April 2019

Nuclear Energy Agency





Nuclear Energy Agency

The NEA mission

The Nuclear Energy Agency (NEA) is a semi-autonomous body within the framework of the Organisation for Economic Co-operation and Development (OECD), located just outside Paris, France. The objective of the Agency is to assist its member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for a safe, environmentally sound and economical use of nuclear energy for peaceful purposes. It provides authoritative assessments and forges common understandings on key issues as input to government decisions on nuclear energy policy and to broader OECD analyses in areas such as energy and the sustainable development of low-carbon economies.





William D. Magwood, IV NEA Director-General

Nuclear energy in the 21st century

nergy is the key element in enabling social and economic development for a growing world population, which – as of June 2017 – reached 7.6. billion and is expected to hit 9.8 billion by 2050. Worldwide energy demand is expected to increase commensurately with population growth, notwithstanding efforts to improve energy efficiency. Total energy investment during the year 2017 amounted to 1.8 trillion US dollars internationally.

For a world that hopes to make dramatic reductions in emissions of CO₂, nuclear energy is a vital technology that has already proven its value to economies across the world. Fossil fuels still provide two-thirds of total electricity generation worldwide and power nearly all of the globe's transportation. Nuclear energy, along with renewables and other technologies, can provide a balanced and reliable strategy to decarbonise the industrial, commercial building and transport sectors.

The Nuclear Energy Agency (NEA) is the only intergovernmental body that brings together experts from the countries with the deepest experience and capabilities in the broad range of civil nuclear energy technology and policy issues from the Americas, Europe and the Asia-Pacific to achieve common understanding, positions and projects to advance the state of the art in the application of nuclear energy technologies. Representing the world's best nuclear expertise, NEA membership consists of 33 countries making up 84% of the world's installed nuclear electricity generating capacity. The NEA provides each member country access to the substantial experience of other members and an opportunity to significantly leverage resources.

The NEA framework of standing technical committees, joint international undertakings, and Secretariat-serviced, separately-funded bodies allows the Agency to be flexible and responsive. After 60 years of international service, NEA scientific and technical work is at the forefront of knowledge. Through the work of its 75 working parties and expert groups, the NEA publishes consensus positions on key issues to provide credible references and examples of best practice. NEA joint projects and information exchange programmes also allow interested members and non-members to join forces in carrying out research projects on a cost-sharing basis.

As the NEA enters its seventh decade of service, it continues to evolve and adapt, but will always be a cost-effective platform for international co-operation with its focus on both today and the future.









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Luc Chanial Acting Head of the Division of Nuclear Safety Technology and Regulation

Division of Nuclear Safety Technology and Regulation

The goal of the NEA in this sector is to assist member countries in their efforts to ensure high standards of safety in the use of nuclear energy, by supporting the development of effective and efficient regulation and oversight of nuclear installations and activities, by helping to maintain and advance the scientific and technological knowledge base and by addressing safety concerns and supporting efforts to maintain safety performance and regulation at the highest levels. To meet this goal, staff in the division and the Committee on the Safety of Nuclear Installations (CSNI), the Committee on Nuclear Regulatory Activities (CNRA) and their expert groups in these areas work closely to:

- facilitate an effective exchange of safety-relevant information among member countries, in order to identify significant generic issues and trends and to develop common understanding and approaches with a view to anticipate the resolution of such generic issues;
- foster the continuous enhancement of the knowledge base of nuclear safety and the safety expertise capability in member countries, through scientific co-operation and the development of joint projects;
- assist member countries in the resolution of safety issues and strengthen confidence in the solutions and their implementation;
- address safety issues associated with new technologies and reactor designs;
- help maintain an adequate level of capability and competence in member countries necessary to ensure the safety of existing facilities, in particular their long-term operation, and future nuclear facilities and activities;
- enhance the efficiency and effectiveness of the regulatory process and encourage harmonisation of the regulatory processes.





Joint Projects

Nuclear safety research

- Advanced Thermal-hydraulic Test Loop for Accident Simulation (ATLAS) Project
- Analysis of Information from Reactor Buildings and Containment Vessels of Fukushima Daiichi Nuclear Power Station (ARC-F)
- Behaviour of Iodine Project (BIP)
- Benchmark Study of the Accident at the Fukushima Daiichi Nuclear Power Plant (BSAF)
- Cabri International Project (CIP)
- Fire Propagation in Elementary, Multi-room Scenarios (PRISME) Project
- Halden Reactor Project
- High Energy Arcing Fault Events (HEAF) Project
- Hydrogen Mitigation Experiments for Reactor Safety (HYMERES) Project

- Loss of Forced Coolant (LOFC) Project
- Primary Coolant Loop Test Facility (PKL) Project
- Preparatory Study on Analysis of Fuel Debris (PreADES) Project
- Source Term Evaluation and Mitigation (STEM) Project
- Studsvik Cladding Integrity Project (SCIP)
- Thermal-hydraulics, Hydrogen, Aerosols, Iodine (THAI) Project

Nuclear safety databases

- Component Operational Experience, Degradation and Ageing Programme (CODAP)
- Fire Incidents Records Exchange (FIRE) Project
- International Common-cause Failure Data Exchange (ICDE) Project





Rebecca Tadesse Head of the Division of Radioactive Waste Management and Decommissioning

Division of Radioactive Waste Management and Decommissioning

The goal of the NEA in this sector is to assist member countries in the development of safe, sustainable and broadly acceptable strategies for the long-term management of all types of radioactive materials, with particular emphasis on the management of long-lived waste and spent fuel considered as waste, and on the decommissioning of disused nuclear facilities. To meet this goal, staff in the division and the Radioactive Waste Management Committee (RWMC), the Committee on Decommissioning of Nuclear Installations and Legacy Management (CDLM), and the expert groups in these areas, work closely to:

- bring about a shared and broad-based understanding of the management of all kinds of radioactive waste and materials, taking into account technical, environmental, societal and economic considerations;
- identify best practices, technologies and methodologies to ensure effective management of radioactive waste, nuclear legacies and decommissioning, including their costs and financing;
- facilitate the elaboration and implementation of waste management and decommissioning strategies and methodologies at national and international levels;
- help elaborate common understanding of regulatory approaches in the management of radioactive waste and nuclear decommissioning;
- provide for international peer reviews to ensure that best practices are implemented in waste management and decommissioning;
- exchange experiences and share approaches for the engagement of stakeholders and the general public in decision making for the management of radioactive waste and for conducting decommissioning activities;



- explore the implications of the very long time frames involved in radioactive waste management and the related challenges of transferring responsibilities and knowledge;
- identify specific issues of interest in which the involved institutions and other stakeholders can learn from each other, and provide a platform for discussing those issues;
- develop a practical and harmonised regulatory approach for managing of nuclear legacy sites and installations;
- assist NEA member countries in deriving practical interpretation and application of end state to nuclear legacy site management and other existing exposure situations.

Joint Project

• Co-operative Programme for the Exchange of Scientific and Technical Information Concerning Nuclear Installation Decommissioning Projects (CPD)





Yeonhee Hah Head of the Division of Radiological Protection and Human Aspects of Nuclear Safety

Division of Radiological Protection and Human Aspects of Nuclear Safety

The goal of the NEA in this sector is to support radiological protection development and implementation in member countries by providing timely identification of significant topics and emerging issues, analysing their possible implications for radiological protection practices and regulation, and contributing to the development of approaches for their resolution. Post-accident recovery, improvement of national and international emergency management systems and cross-border co-ordination, as well as occupational exposure management, are among other key areas of focus. The NEA also assists member countries in their efforts to enhance focus on human aspects of nuclear safety by improving understanding and by improving the technical basis for treating elements associated with safety culture, human and organisational factors, personnel training policies and practices, as well as safety-related public communication and stakeholder engagement regarding nuclear safety, waste management and related issues. To meet this goal, the staff in the division and all NEA committees and relevant expert groups in this area, notably the Committee on Radiological Protection and Public Health (CRPPH), the Committee on the Safety of Nuclear Installations (CSNI), the Committee on Nuclear Regulatory Activities (CNRA), the Radioactive Waste Management Committee (RWMC), and the Committee on Decommissioning of Nuclear Installations and Legacy Management (CDLM), work closely to:

- assist policymakers in developing and improving radiological protection policies and human aspects to best reflect state-of-the-art experience, science and technology;
- identify emerging issues in radiological protection science and human and organisational factors, and facilitate the application of new scientific knowledge for practical uses;



- assess and comment on selected draft recommendations and standards to identify their possible implications for the regulation and implementation of radiological protection and human and organisational factors;
- contribute to reaching a co-ordinated framework for regulatory issues in radiological protection, including related public health and environmental issues;
- help member countries improve their radiological emergency preparedness and management, as well as their operational radiological protection capabilities;
- assist member countries in tackling the social challenges related to radiological protection and nuclear operations, including effective stakeholder involvement;
- address issues associated with leadership for safety and nuclear safety culture;
- stimulate co-operation and improve communication of nuclear regulatory organisations by better understanding stakeholders' perceptions, needs and expectations;
- facilitate dialogue among all relevant stakeholders to build understanding of and agreement on long-term waste management approaches.

International initiatives

- NEA International Radiological Protection School (IRPS)
- NEA Stakeholder Involvement Workshops
- International Nuclear Emergency Exercises (INEX)
- International Mentoring Workshops

Joint Project

• Information System on Occupational Exposure (ISOE)





Tatiana Ivanova Head of the Division of Nuclear Science

Division of Nuclear Science

The goal of the NEA in this sector is to help member countries identify, collate, develop and disseminate the basic scientific and technical knowledge required to ensure the safe, reliable and economic operation of current and next-generation nuclear systems. To meet this goal, staff in the division and the Nuclear Science Committee (NSC), with its numerous expert groups in this area, work closely to:

- help advance the existing scientific knowledge needed to enhance the performance and safety of current nuclear systems;
- contribute to building a solid scientific and technical basis for the development of future generation nuclear systems;
- support the preservation of essential knowledge in the field of nuclear science, including in reactor physics, fuel cycle physics and chemistry, criticality safety, material science, radiation shielding and nuclear data;
- support the maintenance and development of essential skills capabilities, particularly through education and training of a new generation of nuclear scientists;
- develop in-house software tools;
- perform benchmark studies and define the state of the art in sensitivity and uncertainty analyses.





Joint Projects

- Thermodynamics of Advanced Fuels International Database (TAF-ID) Project
- Thermodynamic Characterisation of Fuel Debris and Fission Products Based on Scenario Analysis of Severe Accident Progression at Fukushima Daiichi Nuclear Power Station (TCOFF) Project
- Nuclear Education, Skills and Technology (NEST) Framework

Data preservation and management

- International Reactor Physics Experiment Evaluation Project (IRPhE) and accompanying IRPhE Database and Analysis Tool (IDAT)
- International Criticality Safety Benchmark Evaluation Project (ICSBE) and accompanying Database for ICSBE (DICE)

- International Fuel Performance Experiments Database
 (IFPE)
- Shielding Integral Benchmark Archive and Database (SINBAD)
- International Database of Spent Nuclear Fuel Isotopic Assay Data (SFCOMP0-2.0)
- International Experimental Thermal-Hydraulic Systems Database (TIETHYS)





Structure of Nuclear Energy Agency Committees and Subsidiary Bodies

Steering Committee



March 2019



for Nuclear Energy

Nuclear Law Committee Committee for Technical and Economic Studies on Nuclear Energy Development and the Fuel Cycle Nuclear Science Management Board for the Development, Application and Validation of Nuclear Data Working Party on Deep Geological Repositories and Nuclear Liability (WPDCR) Working Party on Nuclear Energy Economics (WPDE) Nuclear Science NBDAV Working Party on the Legal Aspects of Nuclear Safety (WPLANS) Joint KEA/IAEA Group on Uranium (UG) Working Party on Nuclear Liability (WPNE) Working Party on Nuclear Iability (WPNE) Working Party on Nuclear Commitse MBDAV Motion Safety (WPLANS) Joint KEA/IAEA Group on Uranium (UG) Working Party on Scientific Issues of the Fuel Cycle (WPFC) High Priority Request List for Nuclear Data Breachmarks and Validation (EGMPEBY) Joint Evaluated Fission and Fusion (UFP) Liability Issues and Their Impact on Electricity Costs Ad Hoc Expert Group on the Estimation of Potential Losses Due to Nuclear Accidents, Liability Issues and Their Impact on Electricity Parts and Cost of Adaptication (NUCA) Working Party on Scientific Issues of the Fuel Cycle (WPFC) Liquid Metal Technology Fuure (COGEN) - Advanced Fuel Cycle Scienarios - Innovative Fuels Norking Party on Muti-scale Modelling of Fuels and Structural Materials for Nuclear Science (WERCS) Working Party on Nuclear Criticality Safety (WPRCS)				
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Expert Group on Oranium Mining and Economic Development (IMEF)		Expert Group on Oranium Mining and Economic Development (IIMED)	Working Party on Scientific Issues of Reactor Systems	
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Ad Hoc Expert Group on Maintaining Low-Carbon - International Reactor Physics Experiments		Ad Hoc Expert Group on Maintaining Low-Carbon	- International Reactor Physics Experiments	
Generation Capacity through I/TO of Nuclear Device District Tablesian Control of State Con		Generation Capacity through LTO of Nuclear	- Reactor Physics and Advanced Nuclear Systems - Uncertainty Analysis in Modelling	
Power Plants: Economic, leconical and Policy Aspects (FG170) - Reactor Fuel Performance		Power Plants: Economic, leconical and Policy Aspects (EGLTO)	- Reactor Fuel Performance	
- Radiation Transport and Shielding			- Radiation Transport and Shielding	
Ad Hoc Expert Group on Reducing the Costs		Ad Hoc Expert Group on Reducing the Costs		
of Nuclear Power Generation (REDCOST)		of Nuclear Power Generation (REDCOST)		



Sama Bilbao y León Head of the Division of Nuclear Technology Development and Economics

Division of Nuclear Technology Development and Economics

The goal of the NEA in this sector is to provide governments and other relevant stakeholders with authoritative, reliable information and analyses on current and future nuclear technologies, as well as on the role of nuclear energy now and in the future from a sustainable development perspective. These studies cover subjects as key and as diverse as techno-economics, finance, resource analyses, energy and electricity demand and supply forecast and analyses, public opinion assessment, advances in nuclear reactor design, nuclear fuel and fuel cycle technologies. This allows the NEA to advise decision makers on national and international energy policies aiming to provide low-carbon electricity cost-effectively and reliably. To meet this goal, staff in the division and the Committee for Technical and Economic Studies on Nuclear Energy Development and the Fuel Cycle (NDC), with its experts groups in this area, work closely to:

- analyse the economics of nuclear power across the full nuclear fuel cycle as well as at the electricalsystem level in the context of changes in electricity markets, social acceptance and technological advances, and assist member countries in evaluating the role of nuclear energy in their energy policies;
- foster international co-operation on the development of innovative nuclear energy systems;
- review the role of nuclear energy in the broader perspective of climate change and sustainable development;
- analyse the contribution of nuclear power to the smooth functioning of low-carbon electricity systems;



- assess the availability of nuclear fuel, including uranium resources, and the infrastructure required for the development and deployment of existing and future nuclear technology, identifying any eventual gaps;
- review the role of research and development in new nuclear technologies and their impact in energy generation and non-power applications;
- assist member countries, upon request, in addressing emerging concerns related to nuclear technology and radioactive materials, including the stable supply of medical radioisotopes;
- engage within and outside the OECD framework to establish a communication network aimed at providing factual information on nuclear issues.





Ximena Vásquez-Maignan Head of the Office of Legal Counsel

Office of Legal Counsel

The goal of the NEA in this sector is to help create the sound national and international legal regimes required for the peaceful uses of nuclear energy, including as regards nuclear safety, international trade in nuclear materials and equipment, public engagement and issues of liability and compensation for nuclear damage, as well as to serve as a leading centre for nuclear law information and education. To meet this goal, the Office of Legal Counsel (OLC) and the Nuclear Law Committee (NLC), with its working parties in this area, work closely to:

- assist member countries in the development, strengthening and harmonisation of nuclear legislation and regulation in areas such as nuclear safety, radioactive waste management and environmental law (as applied to nuclear activities) based upon internationally accepted principles and in line with international binding instruments for the safe and peaceful uses of nuclear energy;
- contribute to the modernisation of the international nuclear liability regimes and encourage the strengthening of treaty relations between interested countries to address liability and compensation for nuclear damage;
- collect, analyse and disseminate information on nuclear law generally and on topical nuclear legal issues in particular;
- organise the International School of Nuclear Law (ISNL) and International Nuclear Law Essentials (INLE) programmes.

The OLC also provides legal advice and support to NEA Management on a wide range of contractual, substantive and procedural matters relating to the Agency's status and activities.





Education programmes

- International School of Nuclear Law (ISNL)
- International Nuclear Law Essentials (INLE)



International legal resources

- Nuclear Law Bulletin (since 1968)
- Nuclear legislation in OECD and NEA member countries
- Multilateral agreements adherence status
- Civil nuclear third party liability resources





Kenya Suyama Head of the NEA Data Bank

The NEA Data Bank

The goal of the NEA in this sector is to serve as the premier international centre of reference for basic nuclear tools, such as computer codes and nuclear data, used for the analysis and prediction of phenomena in the nuclear field; and to provide a direct service to its users by making such tools available on request and by offering the means and methods needed to support their development, application and validation. To meet this goal, staff in the NEA Data Bank, governed by the Management Board for the Development, Application and Validation of Nuclear Data and Codes (MBDAV), work to:

- develop and expand services to scientists in its participating countries;
- facilitate open communication and actively seek feedback from its users and stakeholders;
- maintain an up-to-date collection of verified and validated nuclear data and computer programs, and support new developments in modelling methods;
- advance the state of the art and assist its participating countries in computer code and nuclear data validation, as well as preserve know-how in these fields;
- provide support for knowledge preservation efforts and the associated database development and maintenance;
- make expertise available to other parts of the NEA.



NEA Data Bank participating countries

• Argentina, Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Japan, Korea, Mexico, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom

Joint Project

• Thermochemical Database (TDB) Project

Nuclear Data Library

• The Joint Evaluated Fission and Fusion File (JEFF) Project



NEA international initiatives

NEA Nuclear Innovation 2050 (NI2050) Initiative

The NEA launched the "Nuclear Innovation 2050" (NI2050) initiative to encourage new co-operative approaches among its member countries for the purpose of furthering research and the deployment of innovative nuclear technologies that contribute to a sustainable energy mix. The initiative also provides a broad umbrella for a number of NEA activities, such as ongoing science and safety related projects, as well as work being carried out jointly with the International Energy Agency (IEA) on the electricity market and post COP21 developments.

Multilateral approaches can create the confidence needed for the worldwide deployment of innovative technologies through the identification of priorities, the establishment of solid common foundations based on scientific validation of technologies and the definition of shared qualification methods to support robust licensing processes. The NEA already offers a broad platform for discussion through its various specialised committees.

Because safety in particular is a priority to be "built in" at the early design stages of any technological evolution, some level of interaction with authorities and regulators is necessary early on and continuously during the process of innovation. International collaboration among safety bodies is probably one of the most effective ways to get early insight into the safety aspects of any innovation without compromising regulatory independence.

NI2050 has selected a set of topical areas to develop "10-year programmes of action" on severe accident knowledge management, *inter alia*, advanced fuels and materials, fuel cycle chemistry/ recycling, heat production and cogeneration. The programmes of action are now further proposed to member countries to discuss their concrete implementation.

In the future NI2050 will look at integrating advanced technologies already developed and used in other industrial sectors, *inter alia*, advanced manufacturing and enabling innovation construction techniques, digitalisation and data management.

By gathering stakeholders around shared priorities, NI2050 could trigger innovation in nuclear technology – the most important condition for nuclear energy to play a role in the sustainable energy mix of the future.



NEA Nuclear Education, Skills and Technology (NEST) Framework

NEA member countries have been, collectively, world leaders in the use of nuclear technology and materials for a wide range of industrial, scientific, medical and energy purposes. For countries that choose to use nuclear technology to meet their energy and environmental goals, it is critical they have access to scientists, engineers and technologists with the advanced expertise to ensure its safe and efficient use. Moreover, many countries that do not plan to use nuclear energy in the future have identified a strategic need for state-of-the-art knowledge in the field. Thus the development of experts in nuclear science and technology is an urgent matter for many countries.

The current nuclear technology and science talent base has been developed over a period of several decades in many countries. A large percentage of the current generation of talent is now at retirement age. Keeping and renewing the nuclear expertise that the current generation developed is therefore becoming a critical question for a number of NEA countries and making it imperative to create new approaches to retain, nurture and expand this knowledge base.

In February 2019, the NEA launched the NEA Nuclear Education, Skills and Technology (NEST) Framework in partnership with 10 of its member countries and 15 organisations to help address important gaps in nuclear skills capacity building, knowledge transfer and technical innovation in an international context. The goal of the NEST Framework is to encourage university students and young professionals from many disciplines to pursue careers in the nuclear field by exposing them to challenging projects and real-world problems. NEST is designed to assist countries to maintain and straighten academic nuclear-related educations programmes and to build both technical and non-technical skills necessary in the field of nuclear science and the safe and efficient use of nuclear technology. NEST is also intended to strengthen international links between universities, academia, research institutes and industries.

The NEST Framework will include a wide variety of projects. The initial NEST projects include areas such as safety-relevant phenomena in containment during accidents, remote technology use in decommissioning, radioactive waste management and small modular reactors.

Secretariat-serviced bodies

The Agency continues to serve as Technical Secretariat for international bodies such as the Generation IV International Forum (GIF), the International Framework for Nuclear Energy Cooperation (IFNEC) and the Multinational Design Evaluation Programme (MDEP), and in so doing ensures the complementarity of mandates between these bodies and the NEA.





The Generation IV International Forum (GIF) is a co-operative international endeavour organised to carry out the research and development (R&D) needed to establish the feasibility and performance capabilities of the next generation of nuclear energy systems.

The Generation IV International Forum has 14 members that are signatories to its founding document, the GIF Charter. Argentina, Brazil, Canada, France, Japan, Korea, South Africa, the United Kingdom and the United States signed the GIF Charter in July 2001. Subsequently, it was signed by Switzerland in 2002, Euratom in 2003, China and Russia in 2006, and Australia in 2016. The Framework Agreement overseeing the co-operative R&D activities was

extended for ten years in February 2015 and has been signed or acceded to by twelve countries, including Australia in September 2017, and the United Kingdom which ratified it in September 2018.

Six systems are being developed in GIF: the gas-cooled fast reactor (GFR), the lead-cooled fast reactor (LFR), the molten salt reactor (MSR), the sodium-cooled fast reactor (SFR), the supercriticalwater-cooled reactor (SCWR) and the very-high-temperature reactor (VHTR). More detailed information is available on the GIF website at www.gen-4.org.

Multinational Design Evaluation Programme (MDEP)



MDEP is a unique multinational initiative being conducted by the nuclear regulators of Argentina, Canada, People's Republic of China, Finland, France, Hungary, India, Japan, Korea, Russia, South Africa, Sweden, Turkey, the United Arab Emirates, the United Kingdom and the United States, with the participation of the International Atomic Energy Agency (IAEA), in order to co-operate on safety

design reviews of new reactors and to identify opportunities for harmonisation and convergence of safety licensing review practices and requirements. MDEP currently includes five design-

specific working groups (EPR, AP1000, APR1400, VVER and HPR1000) and one issue-specific working group on vendor inspection co-operation. See www.oecd-nea.org/mdep for further details.



International Framework for Nuclear Energy Cooperation (IFNEC)



International Framework for Nuclear Energy Cooperation



The International Framework for Nuclear Energy Cooperation provides a forum for co-operation among participating countries to explore mutually beneficial approaches to ensure that the use of nuclear energy for peaceful purposes proceeds in a manner that is efficient and meets the highest standards of safety, security and non-proliferation. Member countries do not give up any rights and voluntarily engage to share the effort and gain the benefits of the economical and peaceful use of nuclear energy.

IFNEC membership includes 34 participant countries, 31 observer countries and 4 international observer organisations (the Nuclear Energy Agency, the International Atomic Energy Agency, the Generation IV International Forum

and Euratom). There are currently three IFNEC working groups: the Infrastructure Development Working Group (IDWG), the Reliable Nuclear Fuel Services Working Group (RNFSWG), and the Nuclear Suppliers and Customer Countries Engagement Group (NSCCEG). Further information is available at www.ifnec.org.





Daniel Iracane Deputy Director-General and Chief Nuclear Officer **Nobuhiro Muroya** Deputy Director-General for Management and Planning



Making the future happen

he previous pages of this brochure have elaborated on many important aspects of NEA work, all of which are part of a global picture: the nuclear energy system. In an effort to bring together the diverse actors in this system, the NEA has in recent years been encouraging enhanced crossfertilisation among NEA committees addressing safety, regulation, radioactive waste management, decommissioning, radiological protection, technology development and economics, science, law and the human aspects of nuclear safety.

In parallel to this thematic cross-fertilisation, it became evident that new, multinational, co-operative approaches among NEA member countries should be considered to improve interactions between universities, industry, research organisations and regulatory bodies – with due respect to the distinct responsibilities of each – in an effort to accelerate the deployment of the innovative nuclear technologies needed to meet expectations for the future. This is the goal of "Nuclear Innovation 2050" (NI2050), the international initiative presented on page 22, which will ultimately help to ensure that nuclear "fits" into the future, as yet uncertain, global energy framework.

Technological evolutions are a powerful driver to attract, train and retain a future generation of skilled engineers and scientists as they provide demanding activities. It was in this spirit that the NEA began developing the Nuclear, Education, Skills and Technology (NEST) Framework, the international initiative presented on page 23, so that promising young people from NEA countries can have an opportunity to hone their skills by addressing real world challenges in a multidisciplinary and multinational context. This initiative meets a growing concern in NEA member countries that are faced with a vanishing expertise in fields important for the safe and effective management of nuclear technology.

Thematic cross-fertilisation, multinational approaches and improved interaction among involved players are the main ingredients of a new pathway that could create the confidence necessary for policymakers to consider nuclear technology as a possible solution when addressing fundamental, environmental and societal needs.

The NEA online

In addition to basic information on the Agency and its work programme, the NEA website offers free downloads of hundreds of technical and policy-oriented reports. The professional journal of the Agency, *NEA News* – featuring articles on the latest nuclear energy issues – is available online at www.oecd-nea.org/nea-news/. An NEA monthly electronic bulletin is also distributed free of charge to subscribers, providing updates of new results, events and publications. Sign up at www.oecd-nea.org/bulletin. Visit us on Facebook at www.facebook.com/OECDNuclearEnergyAgency or follow us on Twitter @OECD_NEA.

For more information on NEA publications

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NEA member countries

(as of April 2019)

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Argentina	Australia	Austria	Belgium	Canada	Czech Republic	Denmark
Finland	France	Germany	Greece	Hungary	Iceland	Ireland
Italy	Japan	Korea	Luxembourg	Mexico	Netherlands	Norway
Poland	Portugal	Romania	Russia	Slovak Republic	Slovenia	Spain
Sweden	Switzerland	C* Turkey	United Kingdom	United States		

Strategic partners



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