



Contribution ID: 335

Type: **Oral**

ANALYSIS SUPPORT FOR ENHANCED NUCLEAR ENERGY SUSTAINABILITY: AN INPRO SERVICE TO MEMBER STATES

The IAEA's International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO) supports Member States in their long-term strategic planning for deploying sustainable nuclear energy. Over the past decade, INPRO developed methods and scientific-technical analysis tools to support modelling and analysis of nuclear energy systems, including global and regional scenarios. These analysis tools are available to Member States and come in a service package called the "Analysis Support for Enhanced Nuclear Energy Sustainability" (ASENES). The Task "Global Scenarios," uses ASENES analyses to develop a global vision of sustainable nuclear energy in the current century and beyond. An ongoing collaborative project called ASENES-SMR, addresses sustainable deployment scenarios for small modular reactors (SMRs) in evolutionary scenarios. This project has 14 national and regional case studies, and the support of twelve Member States. The project identified some preliminary factors for successful deployment of SMRs: improving cost competitiveness and attractiveness for investment; introducing innovations in technology; and implementing institutional arrangements. For favourable economics, there needs to be a transition from economy of scale of reactors modules to the economy of mass production. These scenarios aids in the future planning and deployment of SMRs in strategic sustainable nuclear energy systems.

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YES

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Track Classification: Topical Group D: Considerations to Facilitate Deployment of SMRs: Track 14: Nuclear Infrastructure and Enabling Environment for SMRs