ENSREG

European Nuclear Safety Regulators Group

European Commission

Summary Report of the 8th ENSREG Conference

The 8th European Nuclear Safety Conference organised by the European Nuclear Safety Regulators Group (ENSREG) and the European Commission, under the presidency of Mr Pierre-Marie Abadie, Chairman of the French Authority for Nuclear Safety and Radiation Protection (ASNR), took place on 16–17 June 2026 in Brussels, Belgium.

The theme of this 2026 edition of the Conference was **"Regulating nuclear safety in a rapidly changing and challenging environment".** The Conference covered multiple topics while focusing on how nuclear safety authorities, as public service providers, were managing a wide range of expectations, from governments, members of Parliament, industry, society and NGOs.

The Conference was attended by more than 230 participants in person, and around 60 people followed the streaming online. These included representatives of Member States' nuclear safety authorities and a broader stakeholder community, including regulators' technical support organisations (TSOs), European institutions, representatives from national parliaments, academia, licensee associations, NGOs, the media, and non-EU countries. The Conference invited to fruitful exchanges between panellists, challenged different point of views on possible ways of addressing current common challenges and explored potential new collaboration and dialogue schemes.

It overwhelmingly confirmed the desire of all to intensify the collective dialogue and the leading role of Europe in current debates. Clear trends towards strategic convergence among safety authorities on the main topical issues were evident, made possible by the existence of long-standing technical cooperation between stakeholders, in particular within the framework of the ENSREG, WENRA, HERCA, and ETSON networks.

Across six sessions, including high-level opening and closing ones, **discussions focused on the efficiency of nuclear safety regulators in different fields of their activities and under unprecedented pressure of political and strategic challenges,** both within the EU and globally. The Conference underscored the need **for constant cooperation amongst regulators, as well as maintaining a constructive and continuous dialogue with experts, research community, industry and public administrations,** to meet external expectations put on regulators in terms of performance, efficiency, competence and public trust while upholding and preserving nuclear safety, even in extreme circumstances such as armed conflicts.

The **Conference President and Chairman of ASNR, Mr Pierre-Marie Abadie**, as well as **Acting Deputy Director-General (DDG) at DG ENER of the European Commission, Mr Michael Hübel,** opened the Conference by welcoming the participants and outlining the context in which the Conference was taking place and its overarching theme.

In particular, Mr Pierre-Marie Abadie noted that the nuclear sector, firmly grounded in the fundamentals of safety and radiation protection built over the long term, had now entered a new cycle after a decade marked by the reinforcement of nuclear safety following the Fukushima accident. He stated that, while safety remained the top priority, safety authorities now had to respond to new challenges. In the context of the revival of nuclear power in several countries, he highlighted the development of projects for new reactors and the lifetime extension of existing facilities as key challenges. At the same time, he noted that

the emergence of innovative technologies, such as small modular reactors (SMR), artificial intelligence, and digital tools, was creating both opportunities and new challenges for safety. Mr Pierre-Marie Abadie considered that the safety authorities should strengthen their skills, their agility, and their cooperation with all actors in the nuclear sector, while preserving their independence. He also reaffirmed that, in this context, safety and radiation protection were the essential foundations for sustainable, credible, and socially accepted nuclear development.

Mr Michael Hübel highlighted that, while nuclear safety has always been central to nuclear energy policy, the renewed interest in nuclear power across Europe has brought new challenges and created increased expectations and pressure on all stakeholders, including regulators. At the same time, this renewed interest can only succeed if it is accompanied by continued recognition of the importance of the strong and well-established regulatory framework already in place. Mr Hübel further underlined that current challenges require nuclear safety to be addressed in new ways and that it reinforces the need for close cooperation among European regulators. He noted that the key task is now to further develop the existing framework so that it can respond effectively to emerging challenges, such as nuclear safety during armed conflicts for which regulators must identify appropriate responses. In this context, he described ENSREG as an important forum for collaboration, and that dialogue among regulators, industry, civil society, and governments is essential to address challenges.

Opening Session

During the **opening session**, the Conference heard from high-ranking representatives of international and national organisations who shared their reflections on nuclear safety in the current challenging context. The session brought together the following speakers: **Mr Pierre-Marie Abadie**, Conference President, and Chair of the French Nuclear Safety and Radiation Protection Authority (ASNR); **Mr Juan-Carlos Lentijo**, Chair of ENSREG and President of the Spanish Nuclear Safety Council (CSN); **Mr Michael Hübel**, Acting Deputy Director-General of the Directorate-General for Energy at the European Commission; **Ms Karine Herviou**, Deputy Director-General of the International Atomic Energy Agency (IAEA) and **Mr Petteri Tiippana**, Chair of the Western European Nuclear Regulators' Association (WENRA) and Director-General of the Finish Radiation and Nuclear Safety Authority (STUK).

Speakers agreed that **cooperation** among regulators and stakeholders, such as the European Commission, civil society, industry, third countries and international organisations, **is essential for maintaining regulators' agility in a rapidly evolving environment**, without compromising safety, independence and impartiality, while maintaining safety as the overriding priority. **Mr Lentijo** highlighted that nuclear safety requires strong regulators, supported by strengthened competences, independent R&D capacity and early engagement with developers and licensees. **Mr Abadie** emphasised that safety and industrial performance must go hand in hand, with regulators embedded in early stages of the projects, and the need that safety authorities develop the necessary expertise to support the development of disruptive technologies, such as artificial intelligence. **Mr Hübel** stressed the Commission's role in supporting cooperation among regulators, such as through ENSREG, as well as the importance of focusing on the implementation of the existing Euratom framework, while **Ms Herviou** raised the need to build a strong, connected ecosystem that includes international and regional organisations, and that these organisations should provide a platform for cooperation. **Mr Tiippana** proposed that regulators should use joint assessment approaches to make licensing more efficient without lowering safety or autonomy.

First Session: 'Performance and nuclear safety in the new nuclear context'

The first session on 'Performance and nuclear safety in the new nuclear context' was moderated by **Ms Pascale Absil,** Director-General of the Federal Agency for Nuclear Control (FANC), Belgium. The panel

discussion featured the following speakers: **Mr Olivier Gupta**, Director-General of the French Nuclear Safety and Radiation Protection Authority (ASNR); **Mr Mike Finnerty**, Chief Executive and Chief Nuclear Inspector of the United Kingdom's Office for Nuclear Regulation (ONR); **Ms Sama Bilbao**, Director-General of the World Nuclear Association (WNA); **Mr Carl Berglöf**, Swedish National Nuclear New-Build Coordinator of the Ministry of Climate and Enterprise; **Mr Jan Panek**, Director for Nuclear energy, safety and ITER of the Directorate-General for Energy at the European Commission; and **Mr David Ogle**, Chairman of the European Nuclear Installation Safety Standards (ENISS).

Overall, speakers agreed that **industrial performance and nuclear safety** are not contradictory to each other, but complementary and mutually reinforcing. Strong safety culture, good design, operating experience, and peer learning considerably support both nuclear safety and industrial performance. Moreover, political signals and project owners should encourage industry across the supply chain to reinforce quality and safety culture.

Further important points of the first session included:

- **Independence and cooperation must coexist.** Regulatory independence remains essential, but it should not prevent regulators to actively interact with the industry and stakeholders. Early discussions between industry and regulators have already confirmed their benefit for both sides. Open and constructive dialogue reinforces effectiveness and safety rather than undermining it.
- **Risk-informed and graded approaches, as well as predictable, proportionate and stable regulation are a common priority.** Both regulators and industry see the need for frameworks that focus effort where it matters most for safety. Safety has to be considered as a common good. The challenge is not to reduce requirements, but to clarify expectations. In parallel, the lack of stability in, or excessive complexity of, designs are not conducive to safety.
- **AMRs and SMRs require agile regulatory treatment.** New reactor technologies differ significantly, and regulators must implement agile approaches to address their actual risk profiles, physics, and design characteristics.
- **Regulatory systems, not only regulators, need to evolve.** Licensing efficiency depends on the behaviour, mindset, and culture of all stakeholders, including industry, governments, regulators, and technical support organisations. This evolution may require integrating 21st-century technologies into “classic” regulatory systems. New designs introduce new risk profiles, different fuels and physical principles. This transformation is complex and shared across all actors.
- **Standardisation and regulatory convergence are strategic issues.** Greater consistency in regulatory interpretation and more standardised reactor designs is important for replication, competitiveness, and efficient deployment. Maturity and less complexity in designs are an asset for safety.
- **The workforce challenge is urgent.** Future nuclear deployment will require a major increase in skilled people, and the sector will need new approaches to education, training, and competence development.

Second session: ‘The role of research, innovation and technical assessment for continuous improvements in safety’

The second session on ‘The role of research, innovation and technical assessment for continuous improvements in safety’, was moderated by **Mr Lamberto Matteocci,** Senior Technical Adviser at the National Inspectorate for Nuclear Safety and Radiation Protection (ISIN). The panel discussion featured the following speakers: **Mr Vincent Lagneau**, Scientific Director of the French Nuclear Safety and Radiation Protection Authority (ASNR); **Mr Federico Rocchi**, President of the European Technical Safety Organizations Network (ETSON); **Mr Leon Cizelj**, Director of the Jožef Stefan Institute, Slovenia; **Mr Xavier Jardi Cuerda**, Senior Principal Team Lead of the Electric Power Research Institute (EPRI); **Ms Ulla**

Engelmann, Director for Nuclear Safety and Security of the Joint Research Centre at the European Commission; and **Mr Victor Hall**, Incoming Director of International Programmes of the US Nuclear Regulatory Commission (US NRC).

Speakers in this session highlighted that **research and technical assessment** are fundamental to regulatory decision-making, ensuring science-based and impartial safety judgments. Research provides the critical independent findings and demonstration elements necessary for the licensing process. Greater transnational coordination could help bridge gaps between academia and the needs of industry and regulators.

Further important points of the second session included:

- **Research and innovation** should **provide the necessary technical evidence to inform regulators' decision-making process.** Given the pressures they are currently facing, the need for safety authorities to be able to rely on robust research and collaboration between research organisations was emphasised.
- **Independent research must be targeted, agile and connected to real regulatory needs**. It needs to be more responsive, implementation-focused and aligned with regulatory and industrial challenges.
- **Research programs should be guided by top-down strategic approach,** in order to focus efforts on priority safety issues, maximise their impact and avoid the fragmentation of resources. Stronger leadership, prioritisation and coordination in research and innovation is needed.
- **Coordination of research programmes among research organisations at both national and international level** can generate value through the pooling of expertise, resources and the research infrastructure, in addition to close interaction between industry and regulators.
- **Research cannot operate in isolation.** Dialogue and coordination, by exchanging **experience** and collaborating between all actors at multilateral level, including research institutions, regulators, research students and other relevant stakeholders, are crucial. In addition, research needs to be more responsive and conducted with a view to the practical implementation of its results.
- **On technical assessments, the deployment of new technology would benefit from further cooperation.** It could benefit from jointly conducted technical safety assessment, helping to build a common understanding on how key safety issues should be addressed, while fully preserving national responsibility for the licensing decision. For SMRs, multi-criteria framework to support streamlining assessment could be considered for the large number and diverse new design.
- The **key challenges** for research and technical assessment are the long-term operation, the new technologies like SMRs and the use of artificial intelligence. In this regard, research and technical assessments can help increase efficiency to be more responsive, build a more effective regulator, without replacing any responsibility that remains with the user.

Third session: 'How to respond collectively to risks to nuclear safety posed by armed conflicts'

The third session on 'How to respond collectively to risks to nuclear safety posed by armed conflicts', was moderated by **Ms Hanna Smith**, Professor of Practice in Preparedness and Resilience Research at the University of Vaasa, Finland. The panel discussion featured the following speakers: **Mr Michael Knochenhauer**, Director-General of the Swedish Radiation Safety Authority (SSM); **Mr Oleh Korikov**, Head of the State Nuclear Regulatory Inspectorate of Ukraine (SNRIU) and Chief State Inspector for Nuclear and Radiation Safety of Ukraine ; **Ms Karine Herviou**, Deputy Director-General of the International Atomic Energy Agency (IAEA); **Ms Charlotte Grevfors Ernoult**, Head of Unit D.1 Euratom Policy Coordination of the Directorate-General for Energy at the European Commission; **Mr Jean-Luc Lachaume**, Chair of the

Heads of the European Radiological Protection Competent Authorities (HERCA); and **Mr Lars van Dassen**, Executive Director of the World Institute for Nuclear Security (WINS).

Overall, speakers stressed that **the armed conflict in Ukraine** has fundamentally changed the assumptions underpinning nuclear safety and security, demonstrating that nuclear installations can become exposed to military attacks. **Greater international cooperation and coordination** are required to support proactive initiatives, emergency preparedness and response actions, information exchange, and the maintenance of nuclear safety and security during armed conflict. While at the EU Member State and Commission level, many of those actions are being looked at and re-assessed, the IAEA should play an important role in this regard at the global level.

Further important points of the third session included:

- **No nuclear power plant has been designed to withstand state actors' attacks and warfare,** creating difficult trade-offs between maintaining nuclear safety and security and preserving electricity supply and societal resilience The conflict has profoundly altered the assumptions underpinning nuclear safety and security, demonstrating that nuclear facilities can be exposed to military attacks.
- **Valuable lessons can be drawn from the Ukrainian regulator's experience of the managing its regulatory functions during the on-going Russian war of aggression** which has directly impacted Ukraine's nuclear installations.
    - International legal instruments for the protection of nuclear installations in conflict situations are clearly insufficient and frequently violated. However, existing safety standards and safety objectives, developed for peacetime, nevertheless remain valid even in war time.
    - Regulatory activities have had to be adapted, focusing on those that have immediate impacts on nuclear safety. Deferring activities, e.g. conducting fewer inspections, have had to be justified and time limited.
- **The key challenges** include the vulnerability of external power supplies, regulatory staff under prolonged stress necessitating psychological support, degradation of supporting infrastructure, supply chain disruptions, cyberthreats, and the lack of regulatory and legal frameworks designed to address hostile actions by state actors.
- **Sound, timely and reliable communication with the public is important to maintain their trust.**
- **International assistance and monitoring mechanisms are essential for supporting nuclear safety and security in times of crisis.**
- **There is a need for more proactive measures identified and prepared in peacetime to be ready for implementation in case of armed conflict.** Structured decision-making frameworks and further evolution of legal and regulatory arrangements to balance nuclear safety considerations with broader societal needs. The experience from Ukraine is a catalyst for strengthening preparedness and resilience at both national and international levels.

Fourth Session: 'Preserving and enhancing public confidence in nuclear safety'

The fourth session on 'Preserving and enhancing public confidence in nuclear safety' was moderated by Cristina Les Gil, Deputy Director of Nuclear Facilities at the Spanish Nuclear Safety Council (CSN). The panel discussion featured the following speakers: **Ms Patricia Lorenz**, Antinuclear spokesperson of the GLOBAL 2000/Friends of the Earth Austria; **Ms Yevgeniya Tomkiv**, President of the European Platform for Social Sciences and Humanities in Ionising Radiation Research (SHARE) and Researcher, Norwegian University of Life Sciences; **Ms Ana Rita Lopes-Ramos**, Head of Unit D.3 Radiation protection and nuclear safety of the Directorate-General for Energy at the European Commission; **Mr João Oliveira Martins**, Director for Emergencies and Radiation Protection of the Portuguese Environment Agency (APA) and Chair of WG3 of

ENSREG; **Ms Lydie Evrard**, Director-General of the French National Radioactive Waste Management Agency (ANDRA); **Ms Annemiek van Bolhuis**, Chair of the Board of the Authority for Nuclear Safety and Radiation Protection (ANVS), Netherlands.

Most importantly, speakers all agreed that **credibility and trust** between nuclear safety regulators and civil society are long-term, cumulative processes, and must be built during normal times before crises occur. Effective two-way communication and dialogue are key and require early, honest and transparent engagement through suitable channels, acknowledging eventual uncertainties.

The fourth session also highlighted the following points:

- **Trust can no longer be taken for granted and must be actively and continuously built.** Societal expectations have evolved significantly over the past decades. In this context, credibility depends not only on technical competence but on the ability of regulators to explain how decisions related with safety are made, demonstrate independence and show that different perspectives have been genuinely considered.
- **Maintaining credibility fundamentally relies on a combination of independence, technical competence, transparency and consistency over time, supported by strong international cooperation.** However, independence should not be confused with isolation: regulators are expected to engage with stakeholders in a meaningful way and from the very beginning while preserving objectivity and also considering a graded approach: the bigger the decision, the deeper participation.
- **Mechanisms such as stakeholder involvement, peer reviews, international fora and joint exercises play a key role** in strengthening confidence and reinforcing the legitimacy of regulatory decisions.
- **Trust is closely linked to the quality of participation and communication.** Public engagement must take place early, be continuous and demonstrate clear responsiveness, as trust can be quickly eroded if people feel their views do not matter. Experience shows that participation improves both trust and decision-making when stakeholders can see how their input has influenced outcomes. In parallel, effective communication, particularly during crises, requires early, honest and transparent engagement, acknowledging uncertainties and explaining the reasoning behind decisions, while recognising that trust in crisis situations is built during normal times, not at the moment of the crisis itself.
- **Regulators must show the way by embedding a strong internal safety culture based on openness, learning, diversity and coherence between values and behaviour**. At the same time, they must take decisions that balance present safety with long-term responsibility, particularly in areas such as radioactive waste management. Overall, trust is reinforced when regulators consistently demonstrate independence, accountability and transparency, and when they "walk the talk" in their everyday actions.

<u>Closing session</u>

In the closing session, the four moderators of the thematic sessions engaged in a final discussion steered by the event's main moderator, Czech journalist **Michala Hergetova.** The session focused on summarising and reflecting on the main insights and conclusions of the Conference. All in all, moderators across the different sessions concluded that **safety as the primary objective must remain as constant** as Europe's nuclear landscape evolves. Nuclear safety goes far beyond technical or national issue alone. **Closer cooperation** across competent authorities and stakeholders, borders and disciplines are vital to respond with agility to new and fast-changing circumstances.

Closing remarks

At the end of the Conference, **Mr Abadie** provided his closing remarks, summarising five collective challenges that now require full attention from for all actors in the nuclear safety and radiation protection ecosystem:

- Ensuring effective oversight of new build projects, with integration of nuclear safety into all stages of projects, from design to construction and supply chain management.
- Advancing standardisation of construction design and methods where it supports safety, replication, quality, efficiency and predictability
- Applying a proportionate, graded approach to safety while upholding the highest standards, which involves an in-depth technical dialogue and a collegial approach to prioritising safety issues
- Preserving and developing robust, diversified and coordinated research and expertise in shaping decisions to reduce uncertainties, develop new assessment methods and support credible decisions, which requires sustainable, national, and European funding
- Ensuring agility in regulatory frameworks to respond to technological and societal change while preserving the rigour, transparency, and robustness of processes

Mr Abadie concluded the conference by highlighting the major asset of the European dimension in meeting the current challenges, with the ability of the European Member States to pool their expertise, build consensus positions, and give Europe a voice in sustainably strengthening nuclear safety and radiation protection.

He thanked the panellists and the audience for contributing to enriching discussions during this Conference.

Participants' views on regulators and the future of nuclear regulation

Throughout the Conference, participants were invited to share their views using Slido on the following question: *"In your opinion, what are one or two things that regulators do well, and what are one or two things that you consider that regulators could improve?".*

Participants were highly engaged in providing their views on the strengths of regulators. The points most frequently highlighted, in descending order, were:

1. A safety-oriented approach with strong safety culture
2. Solid competence
3. Preserving regulatory independence
4. Maintaining public trust

Participants were also asked to identify areas where regulators could improve. The most frequently mentioned points, in descending order, were:

1. Greater flexibility (including openness to changes and seeking simplification)
2. Enhanced cooperation
3. Improved communication (about their work, achievements and decisions with stakeholders, the public, and among regulators themselves)
4. Regulators seeming to be too risk averse
5. Lack of sufficient resources

Additionally, participants were invited to contribute with a key word in response to the question *"If we should find the key word for the future of nuclear regulation, what would it be?".*

The most frequently emphasised word was **"Cooperation",** a theme that emerged consistently throughout the different sessions of the Conference and which participants identified as central to the future of nuclear regulation. The terms **"independence"** and **"ENGARDE (European Generic Assessment of Reactor Designs)"** were also frequently mentioned, highlighting the continued importance of maintaining regulators independence, as well as the value of WENRA's new initiative to support a common understanding of nuclear safety and greater convergence in assessment approaches.

Other recurring terms included **transparency, resources, adaptation, clarity, responsive** and **competence.** The entire word cloud can be found in the Annex.

ANNEX

World cloud in response to the question *"If we should find the key word for the future of nuclear regulation, what would it be?".*