2024

Presented to EURAD 2 Kick Off Meeting 23/10/24
by Anthony Banford Nugenia Vice-Chair

SNETP: The European Technology and Innovation Platform (ETIP)

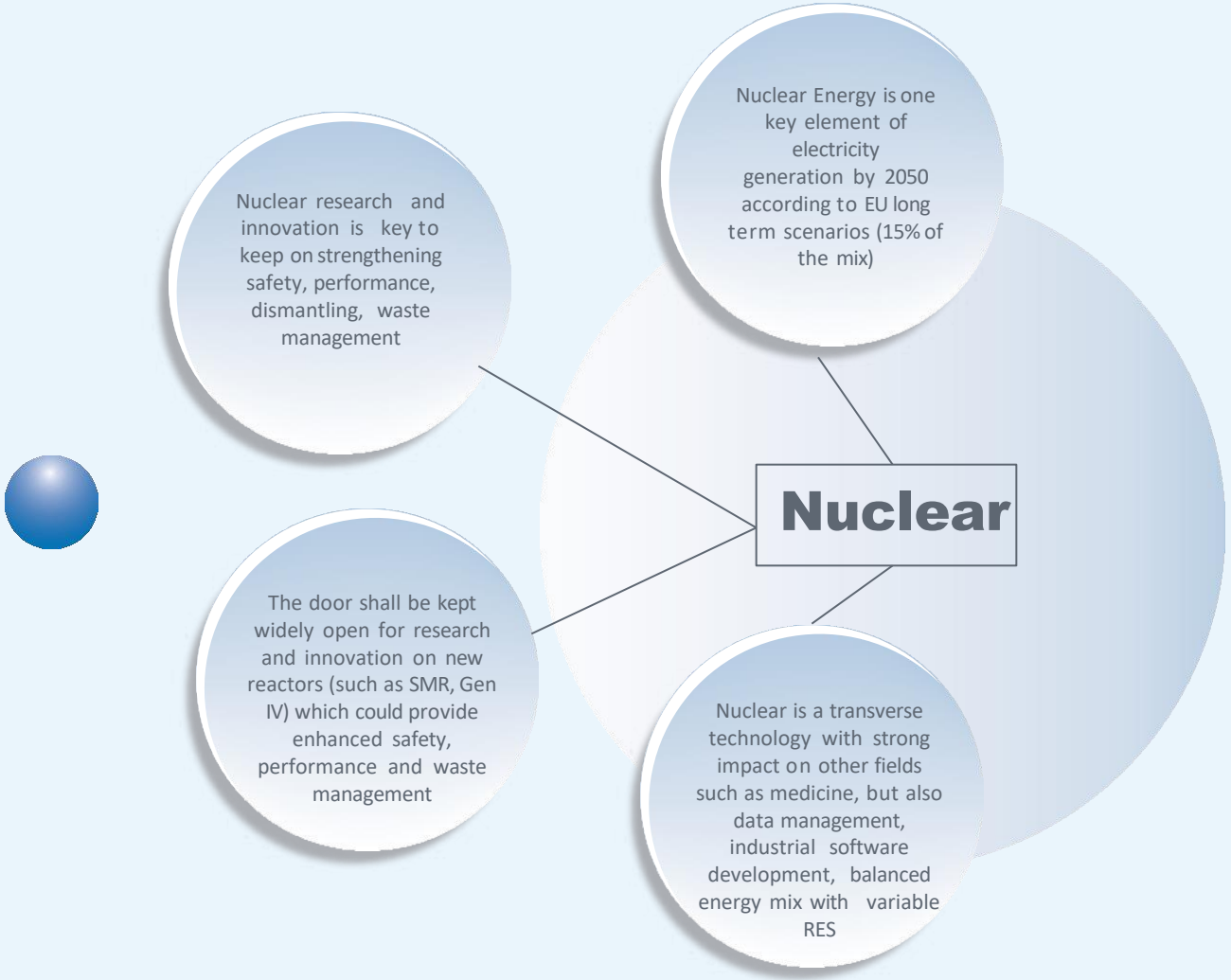
Introduction to the association

- **SNETP is the only European wide association dedicated to collaborative nuclear research.** All major European R&D organisations involved in nuclear are members of the association. Various events are organised and online tools are deployed to facilitate collaboration of the community on new projects proposals. Since its creation in 2007, SNETP has supported discussions on more than 300 project ideas.

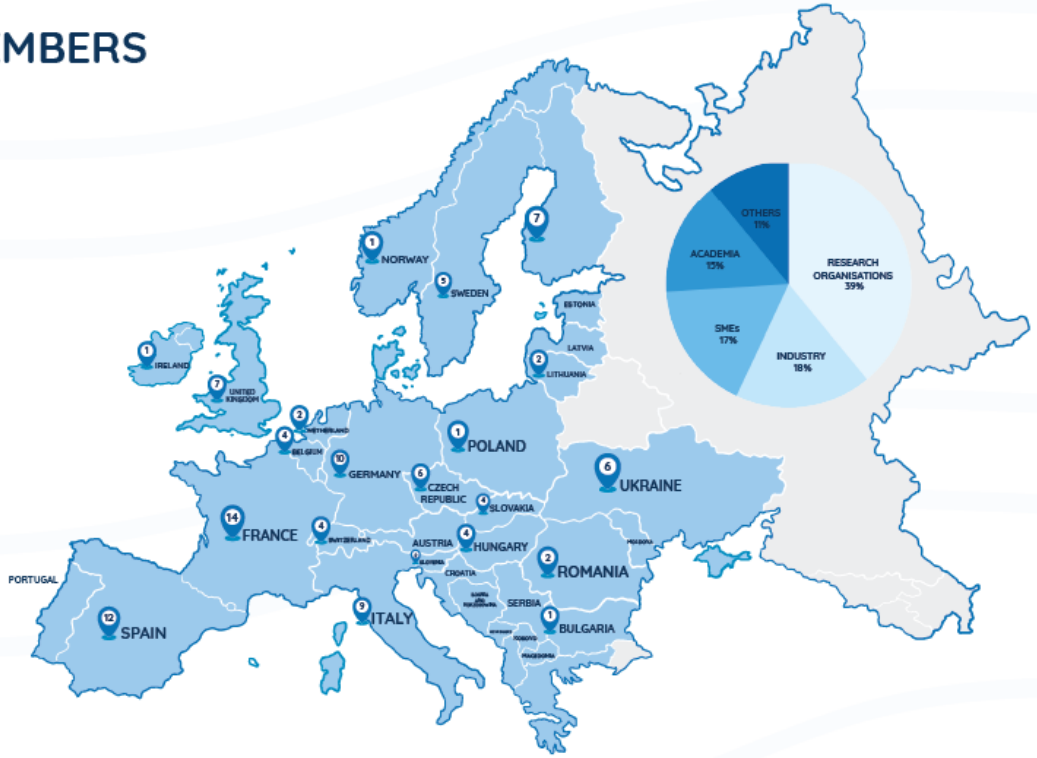
- **The specific European Technology & Innovation Platform (ETIP) status provides an important visibility to SNETP and its members**, with privileged access to relevant high-level managers within EU institutions, international organisations, and member states.

- **SNETP and its members (125) contribute to the shaping of European energy policies**, by exchanging with peers on research priority topics, by producing reference documents (e.g. SRIA) on the state of R&D&I in Europe, by publishing position papers, etc.

SNETP Strategy



SNETP MEMBERS



- CANADA
- JAPAN
- SOUTH KOREA
- EU

MEMBERS PER COUNTRIES

BELGIUM
Bel V
Laborelec GDF SUEZ
NUCLEAR 21
TRACTEBEL - ENGIE
SCK CEN

BULGARIA
INRNE

CANADA
CANDU Owners Group
Candian Nuclear Laboratories
Candian Nuclear Safety Commission

CZECH REPUBLIC
CEZ
CTU - Czech Technical University
CVR
Energy Safety Group
UJV
VZU PLZEN

DANEMARK
Copenhangen Atomics

FINLAND
FinNuclear
Fortum
Kiwa
LUT University
TRUEFLAW
TVO
VTT

FRANCE
CEA
CNRS
EDF / EDF ENERGY
ENEN
FRAMATOME
IRSN
LGI
METROSCOPE
Mines Paris Tech
NAAREA
NEEXT
Nuc Advisor
ORANO
Technom Carbon

GERMANY
Becker Technologies
Fraunhofer
Framatome GmbH
GRS
HZDR
JÜLICH
KIT
PREUSSEN ELEKTRA
Universität Stuttgart
Wölfel

HUNGARY
AEMI Ltd
Bay Zoltan
Hunatom
Center of Energy research (ou MTA EK)
Paks NPP
TH-CAD
University of Dunaujvaros

IRELAND
EPRI

ITALY
Ansaldo Nuclear
CIRTEN
ENEA
INAIL
NINE
Politecnico Milano 1863
SRS
Sapienza University of Rome
Università Di Pisa

JAPAN
CRIEPI
JAEA

LITHUANIA
LEI
KTU

NETHERLANDS
NRG
THORIZON

NORWAY
IFE

POLAND
National Centre
For Nuclear Research

ROMANIA
ELSSA LABORATORY
RATEN

SLOVAKIA
IVS
SEAS
STUBA
SLOVENSKE ELEKTRARNE
VUJE

SLOVENIA
Jozef Stefan Institute
ZAG

SOUTH KOREA
KAERI
KEPCO

SPAIN
CEIDEN
CIEMAT
Universidad Politéctnica de Valencia (UPV)
EMPRESARIOS AGRUPADOS
Iberdrola
Inesco Ingenieros
Innomerics
Universidad Politéctnica de Madrid (UPM)
Tecnatom
Universidad Carlos III Madrid
Universidad Politéctnica de Catalunya (UPC)
Universidad de Cantabria

SWEDEN
Chalmers University
KTH
SWERIM
VATTENFALL
WESTINGHOUSE

SWITZERLAND
EPFL
Paul Scherrer Intitut
SVTI ASIT

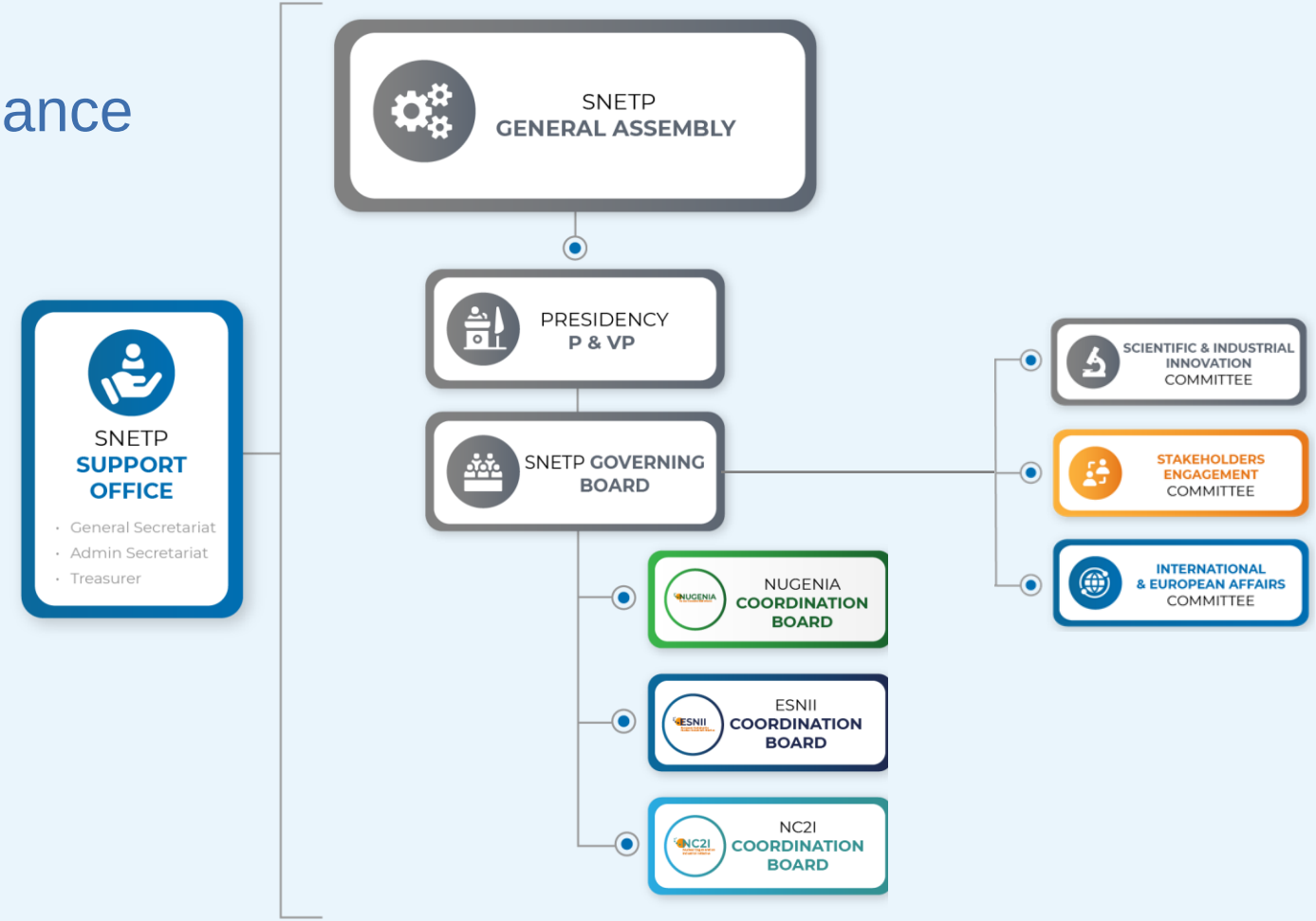
UKRAINE
ENERGORISK
ENERGY SAFETY GROUP
IPP CENTRE
ISSPMT
Ministry of Energy of Ukraine
SSTC NRS

UK
Bristol Oxford - NRC
EDF ENERGY
Jacobs
Manchester 1824
National Nuclear Laboratory
Newcleo
Nuclear AMRC
Rolls-Royce SMR
World Nuclear Association

EU
EUROPEAN COMMISSION
FORATOM
JRC

SNETP
Sustainable Nuclear Energy Technology Platform

SNETP
Governance

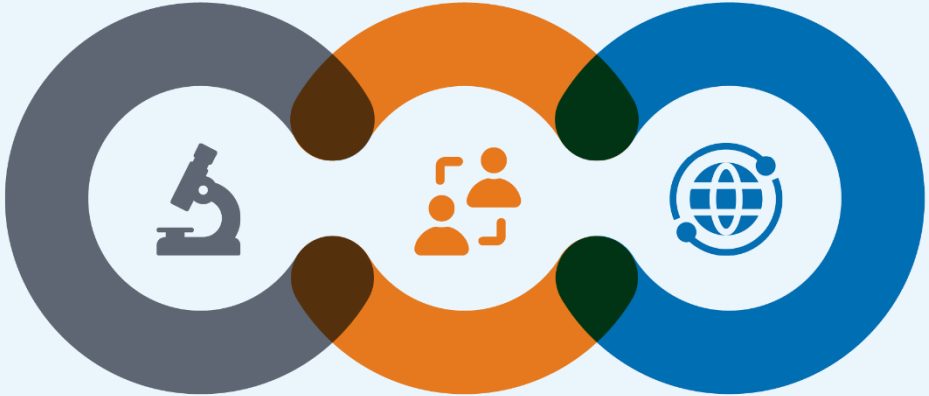


SNETP
3 Committees

Committee for Scientific and Industrial Innovation

NRG

Scientific programming
Contribution to E-SMR partnership
Monitoring SNETP projects
SNETP Innovation Booster



International and European Affairs Committee

IRSN

Alignment with Euratom & SET-Plan
Coop. with IAEA, NEA, GIF

Stakeholders Engagement Committee

TRACTEBEL

Monitoring & Fostering interactions with European associations
Interacting with regulatory and standardisation bodies
Reinforcing cooperation with and between nuclear R&D infrastructures
Supporting activities and actors engaging with civil society & young generation

SNETP Pillars

SNETP

SNETP is the European Technology & Innovation platform for Nuclear Energy focused on Gen II-III and IV reactors with electric and non-electric application

An association

The association (AISBL, under Belgian law) gathers more than 100 stakeholders from industry, research centers, safety organisations, universities, non-governmental organisations, SMEs…

Gen I = existing Light water reactor
GEN II = new LWR
GEN IV = advanced (modular reactor)

NUGENIA

- **Scientific focus:The Nuclear Generation II & III Alliance (NUGENIA)** is dedicated to the R&D of nuclear fission technologies, with a focus on safe and efficient operation of Gen II & III nuclear plants

- **Governance:**
  NUGENIA is chaired by Baptiste Pothet (Framatome), vice-chair Anthony Banford (NNL)
  This pilar is organised around 8 technicals areas (TA):
  - TA1: Plant safety and risk assessment,
  - TA2: Severe accidents
  - TA3: Improved nuclear power plant operation
  - TA4: Integrity assessments of systems, structures and components
  - **TA5: Waste management and decommissiong**
  - TA6: Innovative LWR design and technology
  - TA7: Fuel elements
  - TA8 (ENIQ): European Network for Inspection and Qualitification

  Each TA is sub-divided in several sub-TA and is managed by a **TALeader**.

  Nugenia Coordination Board = Nugenia chairperson + 8 TALeaders

- **Updated it's vision paper:**
  NUGENIA vision paper available on SNETP webpage

SNETP – NUGENIA:

Waste Management and Decommissioning Priority Areas

- **Sustainability of nuclear lifecycle**
  - **Adopting an integrated waste management strategy across the nuclear lifecycle**
  - **Minimising waste – adopting the implementation of the waste hierarchy**
  - **Enhancing waste processing solutions, including challenging wastes and recycle/reuse of materials**
  - **Moving towards increased circularity – the circular economy where possible**
- **Act to materialise the benefits of advanced technologies, digitalisation, machine learning AI etc. taking advantage from cross sector learning**
- **Address waste management of future SMR and advanced systems now,**
- **and of course, the successful implementation of disposal programmes**

SNETP: The European Technology and Innovation Platform (ETIP)

Added Value : the associations services

- **Building strategic vision & roadmapping** (SRIA).
- **High-level techno–economic studies** (nuclear technologies; nuclear energy in the EU energy mix).
- **Providing scientific and technical basis** to establish high quality standards and harmonised best practices).
- **Establishing active networking.**

  - Facilitating synergies with other technology platforms;
  - Interacting with international initiatives (i.e. SET Plan, GIF, OECD, IAEA, etc.).
  - Fostering joint initiatives between researchers, industry, utilities, member states and the EU.

- **Ensuring enhanced coordination between national programmes.**
- **Supporting the dissemination of results to targeted public** (policymakers, research, industry, NGOs, etc.).
- **Promoting a coordinated training and educational system** for developing nuclear competence in Europe.
- **Communication tools and infrastructures.**

SNETP
Activities

Roadmapping & joint programming

Supporting project creation process

Scientific dissemination & communication

Networking

Link with European policy makers

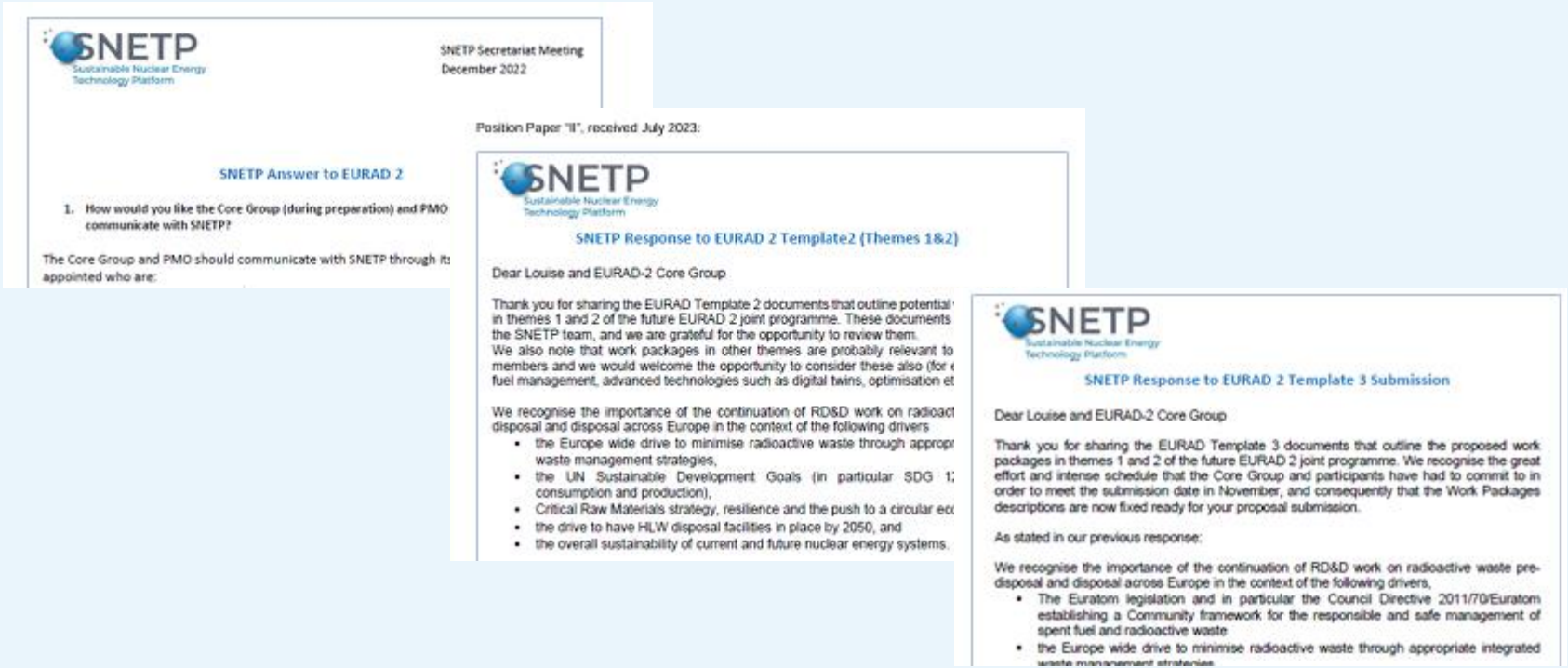
SNETP: EURAD 2 support

SNETP Engagement with EURAD 2

- **Established an advisory team to provide SNETP input to the core group**
- **Involvement of EURAD and PREDIS in SNETP**
  - **Engagement in Nugenia Technical Area 5 Waste Management and Decommissioning activities and fora**
- **Provided SNETP position papers to give guidance based on the priorities of the SNETP community, including**
  - **Nuclear generators,**
  - **Nuclear services – supply chain**
  - **R&D organisations**
- **Will continue to promote ongoing access and engagement with SNETP End Users through NUGENIA, ESNII and NC2I**
  - **Participation in EURAD External Advisory Board**
  - **Identify and share End User priorities**
  - **Support dissemination of EURAD outcomes to achieve impact for End Users.**

SNETP: EURAD 2 support

SNETP Engagement with EURAD 2



SNETP Secretariat Meeting
December 2022

SNETP Answer to EURAD 2

1. How would you like the Core Group (during preparation) and PMO communicate with SNETP?

The Core Group and PMO should communicate with SNETP through its appointed who are:

Position Paper "II", received July 2023:

SNETP Response to EURAD 2 Template2 (Themes 1&2)

Dear Louise and EURAD-2 Core Group

Thank you for sharing the EURAD Template 2 documents that outline potential in themes 1 and 2 of the future EURAD 2 joint programme. These documents the SNETP team, and we are grateful for the opportunity to review them.
We also note that work packages in other themes are probably relevant to members and we would welcome the opportunity to consider these also (for fuel management, advanced technologies such as digital twins, optimisation et

We recognise the importance of the continuation of RD&D work on radioact disposal and disposal across Europe in the context of the following drivers

- the Europe wide drive to minimise radioactive waste through appropr waste management strategies,
- the UN Sustainable Development Goals (in particular SDG 1 consumption and production),
- Critical Raw Materials strategy, resilience and the push to a circular ec
- the drive to have HLW disposal facilities in place by 2050, and
- the overall sustainability of current and future nuclear energy systems.

SNETP Response to EURAD 2 Template 3 Submission

Dear Louise and EURAD-2 Core Group

Thank you for sharing the EURAD Template 3 documents that outline the proposed work packages in themes 1 and 2 of the future EURAD 2 joint programme. We recognise the great effort and intense schedule that the Core Group and participants have had to commit to in order to meet the submission date in November, and consequently that the Work Packages descriptions are now fixed ready for your proposal submission.

As stated in our previous response:

We recognise the importance of the continuation of RD&D work on radioactive waste pre-disposal and disposal across Europe in the context of the following drivers,

- The Euratom legislation and in particular the Council Directive 2011/70/Euratom establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste
- the Europe wide drive to minimise radioactive waste through appropriate integrated waste management strategies

Full text is available

SNETP: EURAD 2 support

SNETP Engagement with EURAD 2

Requests

1. That SNETP are represented on the EURAD 2 External Advisory Board by one representative of Nugenia and one additional member representing the other SNETP pillars ESNII and NC2I.
2. SNETP are engaged in the implementation of the EURAD 2 programme, to encourage end user engagement directly into work packages in themes 1 and 2.
3. SNETP are engaged in the process of identifying and reviewing proposals for wave 2 work packages.
4. EURAD 2 continue to work with SNETP to disseminate the output of the programme to SNETP members.

From
SNETP EURAD Team.

SNETP: Summary

Moving forward with EURAD 2

SNETP stands ready to

- **Provide advice on the direction and implementation of EURAD 2**
- **To work with the EURAD 2 team to enact real through progarmme End User Engagement**
- **To disseminate outcomes of EURAD 2 work packages to SNETP community**
- **To promote implementation leading to impact across the sector.**

Congratulations on the kick-off of EURAD 2

Thank you for your attention,

CONTACT US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www.linkedin.com/company/snetp

SNETP Studies

3 studies will be supported in 2024

- The analysis of the R&D nuclear landscape in Europe (infrastructure and expertise/competences)
- A survey on the digitalisation of the nuclear sector
- The situation of the R&D infrastructure and expertise and skills in Ukraine

Outcomes are expected by Automn 2024

SNETPFORWARD

The SNETPFORWARD project goal is to support the European Commission to establish a SET Plan 2.0 in close collaboration with the other ETIPs, by:

- **Ensuring nuclear fission remains EU's largest, secure, competitive, flexible and reliable supplier of low-carbon electricity** together with renewables.
- **Exploring alternative nuclear applications**: hydrogen production, process heat for heavy industry, district heating and medical applications in addition to reliable, flexible and sustainable electricity generation.
- **Developing new cross-cutting technologies, processes and synergies**: new designs including small modular and advanced reactors with the potential to close the fuel cycle, digitalisation, AI, new manufacturing routes, harmonisation of codes and standards.
- **Focusing on key enablers**: EU high quality skills and competences, R&D infrastructures, knowledge management and international cooperation.

Discover SNETPFORWARD

www.snetp.eu/snetpforward/

SNETP Supports research infrastructures: OFFERR Project

European User facilities Network - EUFN

- The OFFERR project aims to **facilitate access** to key nuclear research infrastructures across Europe for R&D experts within the SNETP Association.
- Acting as a **conduit for financial support from the Euratom programme,** OFFERR allocates funds to user institutions, enabling collaboration on selected projects through its calls.
- To **secure funding,** projects must meet eligibility criteria, **explore the OFFERR catalogue,** and submit applications through the OFFERR Call Platform. The project is funded under Horizon Europe/Euratom, applying EU rules, and welcomes participation from countries listed in Horizon Europe.

Discover the OFFERR call now

www.snetp.eu/offerr/

SNETP Supports Start-up and SMEs

- 27 full members are Start-ups (SMEs), among them:
  - Copenhagen Atomics; Th-MSR
  - NAAREA: MSR
  - NEEXT Engineering: LFR
  - Thorizon: LFR
  - …
- Only sponsor of the Start-up Program during the WNE2023 in Paris

  ESNII pillar working for decades on SFR, LFR, HTR (with NC2I) and MSR recently provides expertise and know-how
- A survey has been sent to all stratups and SMEs in the nuclear field
- 3 workshops are planed in order to
  - Better understand their needs
  - Learn about their technical/scientific and competences needs to accelerate their development and their market-uptake