Public acceptance: getting communities onboard

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Citizen Engagement learnings

Finland

- **Use of nuclear for district heating - resident event** was organised in the city of Kuopio (5.9.2024)
- **Nuclear event for women** was organized in co-operation with The National Council of Women of Finland in Espoo (4.12.2024)

Czech Republic:

- **SMR – future energy sources** - citizen event was organized in the city of Plzeň (13.9.2024)

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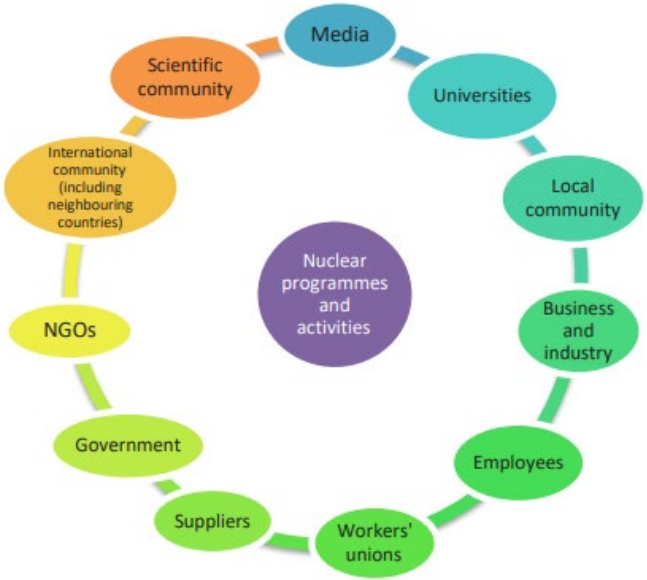
Stakeholder engagement- what´s our approach?

A broad definition of a stakeholder is any group or individual who feels affected by an activity, whether physically or emotionally (IAEA, 2021)

-> In Tandem, we chose relevant stakeholders for each event



Stakeholder Engagement in Nuclear Programmes. IAEA Nuclear Energy Series. No. NG-G-5.1. 2021. Link to publication here

Citizen engagement

Citizen engagement highlights the **interaction** between citizens (or residents), local communities, and their governments.

Inform:

Provide public objective information: problem, alternatives, solutions

Consult:

Obtain public feedback on analysis, alternatives and decisions

Involve:

Work directly with public to ensure concerns and aspirations are constantly understood and considered

Collaborate:

Partner with the public of the decision

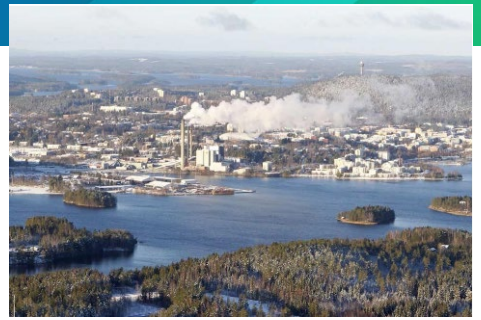
Empower:

Place the final decision making in the hands of the public

In Tandem, we focused on **interaction and involvement** as well as **providing fact-based information for the participants**

Source: IAP2 Spectrum of Public Participation

Use of nuclear energy for district heating- Resident event



- **What**? First resident event in Finland about use of nuclear energy (Small Modular Reactors) for district heating
- **Why**?
  - Carbon neutrality targets
  - City district heating production needs update in 2030 one old plant needs to be replaced
  - SMR one option
- **How**? Co-designed and organized with VTT, local energy company and City of Kuopio. Radiation and Nuclear Safety Authority and Steady Energy were invited as well.
- **Who attended**? Open invitation without registration, about 60-70 people present – mostly men, older or middle aged

Schedule of SMRs in Kuopio

2023 – Scanning of possible locations
2024 – Pre-engineering agreement with Steady Energy Oy
2025 – Environmental Impact Assessment (EIA) and zoning
2026 – Proposal for an amendment to the Nuclear Energy Act to be submitted to Parliament
2028 – The new Nuclear Energy Act enters into force
2029 – Decision on the construction of a small nuclear power plant
2030 – Start of construction of a small nuclear power plant
2035 – Completion of the small nuclear power plant and decommissioning of the Haapaniemi 2 power plant unit

Link here

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Results of the co-design

- First there were 5 short presentations of the selected topics:
  - **Current status, motivation, and alternatives for small nuclear reactor opportunities** by CEO, Kuopion Energia
  - **Benefits and opportunities** of the LRD district heating reactor by Head of Community Relations, Steady Energy
  - **Waste management for small nuclear reactors** by Senior Scientist, VTT
  - **Small nuclear power plant near residential areas – how does STUK oversee safety**? By Lead Expert, STUK - Radiation and Nuclear Safety Authority
  - **Planning and participation** in the city by Planning Engineer, City of Kuopio
- Then there were **long coffee break when participant could visit stands and discuss freely with the experts** representing these 5 organizations
- Finally, **short summaries** by the experts on the key points raised at the stand discussions
- Presentations were recorded and the material is available in the city web pages

Feedback

More information was needed about technology, safety, cost and benefits, nuclear waste and environmental impact

60% were **positive** about use of nuclear in district heating

Conditions for use of nuclear were strict safety requirements, reliability of the actors, profitability, minimization of environmental impacts

Discussions in the stands were constructive and versatile!

60% considered important **to participate** in decision making

Questions and feedback was used to **improve communication** in each organisation!

89% evaluate the event **good or very good**

Concrete impact of the event: Kuopio Energy decided to rule out a possible site near the center due to concerns about potential emergency risks raised during the event.

Learnings:

- The presentation part was tense due to a lack of commenting possibility
- Strategies needed to attract a wider audience, including women and younger generations

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Nuclear event for women

- **What**? All female event for providing fact-based information on the use of nuclear power and its boundary conditions, and to promote joint learning through open and polyphonic discussion especially focused on small modular reactors (SMRs) in VTT Nuclear Safety Centre
- **Why**?
  - Women are more opposing use of nuclear
  - Nuclear is coming closer to the cities due to carbon neutrality targets
  - Women tend to ask less questions in technical events
- **How**? Co-designed and organized with VTT, The National Council of Women of Finland (covers over 400 000 members via their organizations), Women in Nuclear (Finland), and LUT University
- **Who attended**? About 30 registered women - highly- educated with diverse backgrounds

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Results of the co-design

- Conditions for psychologically safe event and discussions were created by all female attendees and forming smaller table groups.
- **All female expert panel** with short presentation:
  - *Use of nuclear in Finland and what new SMRs would bring*
  - *Small nuclear power plant near residential areas – how does STUK oversee safety?*
  - *Lessons learned from Fortum´s new nuclear feasibility study*
  - *Waste management for small nuclear reactors*
- **A miniature of Steady Energy´s SMR heat producing plant** (LDR-50) was shown in the coffee room and an expert was introducing its working and answering questions raised by the participants.
- After each presentation **discussion continued** in the smaller groups, and with the whole group
- Presentations were sent to participants and shared in their webpages.

Feedback

Variety of questions raised: safety, environmental impact, cost and benefits, licensing, nuclear waste and technology

All the participants had **neutral or positive** attitude toward nuclear

Conditions for use of nuclear were strict safety requirements, reliability of the actors, minimization of environmental impacts, profitability, acceptance of the local communities. Risks related to terrorisms and national security were raised

Atmosphere was warm and discussions critical and constructive!

Half considered important to **participate in decision making-** half could not tell

Questions and feedback was used to **better understand the needs and concerns**

All evaluated the event to be very good or good

Learnings:

- Allocate more time for discussion
- Develop strategies to attract women who oppose nuclear to attend

One concrete suggestions: Could Women in Nuclear have Q&A in their webpages to answer women`s questions and concerns?

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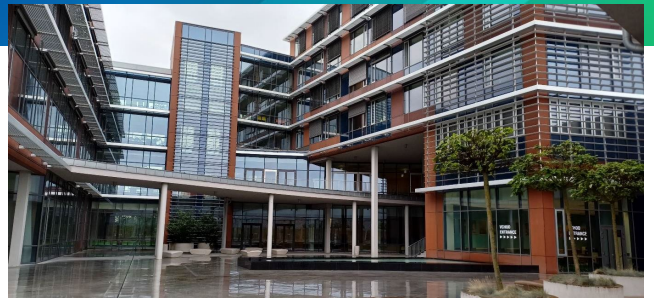
SMR – future energy sources

- **What**? Fully open event/workshop for citizens on the deployment of a small modular reactors in the Czech Republic
- **Why**? Organised within the Nuclear Days 2024 (12.9. - 17.10.2024) in Plzeň (Pilsen)
- **How**? Co-designed and organized with University of West Bohemia (UWB), MIT, City of Plzeň municipality, energy companies, power industry and ÚJV Řež, a. s.
- **Who attended**? Open invitation, about 60 people of audience – all age and gender groups including seniors (Association of Nuclear Veterans)



Results of the co-design

- First there were 7 presentations of the selected topics:
  - **Fleet of small modular reactors on the horizon! Do we need a new nuclear law?** by Vice-dean of Faculty of Law of Charles University in Prague
  - **SMR – Future Energy Sources** by Lead Manager of ČEZ, a.s.
  - **Facts and Myths in Light of Energy Transition of CR** by Senior Expert of ÚJV Řež, a.s.
  - **SMR – Future Energy Sources** by Technical Director of SUAS Group
  - **SMR - salvation or destruction of future nuclear energy?** by Senior Expert of ALVEL a.s.
  - **DAVID Small Modular Reactor** by CEO Czechatom a.s.
  - **Teplator – Development Status of the new Czech nuclear heating plant** by Senior Scientist of Faculty of Electrical Engineering, UWB
- A free discussion followed with experts from organizations and audience members, including notable figures from the Association of Nuclear Veterans, known for their long-standing careers in peaceful nuclear energy use.
- Presentations were recorded and the material is available in the UWB web pages

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Feedback

Particular information was asked for planned SMR deployment by ČEZ, a. s. utility

General positive acceptance of nuclear in district heating

Public acceptance of nuclear energy in the Czech Republic has been high for a long time and a significant part of the public has a general awareness of nuclear energy at a relatively high level.

The discussion was stimulating and demonstrating a deep interest in nuclear energy

General public awareness about nuclear energy is at a high level

Questions and feedback was used to improve the event in 2026

The event was evaluated as very useful

Learnings:

- Continue to organize such events within the framework of traditional „Nuclear Days“ in order to maintain public awareness of both nuclear energy and especially SMRs at the necessary level.

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Conclusions

- **Early and continuous stakeholder engagement**
  - Engagement must continue throughout the plant's lifecycle—not just at the start.
- **Strategic citizen involvement**
  - Long-term commitment fosters an informed and engaged community.
- **Effective event design**
  - Understand your role, address participants' concerns, and tailor content to their needs.
- **Trust & credibility**
  - Foster interaction, build on evidence-based information, and avoid marketing-driven messaging.

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Recommendations

- **Collaborative planning of the events**: Involve local stakeholders and nuclear experts to address specific needs and build mutual understanding also about uncertainties.
- **Competence & trust**: Foster continuous learning and sincerity through inclusive dialogue.
- **Interactive events:** Prioritize two-way communication over technical monologues to surface valuable insights.
- **Mutual learning:** Enable both public and industry participants to learn about nuclear safety, benefits, and alternatives.
- **Welcoming environment:** Provide accurate information and take concerns seriously to build trust and engagement

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Read more:

Citizen Engagement report:

TANDEM-D5.8.pdf

Get in touch for more information:

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