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newcleo's Fuel Cycle innovations for SMR-LFR including transport of fresh and spent fuels

newcleo is designing SMR-LFRs fuelled with uranium and plutonium mixed oxide (MOX).

A novel approach is envisioned to better use the fissile nuclear material from the current fuel cycle.

newcleo is planning to design, build and operate a state-of-the-art MOX fuel facility versatile and modular in nature with an innovative concept to cope with radiological and nuclear thermal effects in order to consume and re-use plutonium bearing materials either already in separated inventories or to be reprocessed in the future, with a focus on fissile material without an already established and existing recycling scheme.

In view of implementing its long-term vision, newcleo will also reinstitute a complete supply chain adapted to Fast Reactors and as a part of it, newcleo will develop innovative and adapted transport cask solution and logistics to support all the globally needed shipments.

In summary, newcleo is presenting a comprehensive view of a closed fuel cycle encompassing multi-recycling in its LFRs with country specific solutions to operate synergistically with existing nuclear fleets, with the overall goal of moving towards a more sustainable nuclear fuel cycle and thus a reduction in the radiotoxicity and volume of the final waste.

Country OR International Organization

International Organisation

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Confirm that the work is original and has not been published anywhere else

YES

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Track Classification: Topical Group A: SMR Design, Technology and Fuel Cycle: Track 2: Advanced fuels, reprocessing, waste management and decommissioning aspects for SMRs –Safety, Design and Technology