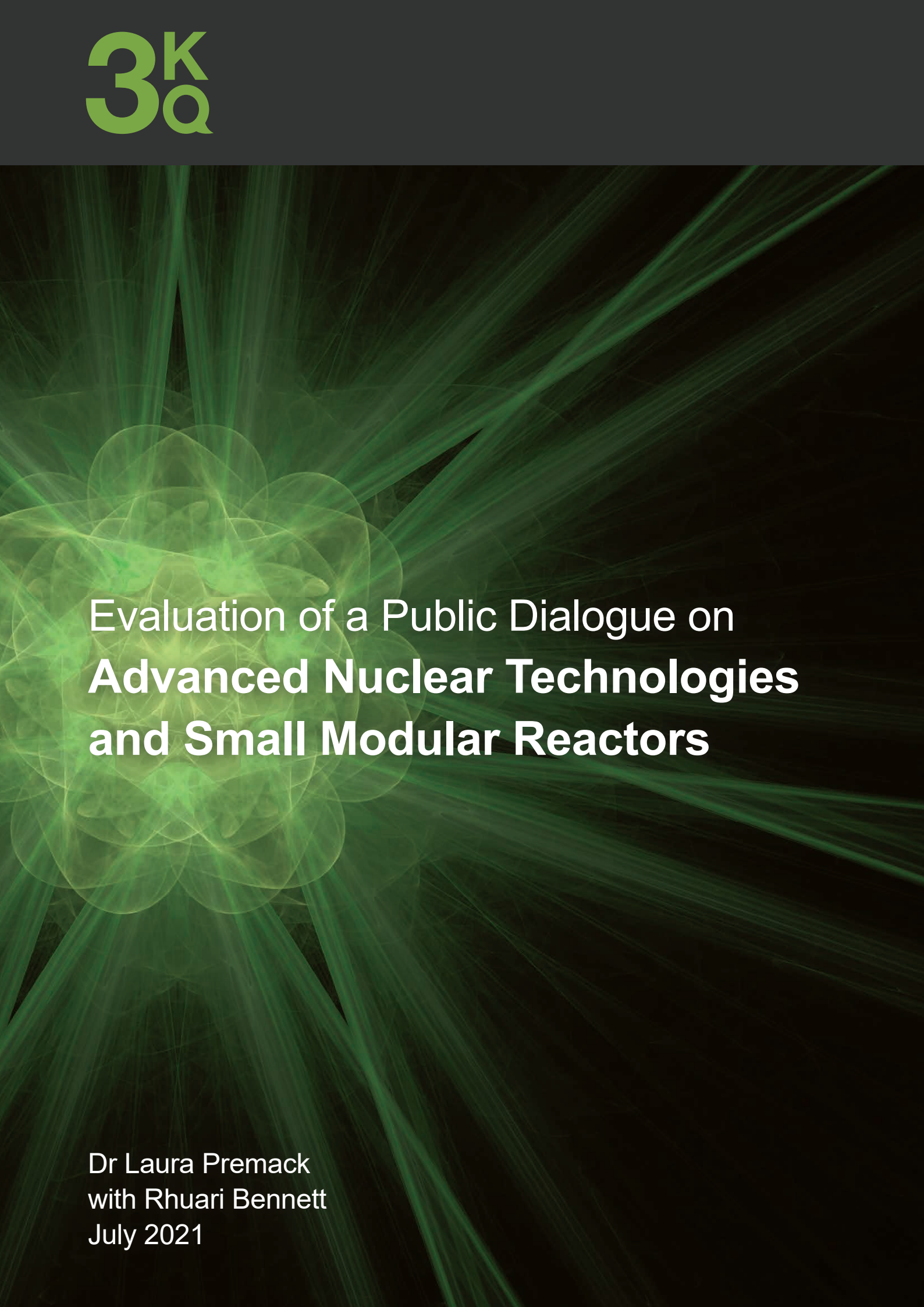

Evaluation of a Public Dialogue on **Advanced Nuclear Technologies and Small Modular Reactors**

Dr Laura Premack
with Rhuari Bennett
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Key dialogue facts

Commissioning body:	**BEIS and Sciencewise / UKRI with the Environment Agency, National Nuclear Laboratory, Natural Resources Wales, Nuclear Innovation & Research Office, Office for Nuclear Regulation, and Welsh Government.**
Delivery contractor:	**Traverse**
Public participants:	**71**
Locations:	**3** (Porthmadog, Reading, Scunthorpe)
Workshop Sessions: (All held entirely online)	**3 x 90-minute plenary sessions** **4 x 2-hour small-group workshops** **Interim activities**
Duration:	**January 2021 – February 2021** (workshop window) **January 2020 – July 2021** (project length)
Financial cost of delivery:	**£177,256.43 + VAT**

Dialogue objectives

1. Understand participants' perceptions, hopes and concerns about the development and uses of advanced nuclear technologies (ANT).
2. Explore the underlying influences of those views on ANTs, and what might make participants more or less open to the use of them.
3. Understand participants' priorities when considering how ANTs might be sited and how ANTs could be used.

Summary of evaluation findings

- Teamwork and adaptability of project executive was a major strength of the project.
- Delivery contractor excelled at communication, participant engagement, and use of technology.
- Multiple challenges presented by COVID were met with creativity and resilience.
- Participants reported overwhelmingly positive experience of dialogue.
- Project objectives were overly ambitious.
- Time needed to convey and clarify technical information limited time available for deliberation.
- Dialogue would have benefited from greater balance amongst oversight group members and presenters.
- Decision made to use client-provided notetakers was acceptable given circumstances but not advisable in future.
- Unclear whether findings apply to small modular reactors specifically or to nuclear generally.

Recommendation highlights

1. **Objectives**: Establish precise, focused objectives that can reasonably be achieved, and make sure all partner organisations can agree on them when the business case is written and funded.
2. **Balance**: When designing a dialogue on contested issues, involve dissenting views from the earliest point possible, ideally more than a single person. Seek specialists with a wide range of views to speak to public participants.
3. **Note-taking**: It is advisable for the independent dialogue contractor to take the notes from public sessions.
4. **Framing**: Framing matters and should be a central consideration in the design process. The parameters of the dialogue should be made clear from the outset.

Evaluation findings

I. Project overview

The purpose of this project was to determine how members of the UK public in three different locations[1] feel about the possibility of implementing what is known as 'advanced nuclear technologies' (ANT), in the form of what are called 'small modular reactors' (SMRs) and 'advanced modular reactors' (AMRs) in order to help meet the legally-mandated goal of achieving net-zero by 2050.

The project was commissioned by the UK Department for Business, Energy and Industrial Strategy (BEIS) and Sciencewise (in partnership with UK Research and Innovation), along with partners the Environment Agency, National Nuclear Laboratory, Natural Resources Wales, Nuclear Innovation & Research Office, Office for Nuclear Regulation, and Welsh Government. After a competitive bidding process, Traverse was appointed the delivery contractor and 3KQ the independent evaluator.

The project had a three-tier governance structure:

1. Project Executive, comprised of representatives from BEIS, Sciencewise, UKRI and Traverse.

2. Project Board, comprised of representatives of the partner organisations.

3. Oversight Group, comprised of individuals from business, third sector, and academic organisations.[2]

The 3KQ evaluators participated in governance meetings of all three tiers, observed all dialogue events, conducted surveys with participants, held baseline and concluding interviews with stakeholders, and maintained regular contact with stakeholders through the duration of the project.

This report discusses the evaluators' assessment of the project's successes, challenges and impact; considers learning from the move online; and concludes with reflections on the framing of the dialogue.[3]

[1] One existing nuclear community, one industrial but non-nuclear community, and one neither industrial nor nuclear community.

[2] See Appendices B-D of Traverse dialogue report for details of each.

[3] Readers are referred to the main Dialogue Report for the findings of the dialogue and its detailed methodology: these are not repeated in this Evaluation Report.

II. Successes

Teamwork & adaptability

The project started just before the COVID-19 pandemic began. Navigating the project through the unprecedented challenges of the pandemic required tremendous adaptability, communication and teamwork, all of which both the commissioning body and the contractor successfully provided.

The Traverse team was communicative and flexible. As the parameters of the project changed, they continually modified their approach, in discussion with the rest of the project executive. Particularly in the rescope stage (the period in summer 2020 during which the design and delivery of the project was reconsidered given the change in global circumstances), Traverse proved to be creative and collaborative, exploring multiple solutions to the challenges presented while working within the constraints of the budget. Additionally, the evaluators were impressed with the thorough minutes and action plans which Traverse circulated quickly after every meeting, facilitating the continued smooth working of the project executive team.

The project management provided by BEIS was also extremely organised and reliable. Nearly every stakeholder interviewed at the conclusion of the dialogue praised it as dedicated, responsive, and even “amazing.” The evaluators continually noted that the BEIS team, in conversation with their senior decision-makers, was responsive to feedback along the way, seeking advice and comment from stakeholders and evidencing attentiveness to it (for example, by collating suggestions into tables and responding point by point, by regularly seeking circulating comments among stakeholders, etc.).

Organisation, communication, and commitment combined to make what one stakeholder called “a dream team to work with.” Members of the project executive likewise described their work together as “a positive space” with “good relationships” where “people can speak candidly.” In every single interaction observed by the evaluators (meetings, emails, calls, etc.) all members of the project executive operated with humanity and mutual respect.

Given the timing and context of these dialogues – with the individuals involved in governance, management, delivery, and oversight all facing various challenges (eg childcare, health, technology, etc.) – this humanity and respect, which allowed for recognition of each other’s varying circumstances and willingness to accommodate them, was a significant asset to the project

Participant engagement

Facilitation

The Traverse team should be commended for their warm and skilful participant engagement.

Facilitators were professional, courteous, and prepared.[4] 100% of participants who completed the final survey (65 out of 71, an impressive 92% response rate) agreed with the statements: "I felt able to contribute my views throughout the process; "In general, I felt supported and respected;" and "I felt comfortable expressing my perceptions, hopes and concerns about nuclear energy."

In the open-ended questions, there was particular praise for the facilitation of the Saturday small-group sessions:[5]

- *The small groups worked very well as it was informal and easy to speak openly on, the host encouraged everyone to speak and was very friendly and enthusiastic - there were opportunities to put views and ask questions.*
- *Joining a group not knowing anything about the subject was quite scary but I was put at ease immediately by the welcoming approachable manner of everyone at Traverse. The dialogue was easy to understand and delivered in a way that explained a lot. I was comfortable to ask about anything I did not understand.*
- *Everyone was able to contribute, independent of their knowledge of the subject.*
- *The facilitators made sure everyone had their say.*
- *I really liked the smaller break out groups. I felt the people leading those groups were excellent at making sure everyone was involved and peoples views were heard and respected.*

Anecdotally, the evaluators observed the rapport that facilitators developed with participants over the course of the six weeks of workshops. As an example, one facilitator stayed on screen during the plenary comfort breaks and was observed chatting with one of the participants about the participant's cat. It was clear that participants felt seen and comfortable.

It seemed the Traverse team supported their facilitators in learning from practice throughout, as some participants noted improvement (as did evaluators in reviewing recordings of sessions). In the words of one participant: *In the early discussions, only those of us 'brave' enough to join in the discussions spoke, but I was aware that there were participants whose voices were never heard, nor were their opinions sought. This did improve by the later sessions, and on the last Saturday I was pleased to note that the leaders of both sessions made sure to seek the views/opinions of everyone on the call.*

This kind of improvement is evidence that a contractor is consistently reflecting on practice, and the evaluators witnessed Traverse regularly asking for feedback and looking for ways to improve delivery and participant experience (and, thereby, quality of evidence gathered). One example of their commitment to go above and beyond was the animated video they put together over the week before the final dialogue events, in response to the suggestion that some participants needed a refresher in what they'd learned and reassurance that, no matter what their level of technical understanding, their opinion mattered.

[4] The evaluators noted only one exception to this, and it was corrected by Traverse without intervention.

[5] Italicised statements are direct quotes from participants.

Use of technology

Traverse's use of technology was another key strand of their successful participant engagement. 99% of participants agreed with the statement: "The technology worked well." Given that this dialogue was one of the very first delivered under Covid conditions, this is very impressive; Traverse was remarkably quick to adapt to changing conditions, and enabled to do so by their responsive and engaged partners at BEIS and Sciencewise.

Traverse sent welcome packs with clear written instructions, gave refreshers at the start of every event, maintained an email account for technological queries, and also had a dedicated member of staff at each online event who was responsible for helping people with the inevitable bumps (being dropped from a breakout group, having trouble with sound, etc).

Evidence of their successful implementation of technology also includes these participant observations:

- *No glitches, it seemed well planned and organised, everything worked.*
- *Very clear informative instructions received by mail.*
- *Found the whole team to be very supportive and helpful.*
- *Very well organised with lots of communication pointing out the next steps all the time plus always offering contact at anytime.*

Participants had no complaints about the online platforms used (Zoom and Recollective), and 91%: agreed: "I felt easily able to interact with others on Recollective."

Furthermore, most participants reported having enjoyed the process, which they described as *interesting*, *informative*, *fun* and *a good learning experience*, and expressed gratitude for the opportunity to participate.

III. Challenges

Time frame

One aspect of the challenge COVID-19 presented was a constantly shifting time frame. The dates for the workshops were agreed in February 2020. The project was then paused entirely in March, re-scoped from June to August; and officially re-launched at the end of September, with governance meetings set for early October. The effect of this was a sense among some stakeholders of hurry-up-and-wait.

Even before the pandemic, stakeholders reported a cycling between the project moving slowly and quickly, which presented a challenge to project board and oversight group members who had taken on this work in addition to their other professional responsibilities. Group members struggled with short turnaround times for reviewing material. Many reported that turnaround times were too tight. The timetable seemed to be driven by BEIS imperatives.

The time frame had a knock-on effect on project design. Specialists worked to a just-before Christmas deadline to submit their presentation slides, which were needed well in advance to send for translation to Welsh. Presenters struggled with timelines to produce materials and at least one encountered problems with incompatible IT systems. Some oversight group members felt unable to give substantive, impactful feedback on materials (due both to the time they were allotted to review documents, and the time that remained for materials to be finalised). Finding a presenter for the first plenary, on The Big Picture of Energy, at relatively short notice proved a challenge. Traverse did not always have sufficient time or input from experts and the commissioning team to ensure stakeholders reached consensus on all materials and content.

One way to simplify the feedback process in future would be to streamline project governance. The three tier system (project executive, project board, and oversight group) proved clunky and created uncertainty. Members of all three groups agreed that they would have preferred a structure that increased transparency and enabled communication.

Recommendation 1:

Bear in mind that oversight group members are volunteers who have multiple professional responsibilities and limited time; they need reasonable lead times to review materials for a public dialogue (at least a full week, preferably with advance notice).

Recommendation 2:

Provide sufficient time for specialists to prepare presentations. This may vary from specialist to specialist.

Recommendation 3:

Opt for a simple and straightforward governance structure which allows for transparency and enables communication between stakeholders.

Depth & breadth

Addressing the breadth of subjects under consideration with enough depth to permit deliberative discussion was a challenge.

Given the range of sponsoring bodies,[6] some stakeholders shared early concerns with the evaluators of a danger of scope creep leading to cognitive overload in participants. In the words of one stakeholder: “Climate change *and* regulation *and* nuclear is a lot.” Another

[6] Department for Business, Energy and Industrial Strategy (BEIS), the Environment Agency, Welsh Government, Office for Nuclear Regulation, National Nuclear Laboratory, and Natural Resources Wales.

worried that there seemed to be two strands to the developing dialogue: 1. To learn how people feel about new nuclear technologies. 2. To learn how people feel about using nuclear power to solve climate change. They wondered whether these were actually two different conversations.

Even with the paring back of the original nine research questions to three (which happened on the advice of the evaluators after the project was launched but before the workshops were designed), along with the intention that this dialogue serve as an 'initial pass' rather than comprehensive conversation, the dialogue tried to do too much. The depth/breadth challenge was compounded by the complicated and contested category under analysis, and had its greatest effect on the time available for deliberative discussion amongst participants. As will be discussed later in this report, future public engagement would be valuable in order to build on the ground laid by this project.

The category of Advanced Nuclear Technologies (ANT)

ANT is a contested category. There is no consensus on what is included and excluded; there is no agreement on the coherence of the term. While within some organisations the meaning is clear, between organisations and individuals, the category is under debate. Furthermore, the category itself, even when agreed, can include a wide range of technologies with differing siting implications.

Even once a definition is agreed on for the purpose of a discussion, there is still technical understanding necessary to appreciate what is meant. The dialogue thus faced the challenging task of providing people with enough technical education to enable deliberative discussion on a complicated and debated subject. This was not ultimately achieved to everyone's satisfaction: neither stakeholders' nor participants'.

Particular areas of concern highlighted included lack of technical expertise on the Traverse team; use of promotional material in instruction; some difficult-to-follow technical presentations; and misapprehension of the basic knowledge level of some of the participants. (Traverse did its best to mitigate any confusion, for example making sure to explain the difference between energy and electricity when confusion was noted after the first plenary.)

Compounding these difficulties, some of the technical presentations to the public were poorly-pitched. Observations from participants include:

- *Some of the guest speakers were very difficult to understand as they didn't realise that people like myself had absolutely no previous knowledge.*
- *Some speakers were hard to follow and lost my attention.*
- *Felt that the quality and presentations of the specialists varied. Some were interesting and enjoyable while one or two were rather ponderous and possibly overly technical.*

Meanwhile, time for non-technical presentations was limited. For example, a presenter scheduled to speak after two technical presentations – a Copeland Borough Councillor with a family farm near Sellafield – was cut off at five minutes and allowed no time to take questions.

Recommendation 4:

Technical specialists may need intensive support in designing presentations appropriate for a public dialogue audience. Sufficient time and budget should be allocated for this.

Recommendation 5:

Allow all invited speakers a reasonable amount of time and an equal opportunity to respond to questions.

Time for deliberative discussion

The amount of time dedicated to informing and educating participants meant that less time was available for discussion. Participants noticed this lack of discussion; for example, one said, *I would have liked longer sessions in the week to allow for more debate as I felt we were often racing against the clock.* The decision to include specialists in the Saturday, small-group discussions compounded this. While the decision was taken so that participants could ask specialists clarifying questions – which is something that many appreciated (both participants and specialists) – it also meant that, in some groups, time intended for discussion was instead spent on ask-the-expert Q&As.

Yet, when it came to the final small-group exercise on siting a SMR (small modular reactor) – intended to be a crucial aspect of the dialogue – some participants still found themselves without all the information they needed to make their decision. For example, one group wanted to know how long after its decommissioning a nuclear site could be used as agricultural land, and they were not able to get an answer to the question, neither from their facilitator's guidance notes nor from the specialist they queried.

The depth/breadth challenge ultimately was not successfully managed. In the evaluators' assessment, this was not for lack of trying, but because the project was trying to do too much.

Recommendation 6:

Establish precise, focused objectives that can reasonably be achieved, and make sure all sponsoring organisations can agree on them when the business case is written and funded.

Balance

The governance of this project was strongly weighted towards pro-nuclear and nuclear-agnostic organisations and individuals.[7] Early efforts made to involve a nuclear-sceptic viewpoint in the oversight group had not been successful, and were revisited on the recommendation of the evaluators. This resulted in the appointment of one nuclear-sceptic to the oversight group in October 2020.

This individual raised concerns throughout about the coherence of ANT as a category as well as the difference between how the government conceives of ANT and how it was presented to participants. Because he joined the project after the objectives and research questions had already been determined, his ability to contribute to the project framing was limited.

The constitution of the governance structures had a knock-on effect on the delivery of the dialogue events. Project board and oversight group members were invited to recommend presenters, deliver presentations themselves, observe plenary sessions, and contribute to small-group discussions as specialists. This was a strength of the project, giving participants unusual and direct access to experts, especially through the use of the chat function during plenaries. However, it also meant that the voices participants were exposed to were also predominantly pro-nuclear and nuclear-agnostic.

Many participants noticed a lack of balance and expressed (in the online chat, in small group sessions, and in surveys) that they would have appreciated being exposed to a broader range of views on nuclear energy's role in achieving net-zero. For example, participants' responses to the survey question asking what they would have changed about the dialogue include:

- *There could have been a speaker offering the opposing views to nuclear to help us understand both sides.*
- *I personally think we could have had more viewpoints from persons not directly involved in the nuclear field. Would have loved to have more people involved that have been a part of a community already near a nuclear plant, as we only had a brief discussion from such a person.*
- *Possible hearing from people who are against the use of nuclear energy.*
- *To know about other source of power.*
- *I would like to have had a couple of people / experts (if there are any) that were either against or very anti nuclear power to give a more balanced opinion.*
- *Presentations by some Specialists that are Anti- nuclear power were needed.*
- *Would have liked more balanced presentations with experts telling us about other sources of green energy so we would be better informed if nuclear is the only option.*
- *I would have liked to have had the chance to hear some of the anti-nuclear voices represented, rather than just civil servants and pro-nuclear academics.*

[7] For details, see Appendices B-D of Traverse's dialogue report. By 'pro-nuclear,' we mean individuals who are highly informed about nuclear energy and believe that the evidence for nuclear to support policy objectives outweighs nuclear's negative aspects.

- *I think it would of been good to have someone in from other energy suppliers, like renewables, as they would of explained the negatives around Nuclear energy in an honest way and then I would not of felt it was bias.*

Recommendation 7:

When designing a dialogue on contested categories and/or debated issues, involve dissenting views from the earliest point possible.

Recommendation 8:

In governance of a public dialogue on a contested topic, include at least two individuals with dissenting views, so that no individual is left to be a lone voice and/or made to feel like a token presence.

Recommendation 9:

In delivery of the dialogue workshops, make every effort to include specialists with a wide range of views to speak to participants.

IV. Impact

Anticipated Impact

Anticipated impacts of the dialogue, as stated in the business case as “objectives, policy targets, and expected outcomes,” were:

1. To help shape government siting policy and guidance, potentially as part of a National Policy Statement.
2. To explore key areas of public interest in ANT.
3. To explore differences in public views between conventional and nuclear and small nuclear.
4. To explore public views of non-electricity uses of ANT.
5. To determine public views of using ANTs to mitigate/prevent climate change.

Initial interviews with stakeholders (members of the project executive, project board, and oversight group) indicated widespread interest in the first three goals and less in the fourth and fifth.

Additional anticipated (or hoped for) impacts shared in stakeholder interviews included:

- To learn how to frame and explain ANT to the public.
- To learn what tone to take with the public in the development of ANT sites.
- To determine what would be necessary for people to embrace nuclear technology.
- To establish the basis for further engagement.
- To share results of the dialogue at COP-26.
- To test policymakers' assumptions.
- To provide insights for policymakers on how to deal with the public around new nuclear technologies.
- To influence decision-making on the rollout of new technologies, specifically SMRs.
- To inform policy and strategy documents around the energy mix.
- To correct public misapprehensions about nuclear.
- To inform communications and frame delivery engagement strategies.
- To enable public awareness.
- To provide a positive and informative experience for participants.

Of the anticipated impacts listed above, evidence gathered by the evaluators indicates that nearly all were achieved to varying degrees, with the following exceptions:

1. It is not yet known whether there will be any results presented at COP-26.
2. Because ANT was introduced as *necessary* to mitigating/preventing climate change, it was difficult to determine public views of this; it was presented as a given, rather than a question (more on this in the concluding section of this report).

It is also worth noting that impacts having to do with 'exploring' and 'enabling' are difficult to measure. In the evaluators' view, this does not lessen their significance, but it does make them challenging to assess, and may require a longer-term view.

Actual Impact

Stakeholders

Stakeholders were consulted after the sessions had concluded and asked what they thought the actual impacts of the dialogue were / would be. Their responses coalesced around three main areas: continued engagement, scepticism, and communications.

First, there is widespread hope that this dialogue will serve as the jumping-off point for ongoing engagement with the public around the questions of ANT. There is a common sense that this was the start of something that ought to continue. People noted the "very high engagement" of the participants and were impressed with their "thoughts and ideas." As one said, if you give people information, "people are able to have the debate."

Second, there is scepticism regarding how much this dialogue will impact government nuclear policy. As one interviewee pointed out, it is difficult to determine impact when there is not a tangible policy the dialogue is feeding into. It may be that the direct impact of the dialogue on policy is more evident to those within BEIS (and the Welsh Government, which sets its own policy) than those outside it. Another interviewee suggested that the impact of the dialogue will depend on whether or not the media picks it up, and found it unlikely it would influence the energy sector, unless the National Grid ESO (the national energy system operator, represented on the oversight group) picks it up for Future Energy Scenarios.

While the scepticism expressed by some may seem to contradict the hope for continued engagement also shared, stakeholders linked their doubts with their hopes that dialogue, or other engagement processes, would continue. Stakeholders would like to see the "conditions for a richer dialogue," one that is longer-term and allows scope for opinions to evolve and mature. One noted the "fantastic opportunity" offered by a post-Covid environment, after a time when so many have renewed their relationships with nature and community. Others expressed a hope for more targeted engagement around specific policy plans.

Third, stakeholder interviewees reported the immediate impact of the dialogue on the communications work of their organisations. One reported plans for a website redesign to make it more user-friendly and discussions about how to make existing waste management policy clearer to externals. Another reported having shared their experience of the dialogue with their team, with the hopes of commissioning one for their own organisation.

Participants

The dialogue impacted the participants themselves, as well as their larger networks (in addition to its effect on their opinion of nuclear technology, which is discussed at length in Traverse's report).

Through their participation, members of the public reported developing their self-confidence, increasing their commitment to community engagement, and paying greater attention to energy and climate issues. These were revealed in open-ended responses to a survey question asking, "What has changed for you as a result of participating in this dialogue?"

Some came to value their own opinions:

- *Feel confident in saying my opinion*
- *I feel very informed about Modular nuclear power and could vote or participate if asked*
- *It has awakened my interest and I do feel I have a voice.*

Some began to embrace a role as engaged citizens:

- *I feel more knowledgeable about the subject area and will make an effort to be more engaged if I see anything happening around nuclear in my local area.*
- *I have started to think that it might be worth considering being more politically involved as we as public can make a difference in any policymaking, especially so important like nuclear.*
- *I now feel it is important to have an informed view on this particular subject, and feel that so much in our society could be subject to discussions such as this, with experts and laypeople.*

Some have committed to educating themselves and others about energy and environment and taking new decisions around energy use and environmental stewardship.

- *Definitely more interested in achieving nil emissions. I have already started discussions with family and friends.*
- *Have learnt so much, I've become a sponge to learn more about energy reading all sorts, from turbines, nuclear, producing hydrogen storage, batteries etc etc. It's been great during lockdown but my wife is a bit fed up with me discussing it with her. It's a wonderful subject and I just want to learn more.*
- *To discuss with my family and friends about the benefits of Nuclear energy.*
- *Personally I have a far greater understanding and will keep searching for more information especially on developments in my own area.*
- *In our household we have stopped eating meat, since Saturday we are all trying to be more healthy and looking after ourselves and the environment a bit more.*

V. The move online

The timing of this project was interesting: it was designed and launched before COVID; paused and then re-scoped during the first national lockdown; re-launched when things appeared to be easing (during the tier system); and then delivered during the second[8] national lockdown. The evaluators were attentive to what the learning might be from this transition from face-to-face to online, especially as this was one of the first Sciencewise dialogues to be delivered virtually. The area of learning that stands out has to do with use of resources and the challenge and opportunity of note-taking.

Decision-making around resources and note-taking

The restructuring of the dialogue from face-to-face to online delivery left a slight shortfall in the budget, due in large part to the extra work involved in redesigning and reorganising for

[8] It was technically the third, but people tend to count the March-July 2020 and the January-March 2021 lockdowns, when schools were closed, as the first and second.

an online process. At this point, in the relatively early days of the pandemic, using an online system was still very new and unfamiliar to almost everyone involved. This entailed much planning and testing to ensure the system would work, which required time and budget to arrange.

An opportunity to stretch the budget was found in the suggestion that BEIS provide notetakers for the small-group discussions. There were to be 36 small-group sessions in total, nine during each of four workshops. BEIS offered to recruit volunteer note-takers from its own staff. The decision was taken that this would be acceptable for the first two Saturday sessions, but that Traverse would provide paid notetakers for the second two sessions, during which the SMR siting activity would be conducted. Traverse provided written instructions and a one-hour briefing for the BEIS volunteers.

There are advantages to using the commissioning body to provide note-taking ('client-provided recording,' as some call it). Savings to budget is one; although staff time is not free, it may not require project budget. Access is another, as staff serving as note-takers are able to get an inside look at the dialogue, experiencing it directly and hearing what members of the public have to say first-hand. This can extend the impact of the dialogue in potentially useful ways.

There are also disadvantages. There is the risk that if not made by independent professionals, notes may be incomplete, inaccurate or even biased. The perception of bias can also be important.

In the case of this public dialogue, the evaluators reviewed a sample of the note-taking against the recordings after the events and conclude that although the note-taking by BEIS was acceptable and valid, it is apparent that the note-takers were not experienced in the role and omissions were made (although these were relatively insignificant and infrequent). Overall, the value of the findings do not appear to have been impacted in this case.

However, the risks of using commissioning body staff were high. If experiencing the dialogue is a key driver in future, then staff could watch back the recordings or simply observe in the sessions. On balance, the evaluators are not convinced it was a risk worth taking.

> ***Recommendation 10:***
> ***For any public dialogue covering a contentious topic, it is advisable for the independent dialogue contractor to take the notes from public sessions as this is the single main channel for capturing value from participants and contributing to the dialogue report.***

VI. Reflections on the framing of the dialogue

These final reflections are overall observations from 3KQ's standpoint having followed the journey of the dialogue throughout the last 18 months. They apply our independent judgment and experience of other similar processes to the evidence gathered from the ANT

evaluation. The intention is to pose questions which may be useful both for interpreting this dialogue and for planning future dialogues.

What was the impact of framing the dialogue as 'on the future of energy'?

The dialogue was framed with participants as on the future of energy. The opening session of the dialogue explained that, in order to achieve the UK's goal of net-zero by 2050, and given the limitations of renewables as a reliable, consistent source of energy, nuclear is a necessary part of the energy mix.[9] This set up a conversation in which people were told, essentially: we need nuclear as part of the energy mix in order to achieve legally mandated energy targets; now we're going to explore how you feel about the detail of how we do that. The remaining five sessions were devoted mainly to telling participants more about nuclear technology and regulation, learning what their questions and concerns were, and allowing them to determine where they would be most comfortable locating small modular reactors.

The difficulty with this "future of energy'" framing is that it relied on a contested central premise: that nuclear energy is necessary in order to achieve net-zero. While this is Government's belief, it is not universally accepted. As discussed above in the section on balance, some participants felt they were not getting the whole story. Many were reluctant to leave aside the question of renewables in order to focus on nuclear energy (as addressed in Traverse's report). A few expressed unease about whether they were being consulted or convinced. As one participant put it: *Shame it all has been already decided about nuclear and in the end of the day we did not have much say.*[10] As another stated: *I realise that the purpose behind these sessions was to find how to present modular technology in a favourable light to the general public (the decision to proceed having already been taken), but some balance would have been appreciated. I felt a bit bombarded by positive messages. However, given the shift in opinion among participants over the course of the sessions, I guess that worked!*

Perhaps, rather than beginning with the big picture of energy, it would have been better to begin by explaining Government's policy and what kind of influence participants could have at this point – not on *whether*, but on *how* – and then focus entirely on the technologies under consideration.

Recommendation 11:

Framing matters and should be a central consideration in the design process. What is and what isn't under consideration in a dialogue – ie which policies are being fed into, and which lie outside the scope of the conversation – needs to be made very clear from the outset.

[9] This was an approach in keeping with the project purpose as stated in the business case: 'In order to meet a target of net zero greenhouse gas emissions by 2050, whilst maintaining security of supply and keeping costs low, Government believes there will be a crucial role for low-carbon 'firm' (i.e. always available) power such as nuclear energy.'

[10] Quote slightly edited for clarity. Unedited quote: *Shame it all has been already decided about nuclear and in the end of the day we did not have much what to say.*

Was a public dialogue the right approach?

Sciencewise funds public dialogues; it does not fund market research. There can be a very fine line between them, one that is difficult to define precisely. Both a dialogue and a focus group intend to find out what people think, and both offer participants information to help them develop opinions on topics with which they may be unfamiliar. There is no formula for determining the difference, but a number of factors to take into account: purpose of the exercise; framing of the discussion; type and amount of material presented; amount of time allotted to deliberation; etc.

When the purpose of an engagement exercise is to determine how to do something that has already been decided – to make policy nudges rather than to determine policy – is a dialogue the best approach? Was this particular exercise actually a dialogue? In this case, the evaluators wonder if the combination of the contestable framing; the imbalances in governance and material presented; the complicated and technical aspect of the subject; and the limited time allotted to deliberation (in favour of presentation and clarification, albeit bolstered by robust, asynchronous online discussion) resulted in a conversation that fell closer to a series of focus groups than to what Sciencewise would usually consider a public dialogue. It could also be that the move to online and/or hybrid engagement exercises is shifting definitions.

It must be noted that the distinction between public dialogue and other forms of public engagement is a technical one in the field of public engagement, and this question should not detract from this project's findings.

> ***Recommendation 12:***
> ***When making decisions on funding future public dialogues, consider carefully whether the project falls comfortably on the right side of the public dialogue / market research line. If there is not a clear rationale for a dialogue, recommend alternative approaches to achieving the project objectives.***

Was this dialogue specifically about Advanced Nuclear Technologies, or did it end up being a dialogue about nuclear generally?

There was undoubtedly useful, accurate information gathered about public views, hopes and concerns, all very ably communicated in Traverse's dialogue report. Participants engaged with the acutely real question of what compromises must be made in order to address the climate crisis. This dialogue was in many ways a productive use of resources and time.

Yet, given the fact that the advanced nuclear technologies involved were painted with a broad brush – too broad, according to some on the oversight group – and the technical details offered were above the heads of many public participants, the question remains: how much of what was learned was specific to ANT, and how much about nuclear generally?

The intention of this project was to determine if members of the public feel differently about small and advanced modular reactors than they do about conventional nuclear technology.[11] It is not clear if this distinction was made in a way that enabled public views on ANT to be disentangled from public views on conventional nuclear. Greater precision on which of the multiple possibilities included under the ANT umbrella are under consideration would have helped, and will hopefully follow.

Recommendation 13:

Continuing the conversation with these participants (many of whom have expressed interest in doing so), building on what they have already learned and expanding their understanding of the technologies under consideration, may be a promising next step. Consider refining the categories of analysis (ANT, SMR, AMR) for future discussions, so that particular technologies can be discussed with greater specificity.

[11] As stated in the business case: ' The public could therefore have different views to those they hold for conventional reactors and BEIS want to involve them at this early stage of policy development. Emotionally engaging subjects such as our energy supply and our environment affect us all and we want to engage the public and understand their insights and expectations about Government plans to facilitate advanced nuclear technologies. As well as 'legal licence' to operate (environmental permits, nuclear site license etc), nuclear also needs social licence to operate (as with many infrastructure sectors) – i.e. the implicit or explicit support of the community for their activities.'