



OECD/NEA Activities Relating to Innovative Nuclear Energy Systems

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- Australia
- Austria
- Belgium
- Canada
- Czech Republic
- Denmark
- Finland
- France
- Germany
- Greece

- Hungary
- ♦ I celand
- I reland
- Italy
- Japan
- Korea
- Luxembourg
- Mexico
- Netherlands
- New Zealand

The OECD Membership

- Norway
- Poland
- Portugal
- Slovak Republic
- Spain
- Sweden
- Switzerland
- Turkey
- United Kingdom
- United States 2





The NEA Mission

- To assist its member countries in maintaining and further developing, through international cooperation, the scientific, technological and legal bases required for a safe, environmentally friendly and economical use of nuclear energy for peaceful purposes.
- To provide authoritative assessments and to forge common understandings on key issues, as input to government decisions on nuclear energy policy, and to broader OECD policy analyses in areas such as energy and sustainable development.





Nuclear Energy Today

	OECD Countries	World
Number of Reactors	359	440
Installed Capacity	304 GWe	362 GWe
Share of Electricity Supply	23%	~16%

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B1 BRUCHET, 2004/10/22





Nuclear Share in Electricity Generation of OECD Countries in 2002 (%)



Source: OECD/NEA 2003

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MAJOR NEA ACTIVITIES RELEVANT TO ADVANCED REACTOR DEVELOPMENT

- Address Scientific Issues for both Current and Advanced Nuclear Energy Systems
- Maintain a Data Bank of Scientific Data & Computer Codes
- Provide Support for Policy Analyses and Decision Making by Member Governments
- Anticipate Regulatory Implications of a New Generation of Nuclear Energy Systems
- Provide Secretariat Support for Advanced Reactor Research Projects





STUDIES RELATING TO ADVANCED NUCLEAR SYSTEMS TECHNOLOGY

- Innovative Nuclear Reactor Technology (with IEA & IAEA)
- Innovation in Nuclear Technology (2005/6)
- Advanced Nuclear Reactor Safety Issues & Research Needs
- Nuclear Energy Products
- Nuclear Production of Hydrogen
- Advanced Nuclear Fuel Cycle Studies
 - > Economic, Environmental & Social Aspects
 - > Accelerator Driven Systems & Fast Reactors in Advanced Fuel Cycles
 - > Impact on Waste Management Policies





NEA Data Bank

- 22 member countries
- Agreements with several non member countries
- Basic nuclear reaction and structure data applicable to current and advanced reactors
- Documented programs in many nuclear disciplines
- Evolution expected to meet developing needs







STUDIES ADDRESSING ECONOMIC & POLICY CONSIDERATIONS FOR ADVANCED NUCLEAR SYSTEMS TECHNOLOGY

Uranium Resources, Production & Demand (Red Book)

- Impact of Licensing Process on Nuclear Energy Competitiveness (2005/6)
- Government & Nuclear Energy
- Society & Nuclear Energy
- External Costs of Nuclear Electricity Generation
- Nuclear Energy Risks & Benefits (2005/6)
- Nuclear Energy in a Sustainable Development Perspective
- Management of Recycled Fissile Materials (2005/6)





STUDIES AND ACTIVITIES ON REGULATORY ISSUES FOR ADVANCED NUCLEAR TECHNOLOGIES

- Advanced Nuclear Reactor Safety I ssues and Research Needs (2002 Workshop)
- Nuclear Regulator Industry Forum (RIF 2004)
- NEA Safety and Regulatory Forum (SRF 2005): Joint CNRA/CSNI Forum





GIF Generation IV International Forum



Euratom joined (7/2003)

To foster collaborative R&D aiming at developing future generation nuclear energy systems

- 8 common goals
- sustainability
- economics
- safety and reliability
- > proliferation resistance and physical protection





Generation IV Systems

♦ Acronym

Spectrum Fuel cycle

- SFRSodium Cooled Fast R.FastClosed
- ♦ LFR Lead Alloy Cooled R. Fast Closed
- ♦ GFR Gas Cooled Fast R. Fast Closed
- VHTR Very High Temperature R. Thermal Once-through
- SCWR Supercritical Water Cooled Th.& F. Once-t.& Cl.
- MSR Molten Salt R. Thermal Closed







NEA Role in GIF

Technical Secretariat for both organizational and substantive tasks (funded through voluntary contributions)

Meetings agendas, organization, minutes, follow-up, membership and lists of contacts

Documents

- participation and/or major contribution in drafting reports, integration and editing, distribution, archiving
- Communication
 - electronic working areas, websites
- Consensus building and expertise NEA network





GIF Governance Structure







CONCLUDING OBSERVATIONS

- There is Growing Interest & Activity in Advanced Nuclear Systems
- A Number of Countries & International Organizations are Involved
- Extensive Work will be Needed for Technology R&D and Supporting Economic, Political & Social Analyses
- NEA Works with its Member Countries, with Non-Member Countries, and with International Organizations through a Variety of Mechanisms on a Wide Range of Activities of Direct and Indirect Interest for Advanced Nuclear Systems
- NEA Looks Forward to the Contributions of COE-INES to the Development of Advanced Nuclear Systems and to Appropriate Opportunities for Interchange and Collaboration