Stakeholder needs and Public engagement for SMRs

TANDEM Summer school
26.6.2024 11:30- 16:00

Merja Airola, Senior Scientist (VTT)

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11.30 – 12:30	Introduction to social engagement, stakeholder landscape, learnings & reflections
12:30 – 14:00	*Lunch*
14:00 – 14:15	Roleplay assignment
14:15 – 15:00	Roleplay
15:00 – 15:50	Learnings of the roleplay- panel
15:50 – 16:00	Wrap up

RAISE YOUR HAND IF..

- there is a nuclear facility in your home region
- there are plans (or discussion, rumours..) for use of nuclear in your home region

Stakeholder landscape

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

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

Social acceptability and engagement

- **Social Acceptance**
  - A favourable response related to a proposed or existing technology or socio-technical system. It involves members of a given social unit embracing the technology or system.
- **Social acceptability**
  - The quality of being satisfactory and able to be agreed upon or approved of. It signifies whether something meets the necessary criteria or standards.
- **Citizen/Resident/Local/Stakeholder Engagement or Participation**:
  - This term highlights the interaction between citizens (or residents), local communities, and their governments.

Source: IAP2 Spectrum of Public Participation

Degree of participation

Inform:

Public awareness campaigns, websites, educational materials

Consult:

Public comment, focus groups, surveys, public meetings

Involve:

Public hearings, workshops, and stakeholder forums

Collaborate:

Citizen advisory committee, participatory decision making, consensus-building

Empower:

Referendums, participatory budgeting

Source: IAP2 Spectrum of Public Participation

Social License to Operate

- Local community's acceptance or approval of a project or a company's ongoing presence via addressing societal concerns related to safety, environmental impact, and public health
- It goes **beyond regulatory compliance**

➔ *Why do some nuclear projects gain community acceptance while others face challenges?*

Economical legitimacy	Interactional trust	Socio-political legitimacy	Institutionalized trust
• Costs and benefits of the project are shared equitably	• Competence, sincerity and responsiveness of the company and relevant state authorities in relation to citizens	• Legal and regulatory measures ensure transparency, access to information and participation	• Full mutual trust between the community and organisations

Thomson and Boutilier (2011)

Stakeholder engagement

- Stakeholder engagement is a recognized strategic element throughout the entire lifespan of nuclear facilities.
- Questions arise:
- *Who initiates engagement?*
- *What activities are essential?*
- *Whose voice is heard and who are silent?*
- *How do we determine an acceptable level?*
- *And ultimately, who holds the defining power?*

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

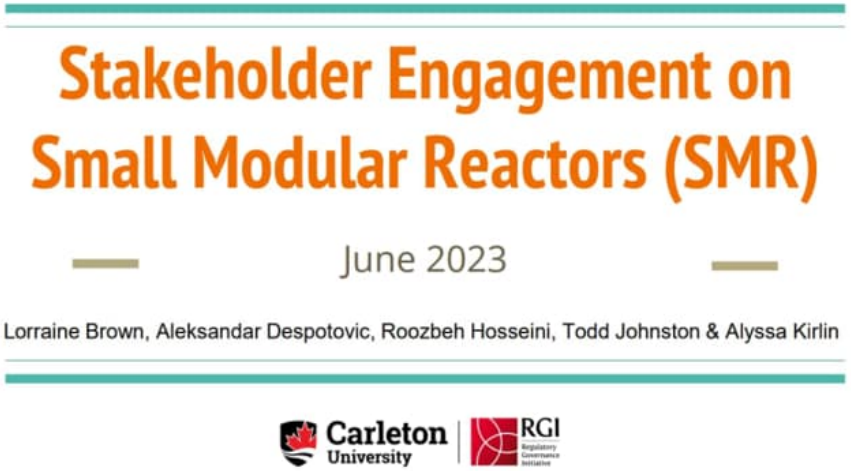
Would you accept a new nuclear facility to be built in your home region?

On what conditions?

- ***Discuss with a person(s) close to you for 5 min***

Learnings from Canada

- Canadian SMR Roadmap (2018) places special emphasis on stakeholder engagement
- Study on Stakeholder Engagement on SMRs (2023) provides recommendations
- Community concerns can be mitigated through:
  - Site tours
  - Collaborative environmental monitoring program
  - Lessons learned from the decommissioning process
  - Plain language messaging and raising scientific literacy
- "*Indigenous engagement is not a one-time checklist exercise*."



The study was commissioned by the Government of Canada due to need to build confidence in the Canadian Nuclear Safety Commission (CNSC) as a competent authority to regulate the growing industry in Canada. Collaborative process led by the Government of Canada. Engaged 180 individuals, representing 55 organizations.

Learnings from US

- "*Consent-based siting is an approach to siting facilities that focuses on the needs and concerns of people and communities*."
- Siting processes include social, economic, and technical considerations.
- The public can participate in the siting process in a variety of ways, including through *public meetings and hearings, advisory panels, studies that assess community wellbeing and long-term planning, and other outreach or educational effort.*

Source: U.S. Department of Energy, 2023 CBSRoadmap-2023.png (energy.gov)

Nuclear power in Finland

- **Nuclear Power Facilities**
  - 5 operating NPPs in 2 locations
  - Hanhikivi NPP-project terminated in 2022
  - The final repository in the commissioning phase (Posiva)
- **Interest in nuclear power is increasing**
  - Several Finnish cities/local energy companies are exploring the use of SMRs for district heating
  - Feasibility studies are underway
  - Nuclear topics regularly on the media
  - Steady Energy developing LDR-50 nuclear reactor for district heating

Finnish National Culture

- **Institutionalized trust -** high trust among its citizens and institutions, and experts and scientists
- The relationship between nuclear energy companies and Finnish society is more positive, with less controversy compared to some other countries
- Finland has **a long tradition of engaging** with local communities during nuclear projects
- Overall, **public attitudes** toward the use of nuclear energy in Finland are increasingly positive
  - Up to 68% of Finns have a positive attitude towards nuclear power, and only 6% have a negative attitude.
    (a survey by Kantar Public commissioned by Finnish Energy collected in 2023)

➔ **Favorable conditions for achieving acceptability and meaningful engagement**

What is new with the SMRs from public acceptability perspective?

- Decarbonize energy production, heating buildings, especially for cities to tackle the climate change mitigation targets

New purpose

- Rural communities -> multicultural cities
- Evolving communication needs, emergency planning, and new ways of organizing and working

Diverse stakeholder landscape

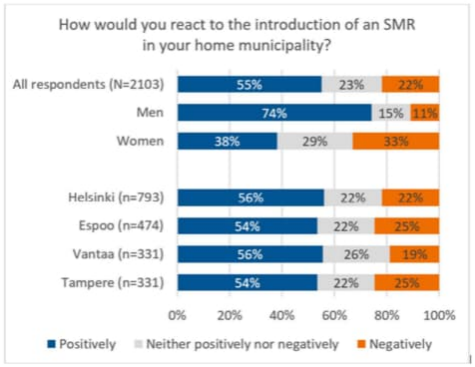
- Ensuring competence and resources for the long-term engagement activities
- Potential novel methods for societal interaction

New actors and technology

- Uncertainties related to future requirements

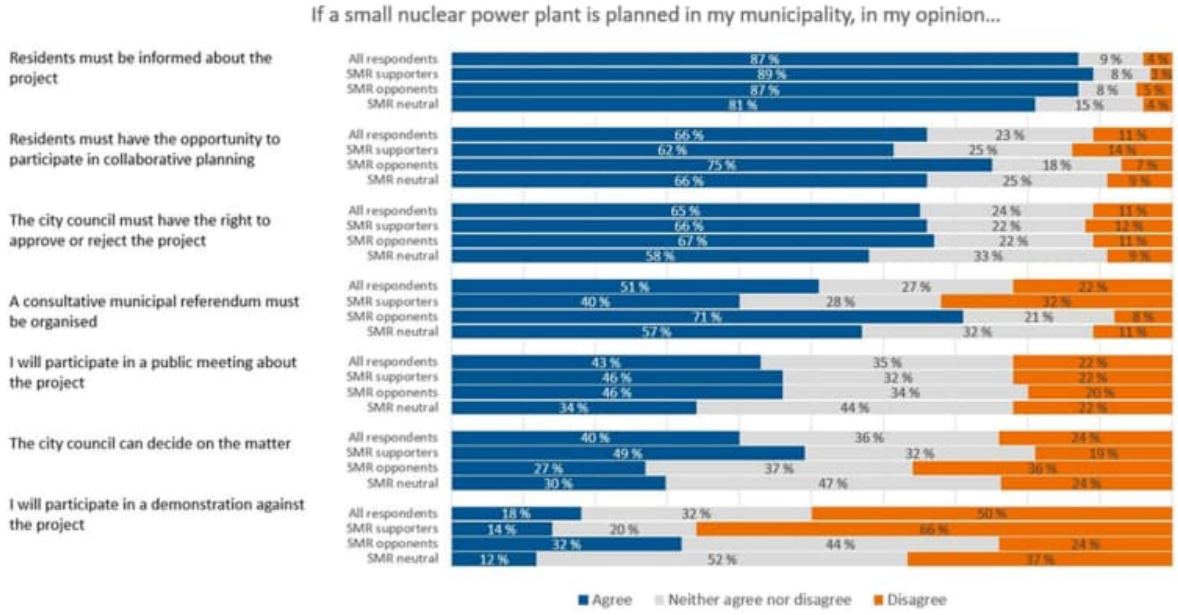
Legal reforms

Example/Learnings from the resident survey SMRs 2022-2023



- The majority of respondents had **a positive attitude** towards the introduction of SMR
- Attitudes towards SMRs are **strongly gendered** - men are more supportive than women

- **Confidence**
  - STUK (regulator), VTT and universities are perceived as the most trusted entities among the respondents
  - Women rely significantly less on various types of small nuclear power actors
- **Involvement**
  - Supporters and opponents want the opportunity to participate in joint planning



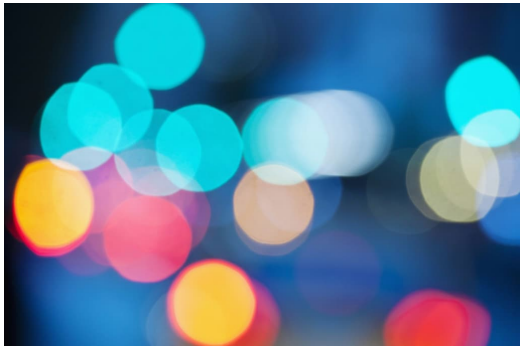
Source: Kojo et.al. 2022-2023 residential surveys. LUT university

Increasing understanding via surveys

- Overall view of the public attitudes
- Can be to focused to different areas, stakeholder groups
- Information about public perceptions concerns, trust, distances etc.
- Identifies strengths and possible threats
- Pinpoint areas needing more attention and explanation
- Uncertainties:
  - *Do respondents fully comprehend the questions they answer?*
  - *Desing of the survey: Crafting questions effectively influences the responses received*
  - *How can we achieve a high enough response rate?*
  - *Some groups (minorities, sub-cultures, language communities) may not participate, leading to blind spots*
  - *Surveys often lack insights into the reasons behind responses*

Example/Learnings from cities perspective

- Finnish municipalities have a veto on land use decisions – and hands-on experience in social engagement -> important stakeholder
- **Insights of a SMR-study on city municipalities (2022):**
  - The resident interaction in formal, legal processes is not enough
  - Municipalities should maintain an active yet neutral position to uphold trust and credibility
  - **Transparency and openness is a must**
    - Share information proactively through multiple channels
    - Provide clear, accessible, and updated information
    - Actively listen and address to residents' fears and concerns
    - *Be aware of polarized discussions and misinformation*
  - **Early collaboration with stakeholders**
    - Diverse participation methods: remote involvement, joint events, and collaborative platforms
    - Seek novel ways to reach and engage



Example: Preliminary SWOT analysis for societal engagement in Finland in relation to SMRs (2023)

Strengths

- High institutionalised trust
- Nuclear competences and ecosystem
- Existing legal basis and processes for societal engagement

Weaknesses

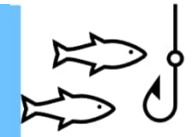
- **Too much trust -> naivety**
- Strong technical focus overrides other aspects
- **Overreliance on the regulator**
- Nuclear regulation and legislation in transition
- **NGOs voices are not necessarily strong**
- **Municipalities lack connections to nuclear and regulator**

Opportunities

- Positive attitudes toward use of nuclear in society
- Trust in science and regulator
- Municipalities have knowledge and hands-on experience
- New actors and technologies enable new and diverse approaches for societal engagement

Threats

- **General acceptance doesn't ensure the local on**
- Assumption for continuous public support
- Excluding women’s concerns, minorities
- Overemphasis of economic and technical factors
- **Insufficient resources, means and competences for societal engagement**

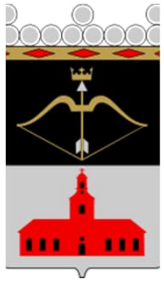


What learnings are there related to social engagement for SMRs in your home country, city or region?

What are the strengths you can build on and the challenges that need to be addressed?

Discuss with a person(s) close to you for 5 min

Citizen engagement in TANDEM



- Analysis of history and cultural background, and existing national and local knowledge of public perception of SMR technology/ nuclear energy technology and use in local level
- Developing and testing workshop concepts to enhance public engagement

➔**Citizen Engagement Report**

Community Meeting on the Use of Small Nuclear Reactors for Heat Production

- Date: Thursday, September 5, 2024, from 17:00 to 19:30
- Location: Council Chamber, Council Building, Kuopio

- 17:00 – 17:10 Opening of the event (city)
- 17:10 – 18:15 Short Presentations
  - **Current status, motivation, and alternatives for SMRs**. CEO, Kuopio Energy
  - **Benefits and opportunities of the LRD district heating reactor**. Head of Community Relations, Steady Energy
  - **Waste management for small nuclear reactors**. Senior Scientist, VTT
  - **SMRs near residential areas – how does STUK oversee safety?** Lead Expert, STUK - Radiation and Nuclear Safety Authority
  - **Zoning and resident participation.** Planning Engineer, City of Kuopio

18:15 – 19:00

Participants can informally discuss with experts during the coffee break

19:00 – 19:25 Short summaries of the discussions


VTT
Lunch 12:30 - 14:00

Working Groups “SMR deployment and stakeholder interaction”

TANDEM Summer school 24.6.2024

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Role-play

- Role-plays allow participants to safely step into the “shoes” of different stakeholders and to simulate public dialogue, which may resemble a real-life situation with regards different interests and needs related to SMRs deployment in the future.
- This experience facilitates ability to listen to different points of view, understanding various arguments and positions, and gaining insights on the feelings and emotions of different stakeholders related to important decisions for our society.

Role-play:
To pretend to be someone else, especially as part of learning a new skill (Cambridge English Dictionary)

Storyline

A utility is planning to deploy SMR-based power stations in imaginary multicultural city of Gekko.

You are all now attending a public debate for residents in the city hall. You are representatives of various stakeholders: utility (industry), regulator (safety oversight), municipality (local government), residents, NGOs (society), trade unions (employees), research organizations (science) and media.

The mayor of the city is about to give a speech of the possible SMR siting in the city area.

**The mayor is real but the speech is generated by AI*

Roleplay set up and roleplay

- **8 groups in total**
  - 10 persons in a group - every one has a role
  - Division into the groups
  - Groups 1-4 stay here, and 5-8 go to the next room
- **Roleplay** 14:15 – 15:00
  - 25 min discussion + 10 min in-group reflection
  - Choose the Observer first whose task is to set up and close the scene, make observations, and **share the learnings to the whole group**
  - Others select a role from the 9 stakeholder cards
  - Read and fill the roleplay card first (5 min)
  - When everyone is ready – set the scene and start

RAISE YOUR HAND IF..

- the roleplay felt realistic at all
- argumentation of the different stakeholders was understandable
- you had even a little bit of fun

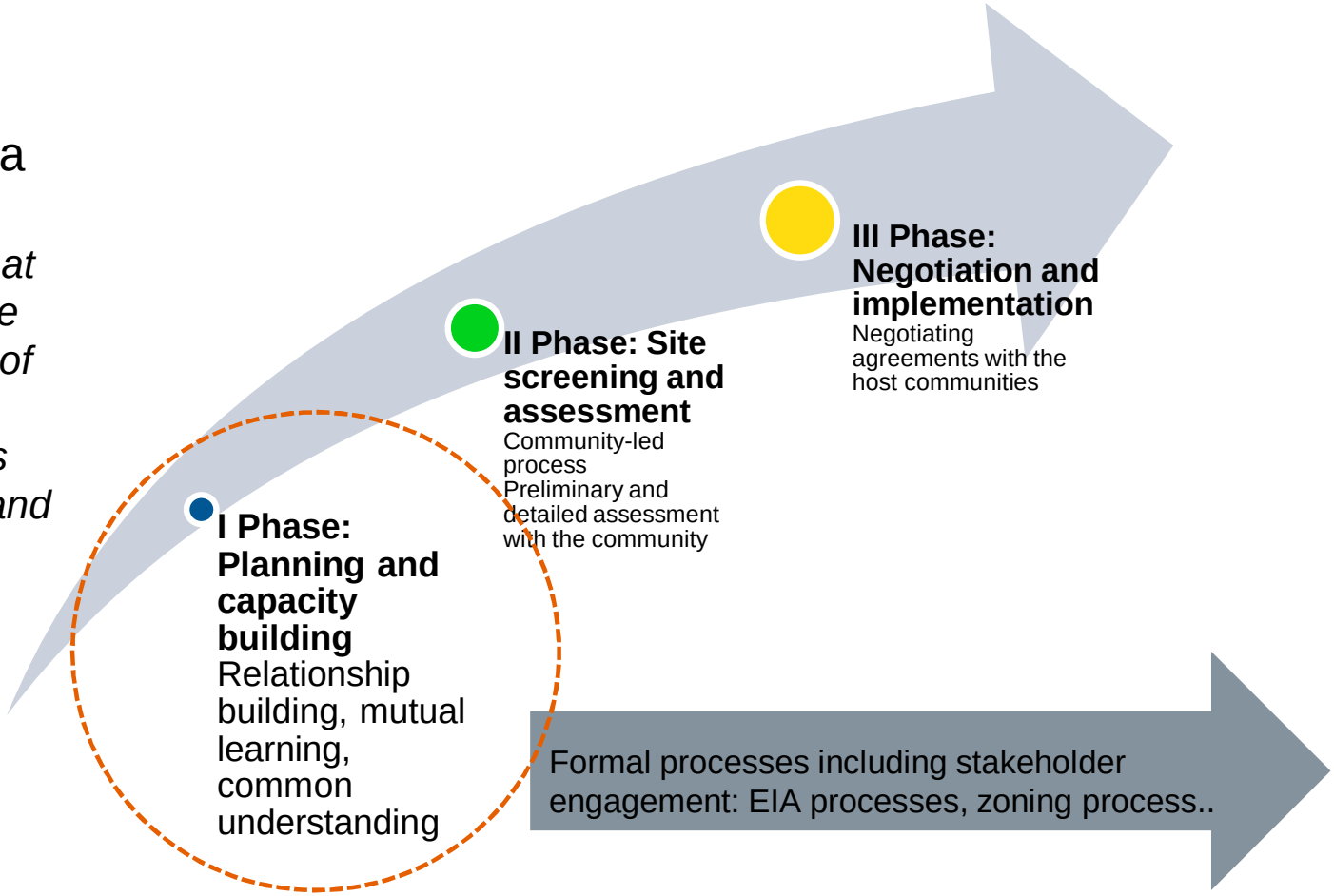
Joint learnings of the role play- panel with the Observers 15:00 – 15:50

- What were your main observations, feelings, insights?
- What were the biggest concerns raised in the role play?
- How could we consider the needs of different stakeholders better?

A way forward with social engagement?

Concretising first phases of the social engagement and framing a long-term plan:

- *What data/learnings we have? What do we not know? What needs more attention? -> continuous follow up of the trends*
- *Who must be involved? Who takes the lead? Who has competences and recourses?*
- *How to organise the collaboration and diverse activities in the most efficient way?*
- *What can go wrong?*



Conclusions

- The processes of social acceptability and participation underscore the dynamic nature and intricate complexity involved
- These processes require thoughtful navigation and active involvement from all stakeholders
  - "*Not a tick in a box*" in the beginning of the licensing process – nor just "*perception of safety of the people*"
- National cultures, ecosystems and conditions, and local contexts needs to be considered and understood to develop meaningful, diverse and efficient engagement methods
- Roadmaps for stakeholder engagement are largely missing – most strategic roadmaps focus on business and technology
- Recourses need to be address, leaders need to be involved and competences needs to be developed on a long run

RAISE YOUR HAND IF..

- you learned something new?
- you still remember this workshop next week?

beyond

the obvious

Thank you!

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vttresearch.com

References

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