

Developing a toolkit for public engagement on nuclear energy issues for application in Europe:

A review of stakeholder responses from Finland, France and Germany

By **Reuben Holmes¹, Ioan Charnley-Parry², Colette Grundy³, John Whitton², and Maria Cormack¹**

¹ Public Engagement R&D Team, National Nuclear Laboratory;

² Energy and Society Research Group (UCLan Energy), and Institute of Citizenship, Society and Change, University of Central Lancashire;

³ Nuclear Innovation and Research Office

SUMMARY

- ◆ Fragmentation of the UK nuclear sector over time has led to disjointed styles, varying approaches, and different commitments towards public engagement.
- ◆ The Nuclear Energy and Society Concordat for Public Engagement was launched in 2015 in an attempt to re-align public engagement practices across the UK nuclear sector.
- ◆ Insight has been gathered from stakeholders in Finland, France and Germany to explore the use and adaptation of the UK's public engagement tools in other countries.
- ◆ A 'Toolkit for Public Engagement on Nuclear Issues' has been developed using public engagement experience from across Europe, which aims to align international practices while providing a degree of flexibility towards individual country contexts.

INTRODUCTION

Societal awareness, understanding and acceptance of developments in nuclear energy technologies is seen as vital in achieving the UK's goals of ensuring secure, affordable and low carbon energy for decades to come. Since 'the public' consists of a diverse mix of personalities from a variety of backgrounds, engaging with society as a whole is not a simple task. This challenge is not unique to the UK nuclear sector, as a Euratom report published in 2012 highlighted the need to improve methods of public engagement on nuclear issues across Europe [1].

"Following Fukushima, nuclear fission for energy has become a sensitive political issue in some Member States and the public at large expects its concerns to be properly addressed. Future fission research therefore needs to respond to those concerns, including new ways of engaging the public."

It is important to recognise that each country has its own context that must be taken into account when developing public engagement strategies. Attention to context is highlighted as being of particular importance if engagement on nuclear issues is to be both procedurally effective and locally legitimate [2]. Academic literature also suggests that strategies aiming to enhance public engagement on nuclear issues should ensure that suitable and, where appropriate, tailored methods of communication are developed that allow engagement with the target audiences to be carried out most effectively [2, 3], encompassing mutual understanding, dialogue and shared learning. Recent international, interdisciplinary projects such as HoNESt (The History of Nuclear Energy and Society) - which some members of the current authorship were involved in - have also asserted the importance of effective public engagement for building trust and enhancing nuclear-society interactions, and have proposed tools and methodologies to facilitate this effective engagement [4].

Some scholars have found trust to be an important factor in the successful introduction of new technologies [5], whilst interpersonal trust is argued to be an important component in the realisation of energy projects [6]. Effective public engagement is expected to play a key role in enabling the building of trust and confidence between citizen stakeholders and the nuclear energy sector [7]. One challenge to building trust in the UK is borne out of the gradual fragmentation of the UK nuclear sector from a small number of actors to an increasing number of organisations of various size and structure. This has resulted in a UK nuclear industry comprised of disjointed styles, varying approaches, and different public engagement commitments. Ultimately, this may prove detrimental to the development of public confidence and trust in nuclear energy due to a lack of consistency in approach, so an urgent solution to address this situation is required.

THE UK'S CONCORDAT FOR PUBLIC ENGAGEMENT ON NUCLEAR ENERGY ISSUES

In an attempt to align public engagement practices across the UK nuclear sector, the UK's Nuclear Industry Council launched a high-level agreement in 2015, the Nuclear Energy and Society Concordat for Public Engagement [8] (hereafter referred to as the Concordat). The Concordat contains four key principles for public engagement:

- 1) Leadership Commitment** – recognising the importance of public engagement by taking society's attitude to nuclear energy seriously; embedding public engagement into company strategies and operational plans; providing the leadership and resources necessary to enable employees to engage with society.
- 2) Best Practice** – conducting public engagement characterised by





dialogue, trust, clarity and consultation; valuing two-way communication; being respectful, open and transparent when communicating; providing clear, consistent and concise information and listening to communities.

3) Effective Communicators – recognising the workforce as ambassadors for the sector; providing the training, resource and opportunities for staff to become effective communicators.

4) Making a Difference – conducting regular assessments of public engagement practices and evaluation of public attitudes towards nuclear energy; working together to share good practice and improve public engagement programmes.

Nuclear stakeholders, academics, trade unions and regulators have become Concordat signatories and have agreed to implement and embed the four public engagement principles within their organisations to ensure more consistency in how they interact with society. The Concordat, together with the UK Nuclear Industry Association's 'Nuclear Factbook' [9], are essential components of the UK's 'toolkit' for aligning public engagement practices across the nuclear sector. The basis for the Concordat and the underlying principles were tested in dialogue with members of the public and their feedback on the principles is used to inform how we engage on nuclear energy issues [10].

INSIGHT FROM EUROPE

The logical next step would be to align public engagement practices on an international scale, not just across the UK. With this in mind, the NUGENIA Association supported a study to explore how the UK's Concordat could be adapted for use across European countries. The study was undertaken by the UK's National Nuclear Laboratory (NNL) assisted by the University of Central Lancashire (UCLan), and involved a series of dialogue-based exercises with stakeholders in France, Finland and Germany. Interviewees included nuclear industry communications professionals, representatives from NUGENIA Association member organisations, academics, Technical Safety Organisations (TSOs) and Non-Governmental Organisations (NGOs).

France, Finland and Germany were selected to represent a variety of contexts regarding national positions on the future use of nuclear energy. The range of cultural differences, regional and national laws and policies across the three countries provided valuable insight for aligning international public engagement methodologies, which could also respond to specific regional contexts. Stakeholder meeting discussions focused on how the UK Concordat principles could be adapted for use in each country, and the key learning is summarised below.

Principle 1 – Leadership Commitment

'Engagement with civil society' forms one of the four pillars of the French nuclear sector, which indicates that leadership commitment is present at the highest level. However, it was considered that this principle was applied inconsistently across the French nuclear sector, with a number of cultural and commercial obstacles preventing its consistent implementation and execution. For example, some industry leaders originate from state-level politics, whereby their goal is considered to be continued safe operations, rather than raising public acceptance of nuclear power. Similar importance is given to leadership commitment in Finland, with it being seen as a key element for industry success and was referred to as the 'foundation' of the industry. In contrast to France, it was generally felt that there is already good adoption of this principle across the Finnish nuclear sector. There is broadly high public trust in experts and technical institutions in Finland, which could limit the appetite for debate in the public realm and makes it difficult for the Finnish nuclear sector to gain

insight into true public attitudes.

In Germany, the nuclear workforce is generally discouraged by leaders from engaging with the public, partly due to anti-nuclear sentiment among the German public and politicians, and it was not seen as appropriate for the German nuclear workforce to disclose their occupation.

Principle 2 – Best Practice

Stakeholders from France suggested that these Best Practice principles have been applied consistently across the Commission Locale d'Information (CLIs), or Local Information Committees that are located in the vicinity of all French basic nuclear installations. Conversely, one stakeholder noted that claiming to be transparent was potentially 'dangerous', because there will always be information that cannot be shared with the public for security reasons, leaving the sector open to criticism for not being transparent.

In Finland, dialogue and two-way communication were generally recognised as vital. The importance of honesty and openness was particularly emphasised, and for the industry to be prepared to admit when mistakes happen. Feedback from industry representatives was that transparency and openness are already embedded values, and that dialogue is an ongoing process. Accessibility to nuclear professionals was highlighted as another important success factor, serving as an opportunity to continue dialogue.

German stakeholders noted the importance of pitching information at the appropriate level; oversimplification can be perceived as condescending and the public may be critical of the information. It is believed that the anti-nuclear movement in Germany is too strong to consider broad public dialogue, so consultation at the local level is actively pursued and seen as more effective.

Principle 3 – Effective Communicators

This principle is thought to be implemented well across the French nuclear sector, with several internal training initiatives ongoing within French organisations. These include employee training on openness to society (delivered by L'Institut de Radioprotection et de Sûreté Nucléaire (IRSN)) and networks of volunteers that have specific training to engage with the public. It was noted that individuals should not be forced to engage and that becoming an ambassador for the sector should be undertaken on a voluntary basis. Potential obstacles to the implementation of this principle were cited, predominantly regarding the perception that public engagement is seen as 'taking time away from your day job', and that there is concern among the nuclear workforce about what will happen if they say 'the wrong thing'.

While no formal joint programme for training communicators exists across organisations in Finland, an approach of seeking out technical expert employees who are also competent communicators with good interpersonal skills exists. However, difficulties in finding individuals who are willing to step into the public space and act as communicators were cited. Social media was highlighted as an important public engagement arena, where debates are able to develop, rather than attempting to 'moderate' or censor these discussions. As nuclear companies in Germany are phasing out communications on nuclear matters, and employees are reluctant (and often discouraged) to speak publicly on such matters, this principle was seen as difficult to apply. Some training is provided by Deutsches Atomforum (DATF), in small groups a couple of times per year. Before the nuclear phase-out was announced, German operators also supported the European Nuclear Energy Leadership Academy (ENELA), which includes training graduates and future industry leaders in political and social aspects of nuclear energy.

Principle 4 – Making a Difference

The IRSN Risk Barometer [11] was highlighted as a key positive example of monitoring public opinion in France; an annual survey that assesses changes in public opinion on a number of topic areas, including risks society faces from the nuclear sector. A reservation was raised regarding the reliability of public opinion surveys and appropriate use of the results, and it was suggested that the culture and attitude in France towards the importance of surveys must change from the current view that they can be used to advocate a position. An alternative approach was proposed, whereby results are used constructively to develop understanding of public perception and adjust public engagement strategies accordingly.

This principle is regarded as important in Finland, and organisations use polls and surveys to measure their impact. Those interviewed agreed on the importance of public attitudes to the industry, but highlighted that care must be taken to not create an overly united and coordinated front on this issue as this could ‘build a wall’ between industry and civil society. Feedback on the use of opinion polls suggests that these should not be relied upon to the point that they displace dialogue-based and more qualitative forms of engagement. There is a risk that this type of data collection can harm trust and foster suspicion regarding how the results may be used. Furthermore, due to poll data being quantitative, more nuanced, qualitative information is excluded, and a recommendation was made that poll data be supplemented with more interactive processes in order to better understand the underlying values behind headline figures.

In Germany, DATF carry out a large regular opinion poll with additional smaller polls planned on current issues. It was noted that some larger nuclear companies are relatively poor at evaluating their own performance, and communication on schedule and on target can be difficult as the process is seen as cumbersome.

IMPLEMENTATION OF THE CONCORDAT OUTSIDE THE UK

On the whole, all stakeholders who participated in the study responded positively to the principles contained within the Concordat and regarded them as important for effective public engagement on nuclear issues. There were mixed responses across countries and organisations regarding the extent to which the Concordat principles were already used, suggesting that it is not only the UK nuclear sector that has had a disparate approach to public engagement.

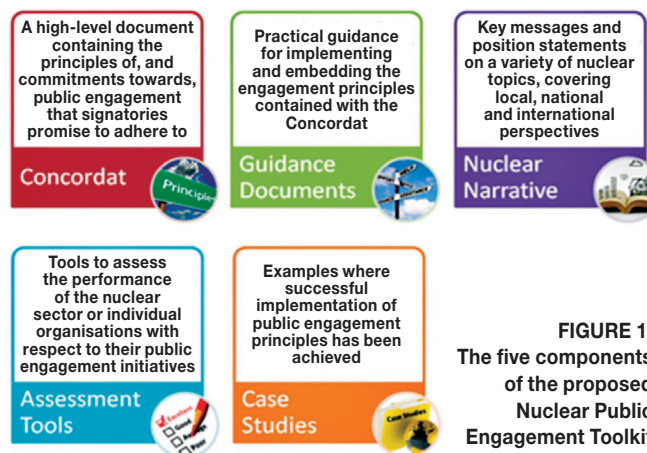


FIGURE 1:
The five components
of the proposed
Nuclear Public
Engagement Toolkit

IRSN launched its ‘Charter on Openness to Society’ in 2009 [12], containing principles similar to those in the Concordat. Trust in IRSN has increased since the charter’s launch, as has credibility with the public. It was suggested by French interviewees that a joint Concordat for French nuclear power plant operators and other industry organisations may be beneficial in France, but that IRSN would be unlikely to sign given the requirement to retain independence from the industry. Awareness of the nuclear energy context in neighbouring countries is considered important, particularly due to the impact of external anti-nuclear movements on public opinion in France. A similar point was raised by German stakeholders, who also stated that the public believe they should have a say in the decision of neighbouring countries regarding nuclear new build.

Industry respondents believed that similar principles have been applied since the start of the Finnish nuclear industry, and have been an integral part of industry operations. While Finnish people tend to be more pragmatic and accepting of scientific facts, figures and information, it is recognised that there is a need to make nuclear more ‘human’ and relatable to civil society. This is highlighted in the nuclear-related literature as being important for improved public understanding of technical information and technological processes [3]. The need for debate on new projects and a focus on the public interest was raised by stakeholders, with room and facility made for non-industry or minority views from hard-



References

- ◆ [1] European Commission, 2012 Interdisciplinary Study - Benefits and Limitations of Nuclear Fission for a Low-Carbon Economy – Defining priorities for Euratom fission research & training (Horizon 2020), Synthesis Report, EUR 25817, February 2013
- ◆ [2] Whitton, J., Parry, I. M., Grundy, C., Lillycrop, A., & Ross, D. (2016). A review of the Generic Design Assessment (GDA) Public Dialogue Pilot (2015) for new nuclear build in the UK: lessons for engagement theory and practice. *Journal of Radiological Protection*, 36(2), S23-44. doi:10.1088/0952-4746/36/2/S23
- ◆ [3] Whitton, J., Parry, I. M., Akiyoshi, M., & Lawless, W. (2015). Conceptualizing a social sustainability framework for energy infrastructure decisions. *Energy Research & Social Science*, 8, 127-138. doi:10.1016/j.erss.2015.05.010
- ◆ [4] Charnley-Parry, I. M. & Whitton, J. (2017). D 5.1 – Principles for Effective Engagement. *History of Nuclear Energy and Society (HoNESt)*. Ares(2017)1766477 - 03/04/2017
- ◆ [5] Mumford, J., & Gray, D. (2010). Consumer engagement in alternative energy—Can the regulators and suppliers be trusted? *Energy Policy*, 38(6), 2664-2671. doi:10.1016/j.enpol.2009.05.054
- ◆ [6] Walker, G., Devine-Wright, P., Hunter, S., High, H., & Evans, B. (2010). Trust and community: Exploring the meanings, contexts and dynamics of community renewable energy. *Energy Policy*, 38(6), 2655-2663. doi:10.1016/j.enpol.2009.05.055
- ◆ [7] Richardson, P., Rickwood, K., & Rickwood, P. (2013). Public involvement as a tool to enhance nuclear safety. *Energy Strategy Reviews*, 1(4), 266-271. doi:10.1016/j.esr.2012.11.002
- ◆ [8] Nuclear Industry Council, *Nuclear Energy and Society: A Concordat for Public Engagement*, December 2015
- ◆ [9] Nuclear Industry Association, *Nuclear Energy Facts* [Online], Available: <https://www.niauk.org/resources/nuclear-energy-facts/> [Accessed 8th May 2019]
- ◆ [10] *Strengthening the Communication Between Nuclear Energy and Society* [Online] Available: <http://www.nnl.co.uk/news-media-centre/news-archive/strengthening-the-communication-between-nuclear-energy-and-society/> [14th February 2019]
- ◆ [11] Institut de radioprotection et de sûreté nucléaire (IRSN), *Barometre, La perception des risques et de la sécurité par les Français, Résultats d'ensemble*, ISSN: 2116-9179, July 2015
- ◆ [12] *Charter on Openness to Society* (IRSN, France, 2009), [online], Available: http://www.irsn.fr/FR/connaissances/Nucleaire_et_societe/ouverture-transparence/ouverture/Documents/IRSN_Charte_ouverture_societe.pdf [14th February 2019]
- ◆ [13] Berdahl, L., Bourassa, M., Bell, S., & Fried, J. (2016). Exploring Perceptions of Credible Science Among Policy Stakeholder Groups. *Science Communication*, 38(3), 382-406. doi:10.1177/1075547016647175
- ◆ [14] National Nuclear Laboratory, *NUGENIA: Developing an 'EU Nuclear Public Engagement Toolkit'*, EU08051/06/10/02, Issue 3, September 2016



to-reach stakeholders to make the public engagement more inclusive. Increased recognition by the nuclear industry of its own weaknesses, uncertainties and biases, were seen by multiple stakeholders as positive. Such demonstrations of honesty are cited as important for building trust, ensuring and protecting credibility, and for assisting scientific communication [13]. Commitments to continuous learning through public engagement, flexibility, adaptability, and recognising the context of terms such as 'best practice' were proposed to be valued by the public.

German participants in the study considered that there was little benefit in introducing a Concordat within Germany in the current climate. However, in the context of new nuclear build in other countries it was acknowledged that the Concordat could be a useful tool.

PROPOSALS FOR A NUCLEAR PUBLIC ENGAGEMENT TOOLKIT FOR APPLICATION IN EUROPE

The outputs of the stakeholder meetings were used to assess the applicability of the UK Concordat principles for use in a European context and the insight allowed NNL and UCLan to create a draft 'Toolkit for Nuclear Public Engagement in Europe'. The draft toolkit was presented to all stakeholders involved in the study and feedback was incorporated to create a finalised version, which comprised guidance for creating the first four elements shown in Figure 1:, along with good practice case studies from each country [14].

CONCLUSIONS AND NEXT STEPS

Having explored the possible adoption of the UK nuclear Concordat's public engagement principles in Finland, France and Germany, participant responses indicate that the principles are viewed as important and are key elements of successful public-industry relations. Indeed, IRSN launched their public engagement principles in 2009, and the Finnish nuclear sector note that similar principles have been embedded within the sector since the 1960s. Germany, while committed to abolishing nuclear energy, recognised the value of the principles, albeit highlighting they would be difficult to implement due to the strong German anti-nuclear sentiment.

Each participating nation included in this study has highlighted a variety of cultural, commercial and security-related barriers to implementing the UK Concordat principles across their nation's nuclear sector. In some cases the obstacles were raised by numerous stakeholders (e.g. how to justify spending time away from the day job), and in other cases the barriers appear specific to the context of the individual country (e.g. anti-nuclear sentiment across Germany).

Recommendations have been made for additional public engagement principles, such as the inclusion of neighbouring countries in public engagement exercises and a commitment to making nuclear professionals more accessible to continue dialogue with communities. Furthermore, suggestions for how to adapt the use of the proposed Nuclear Public Engagement Toolkit to different contexts were offered by participants. For example, Concordat principles could be shared between similar organisations (e.g. nuclear facility operators), as opposed to the sector as a whole. Making the context clear for why the nuclear sector is engaging with the public was also recommended, as this helps to build trust and prevent anxiety among civil society.

We propose that this toolkit be used to promote and facilitate more meaningful and effective public engagement practices across the nuclear sector, spanning the organisational, local, regional, national and global levels. In turn, this can contribute to building relationships between the nuclear sector and civil society, leading to an improvement in public awareness and public involvement in nuclear energy decision-making.



Reuben Holmes

Reuben is a plant chemist at the National Nuclear Laboratory, where he also leads an R&D programme on public engagement. Since 2015 he has worked on numerous UK and international research projects that look to ensure more meaningful, consistent and multi-directional dialogue takes place between the nuclear sector and civil society.



Ioan Charnley-Parry

Ioan is a Post Doctoral Research Associate in the Energy and Society Research Group, University of Central Lancashire (UCLan), UK. His Research Council and National Nuclear Laboratory PhD, explored the social sustainability of nuclear energy infrastructure on Anglesey, North Wales. He is involved in the Horizon 2020 'HoNESt – History of Nuclear Energy and Society' project as a social scientist.



Colette Grundy

Colette works in the Nuclear Innovation Research Office, NIRO, seconded to the Department for Business, Energy and Industrial Strategy where she is Head of Regulation for Advanced Nuclear Technology. Colette is an NNL Laboratory Fellow in Nuclear Regulation who established a team and capability in NNL for engaging with the public on nuclear energy. She has worked collaboratively in research in this area with John Whitton and UCLan for several years.



John Whitton

John is an Environmental Social Scientist with a multi-disciplinary background in Earth Science, Engineering and Social Science. He joined the University of Central Lancashire (UCLan) in 2014, following a career in the energy industry as a research scientist and leads the Energy and Society Research Group. He is also a Director of the Centre for Energy, Sustainable Development and Resilience and the Institute for Citizenship, Society and Change at UCLan. His published academic research is on community participation in large energy infrastructure decision making for nuclear energy, shale gas and renewables.



Maria Cormack

Maria has been in the nuclear industry since 2010 and has a background in Chemistry. She specialises in nuclear power plant radiological and safety analysis, with an interest in licensing and regulation. She has participated in a number of research projects on public engagement in the nuclear industry since joining NNL.

Acknowledgements

The authors of this summary paper would like to thank the NUGENIA Association for funding the research described in this study. The authors would also like to thank all stakeholders interviewed as part of this research for providing their time and insight.