

**IAEA**

**International Atomic Energy Agency**

*Atoms for Peace and Development*

# **The IAEA: Catalysing Innovation and R&D in Nuclear Energy**

**Mikhail Chudakov**

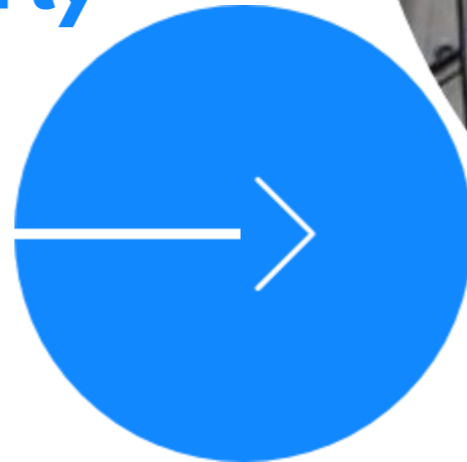
**IAEA Deputy Director General and  
Head of the Department of Nuclear Energy**

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# innovation & research and development

are key to increasing the contribution of nuclear power to:

- **climate change mitigation**
- **environmental protection**
- **energy security**
- **alleviating energy poverty**



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# facilitating R&D + innovation around the globe

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## Global Forum on Innovation for the Future of Nuclear Energy

called for action on innovations vital to the future of the existing fleet of NPPs

## 64th IAEA General Conference Operators' Forum

brought together over 30 examples of deployed innovations at existing NPPs



## IAEA Scientific Forum

explored innovations related to NP and the clean energy transition

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# helping experts drive innovation and R&D across the nuclear field

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publications

*Advances in Small Modular Reactor (SMR)  
Technology Development*

RESEARCH

- *CRP on Emergency Planning Zones for SMRs*
- *CRP on Economic Appraisal Framework for SMR development and deployment*
- *IAEA project on SMRs for climate action*



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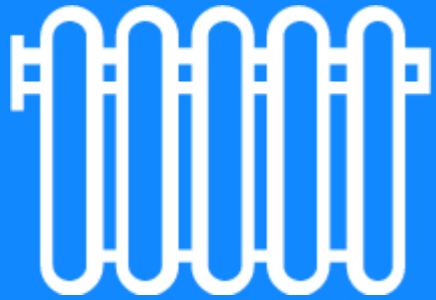
**coordinated  
research projects**

in 2020

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# assessing non electric applications

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nuclear power has a track record of producing **district heat** and this appears set to expand



**low-carbon hydrogen**  
generated from nuclear reactors



high temperature reactors will deliver **high temperature heat** to industry to substitute fossil fuels

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# fostering international collaboration

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major initiative to  
**catalogue + analyse**  
the status of  
decommissioning worldwide



CRPs on  
**accident tolerant fuels +  
advanced technology fuels**  
that can improve  
nuclear power safety and efficiency



international project to  
**collect + analyze**  
**stakeholder involvement**  
experience at the municipal level

## WNA


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- Front end activities, including supply and demand analysis
- Fuel Engineering
- Nuclear Engineering
- Nuclear Supply Chain
- Transport and logistics
- Spent Fuel Management
- Waste management and decommissioning
- Knowledge Management and HR Development
- Economic Analysis
- Advanced Reactor Tech
- Stakeholder Engagement/Comms

## NEA

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- Highlighting nuclear in the global climate agenda
- IAEA/NEA Data Bank
- Uranium resources, production, demand (Red Book)
- Progress and feasibility of Geological Repositories
- Status and Trends in the Management of Spent Fuel and Rad Waste Mngt.
- SMRs
- Integrated Energy Systems
- Cooperation in Int. Conferences



**The IAEA is keen to strengthen collaboration on innovation and R&D with key international partners. →**

With SNETP, we see ample scope to build on our history of cooperation. Such efforts can help lead to real solutions on climate change while providing the reliable and affordable energy needed for truly sustainable development.