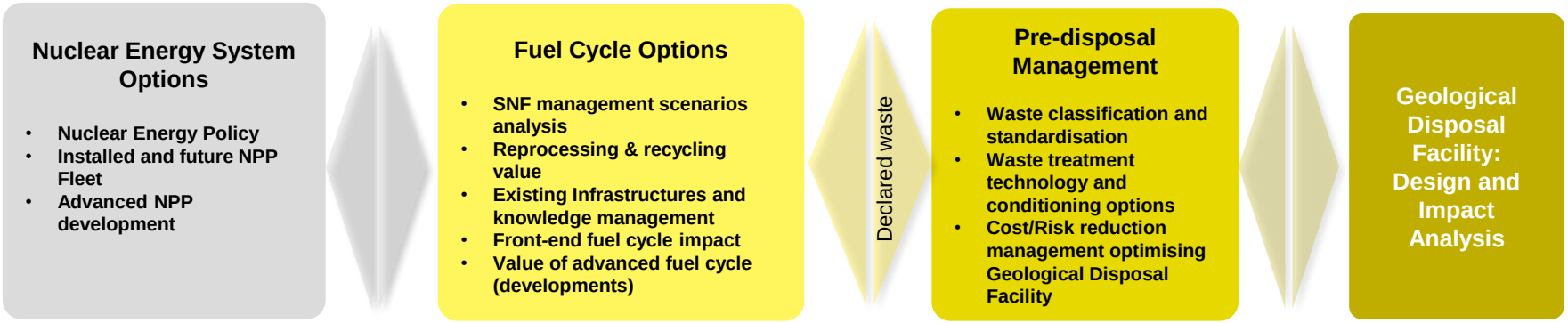

- Spent fuel management system, very long term (beyond 100 years), involve multiple decisions
- Innovative assessment methodologies integrating Cost, Risks, Time and Options is key to develop optimal back-end management implementation program
  - To match the uncertain socio-political-economic environment for different stakeholders
  - To minimize deployment costs and risks through phased development, valuing flexibility to accommodate future development
  - To value longer-term objectives in shorter-term decisions
  - To consider sharing infrastructures that would especially benefit countries with smaller nuclear programs

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Giving nuclear energy its full value