



SCHOOL OF
INTERNATIONAL
FUTURES



Annex F: Case Studies

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Introduction

This annex provides detail of the case studies referenced in the main body of the report. This includes how the case studies were chosen and developed, and some of the insights and questions they pose for UKRI.

Identifying case studies

To identify the case studies SOIF

- reached out to more than 100 people across our network;
- reviewed previous Sciencewise reports;
- drew on the UKRI network.

Criteria for suggestions included:

- seeking to influence policy;
- focusing on science and technology;
- prioritising a two-way interaction between the public and the relevant system.

From a long list of around 70 case studies, a final list of 23 examples was agreed between UKRI and SOIF. UKRI and SOIF also confirmed which of these case studies would be the subject of deep dives and which would be desk review only. The case studies come from more than ten countries, four continents and include three pan-national projects.

Learning from the case studies

The case studies do two things:

1. Provide a benchmark for the strengths and weaknesses of the current model of Sciencewise. This is done against the characteristics discussed in the stakeholder workshop held during the project;
2. Give inspiration for how UKRI might reprofile and reposition Sciencewise within the UKRI public engagement strategy and ambition.

There are two types of case studies:

- **Section 1: Deep dive case studies:** these eight examples were selected by UKRI for a deep dive as they seemed the most similar in ambition and aim to the current model of Sciencewise. Interviews were conducted with leaders in each of the relevant organisations to augment a literature review of publicly available information. Five of the eight are on-going programmes and three are one-off projects.

Organisations

- Expert and Citizen Assessment of Science and Technology (ECAST) network
- Danish Board of Technology
- Norwegian Board of Technology
- Rathenau Instituut
- Singapore Youth Project

One-off projects

- CIMULACT
- Resilience Dialogues
- Wellbeing in Germany

- **Section 2: Desk review case studies:** these fifteen examples were selected by UKRI for inspiration and stimulation. Publicly available information was reviewed and synthesised to create the case study. The amount of information available varied; this is reflected in the level of detail in the description. Ten of the fifteen are on-going programmes / organisations and five are one-off projects.

Organisations

- Ars Electronica
- Care International ALP
- Commission Nationale du Debat Public
- Curious Minds / He Hihiri I Te Mahara
- Dialogik
- Geekulcha
- Invasaros
- Mindlab
- Sacramento Urban Tech Lab
- Solferino Academy

One-off projects

- Climate Protection Plan
- COVID 19 Collective Story
- Future Energy Lab
- Night Club
- The Tomorrow Project

Considerations for UKRI

The questions that UKRI set out for the project were used to frame the case studies. On this basis several insights emerged, including:

1. Among the case examples we found, Sciencewise is unique in its structure and funding arrangements. There is no other programme that is funded by central government to sit as an arms-length body and work with central government policymakers on deliberation.
2. Sciencewise is unique in only responding to commissions from others. All the other cases we explored have their own self-generated work as part of their programme and most have some sort of connection with the strategic policy agenda.
3. Impact is hard to evidence and most organisations choose to use their on-going existence and consistent demand for their work as the evidence of their value. Those interviewed said they were comfortable with dialogue being accepted as valuable and important, and that demand for dialogue projects was evidence of impact rather than needing to tie dialogue to specific policies or outcomes. This suggests that perhaps UKRI might want to consider how or if this is a measure of the value of Sciencewise.

UKRI asked SOIF to explore how Sciencewise and these case studies contribute to the recognition and reputation of dialogue among key stakeholders. None of the people we spoke to or material we reviewed was able to show evidence for this either in the positive or negative. To assess this kind would require significantly broader and deeper engagement across stakeholders than was possible within the resources of this project. We have therefore not included the question of reputation and recognition in the write-up of the case studies.

The case studies also suggest some interesting questions that UKRI may want to consider. These have informed the findings from the review and the recommendation. They are set out here to facilitate more specific consideration should UKRI want to take that opportunity.

- What would happen if UKRI defined Sciencewise as representing citizens, rather than or alongside policymakers or other stakeholders in the system?
- What expertise or assets might Sciencewise be able to leverage as an independent organisation if government defunded the programme tomorrow?
- Would policymakers engage with Sciencewise if there was not co-funding available as part of the engagement and if so why?
- What might happen if UKRI treats Sciencewise as a research project in and of itself, allowing for a level of experimentation, documentation, and learning at the organisational level?
- What would happen if UKRI expanded the definition of impact from Sciencewise for to include for example media reach or repeat demand?



Section 1: Deep dive case studies

The material in these case studies is drawn from desk research and an interview with a senior leader of the organisation or project. The description and assessment of each of these case studies is drawn from this mix of data. These case studies are provided as stimulus and consideration for UKRI, and informed the options and recommendations made in the report.

The Director of the DBT raises some questions about digital methods. He suggests a purely digital approach to deliberative dialogue has not yet been developed. Instead, there is an attempt to retrofit digital and quantitative approaches onto dialogue methods. Hybrid in-person and asynchronous approaches may yield the best results in terms of re-creating the conversational, two-way dynamic that face-to-face dialogue uniquely fosters.

- **The relationships between the organisation and commissioners, government, and providers:** The Director's experiences suggest that policymakers are not able to define how public engagement should be done for a given problem. This is therefore one area where the DBT bring their expertise.
- **The responsiveness and impact of dialogue delivery:** The Director of the DBT reflects, "It is always extremely difficult to pinpoint your impact for very good reasons. You can make something impactful, but never get credit for it. There are important impacts we cannot measure."

The DBT seeks to achieve impact through increasing the number of civil servants who believe in citizen engagement and providing them with the information they need to advocate for and embed the methods. Therefore, qualitative assessment of civil servants' behaviour is a way to measure impact.

Expert and Citizen Assessment of Science and Technology Network

Expert and Citizen Assessment of Science and Technology (ECAST) is a non-legal network of institutions in the United States that runs public deliberations on science and technology policymaking. It was formed in 2010 to provide a national technology assessment capability in the United States. There is no direct funding to the network, and administration costs are absorbed by the participating institutions.

The anchor institutions of ECAST are the Arizona State University (ASU) Consortium for Science, Policy and Outcomes, the Museum of Science, Boston, SciStarter The founding institutions are: Loka Institute, and the Woodrow Wilson International Centre for Scholars' Science and Technology Innovation Program.

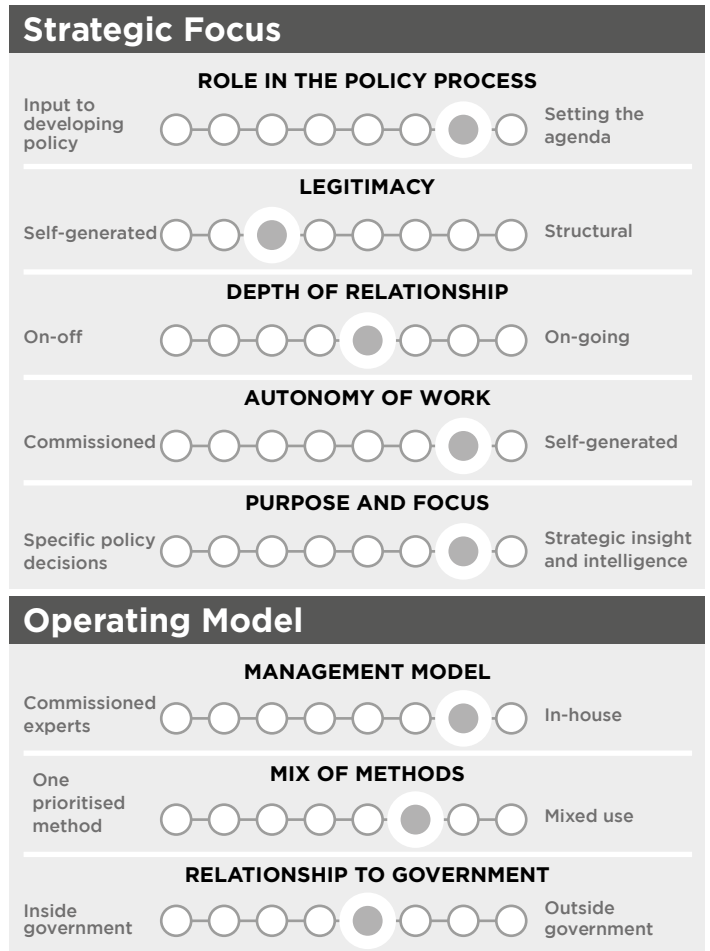
Between 2010 and 2016 ECAST was commissioned by federal agencies such as NASA, Department of Energy, and National Oceanic and Atmospheric Administration. In recent years ECAST work has primarily been funded by philanthropic organisations, such as the Alfred P Sloan Foundation.

Over the past 10 years, ECAST has conducted 29 citizen deliberations. An additional 39 deliberations are scheduled for 2020-2021. These have been a mix of client-commissioned and independent projects.

Academic researchers provide content expertise, science museums provide expertise in deliberation material design as well as unique spaces for dialogue and non-partisan think-tanks help achieve impact with the outputs.

There is a defined ECAST method, with three stages:

1. **Framing:** small lay person focus groups, literature reviews and stakeholder workshops to define questions for deliberation;



2. **Deliberation:** using a modified Worldwide Views method developed by Danish Board of Technology to convene people for facilitated small groups, often in multiple locations over multiple days. The mix reflects diversity of voice and participants are paid to participate;
3. **Results and integration:** exposes policymakers to early outputs prior to detailed data analysis, to frame findings to meet policy questions.

Insights for UKRI

- **How projects are identified and commissioned (including methods and tools used):** ECAST projects often happen because sponsors believe that while scientists are making decisions every day that they believe to be value free, the choices are filled with assumptions and value judgements that need to be sense checked against public sentiment and priorities.

ECAST adapts its methods to meet issue or client-specific needs, conducting open-ended research with the public before framing the formal dialogue as core to their process. They flex their timescales to maximise impact, moving quickly when there is a critical window or taking time to build the right coalition for change.

- **The relationships between the organisation and commissioners, government, and providers:** ECAST finds that embedded deliberation has more direct policy impact while independent work allows them to set their own research questions and agenda. The ECAST co-ordinator currently prioritises independence over embedded work.
- **The responsiveness and impact of dialogue delivery:** ECAST frames its outputs against evidence of what influences policy, with an emphasis on addressing concerns and re-evaluating basic assumptions. ECAST looks at impact on the organisation's thinking and decision-making processes. This includes impact on people and culture, which involves working with the organisation to trust the data, understand what it says, and know what to do with it.

In addition to direct influence on policymakers, other outputs include:

- academic papers and research published about the process which confer status within the scientific community;
- outputs that promote public understanding, such as films and other materials that can be widely distributed;
- links to science museums which create impact in local communities;
- a training program for emerging professionals in Public Interest Technology.

Norwegian Board of Technology

A public independent body for technology assessment established by the Norwegian Government in 1999, the Norwegian Board of Technology (NBT) describes itself as bringing together public participation with expert-led assessment. A core team of ten employees manages and carries out the work, while a Board of 15 government appointees set research themes.

The NBT advises parliament and other parts of the Norwegian government on the critical risks of new technologies. They involve people in the conversation on technology. As the Director describes,

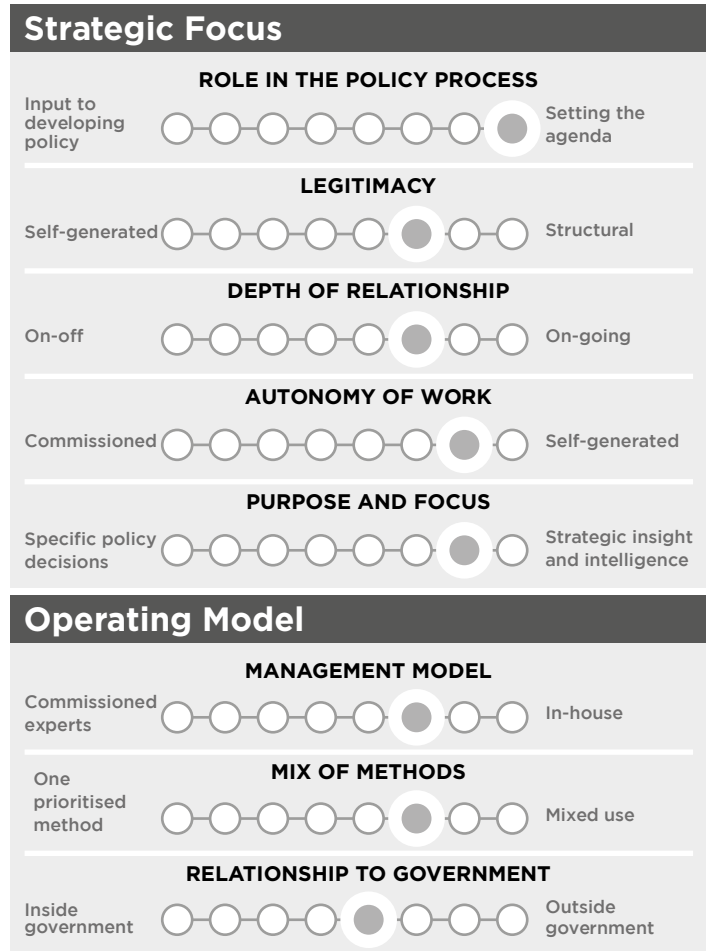
“technology is moving fast, and is incredibly important, but under-discussed both in public and in parliament. We are here to help show this agenda. The aim is to democratize how we deal with technological development.”

The NBT receives lump sum funding each year from the government and uses that within its terms of reference. It reports annually to the Ministry of Industry and Trade.

The NBT meets regularly to set research priorities. It does projects – mainly self-generated – that are:

- important and essential to Norway;
- focused on technology that is dynamic and rapidly evolving;
- able to create space for action by national politicians;
- unique and haven't been done before.

There are generally about 8-10 projects running at any given time, these include policy and social research, scenarios and citizen engagement. Some remain active for a number of years. Of these, 2-3 involve public dialogue, as this is more resource intensive.



The core team has a mix of backgrounds from across social science and technology and carries out most of the work in-house in combination with expert groups that are set up and led by the NBT.

The NBT is encouraged to participate in media conversation. The director writes a regular newspaper column and op-eds, including a recent call for a moratorium on facial recognition. The NBT hosts a range of open meetings and creates new arenas for debate.

Insights for UKRI

- **How projects are identified and commissioned (including methods and tools used):** The NBT uses its independence to resource work that may not be commissioned elsewhere but that they believe should be discussed between the public and the policy system. It uses participatory methods, including citizen's panels, juries, summits, and scenario workshops.
- **The relationships between the organisation and commissioners, government, and providers:** The NBT maintains independence but chooses projects that will be relevant to policymakers. The director has said, "if there is nothing to be done by the government, there is no point for us to give advice."
- **The responsiveness and impact of dialogue delivery:** The key measure of success is if the NBT helped further the discussion on a topic including:
 - Did the debate happen? Can we see that we have participated and launched new topics that led to productive debate?
 - Were participatory projects conducted at a high level of quality? Were lay people listened to?
 - Did those insights get incorporated into the agenda? Were they discussed by policy makers?

As the Director says,

"Do we go back and assess if we had any impact? Yes. But it's not a definitive success criterion. The parliament is elected to make decisions. They make their decisions. We're here to enable them. We're not invested in specific outcomes."

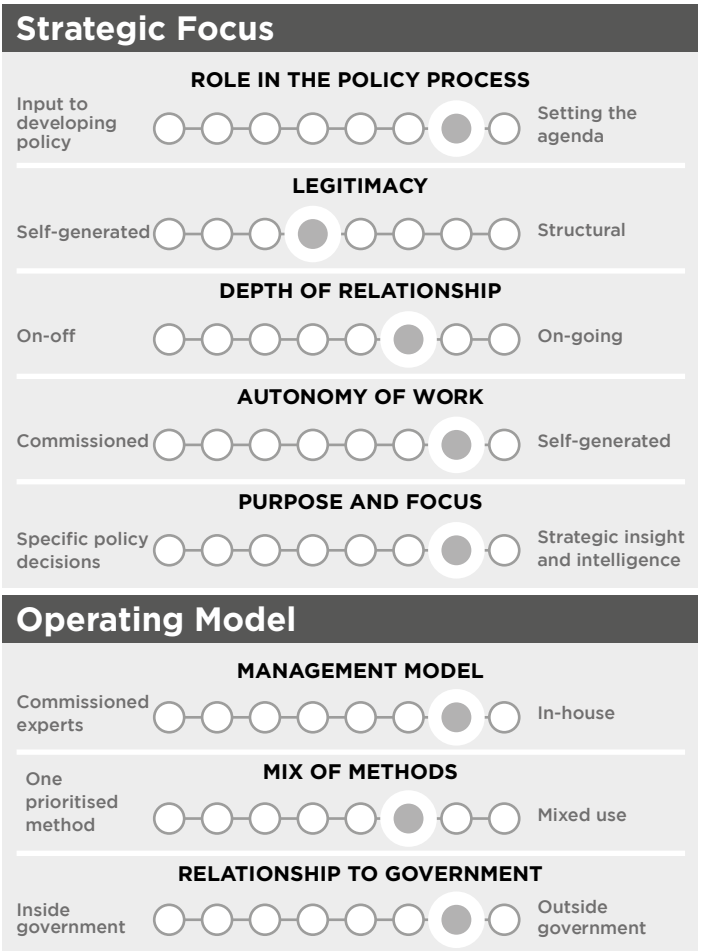
Rathenau Instituut performs research and organises public debate relating to the societal aspects of science, innovation and new technologies. Within each of their research themes, they conduct public dialogue and publish research.

The Instituut was founded by the government of the Netherlands in 1986 to research the impact of technology on society. It employs about 60 people, primarily dialogue coordinators and researchers, and is considered the largest and best-funded organisation of its kind. A board of eight people oversees the work

The Instituut falls under the administrative responsibility of the Royal Netherlands Academy of Arts and Sciences (KNAW) and is part of the European Parliamentary Technology Assessment network (EPTA) to exchange knowledge and contribute to international research projects.

The Instituut makes itself widely available to the media, providing deep background on articles, appearing on TV and radio, and publishing regularly through their own website and digital channels. Media doesn't always value the nuanced conversation, but the Instituut needs to foster a certain degree of impact on the media in order to bring the debate and conversation into society.

The Instituut is refreshing their mandate to reorient it towards society and policymakers, with a focus on helping to formulate the questions that the public and politicians should debate. The Director sees the public as tired of the information deluge. Citizens want clear information before they will advise government and scientists on the decisions and choices before them. The Instituut Director believes there is a language of public values in technology that did not exist 10 years ago. The Instituut's role in this is to surface the public interest, including the unheard voices, subgroups, and vulnerable populations that need to be listened to and looked out for.



Insights for UKRI

- **How projects are identified and commissioned (including methods and tools used):** The Instituut identifies their own research programme every two years, using a mix of public input and expert panels. The public input is an open consultation process with self-selected participants. The Instituut also runs focus groups and draw on information produced by others including the Social and Economic Council in the Netherlands quarterly public opinion and mood monitoring data. 2019-2020 themes include digital society, health, knowledge for democracy and knowledge ecosystems.

The Instituut uses a mix of methods, including literature review and desk research, scenario workshops, interviews, focus groups, and dialogues. It collates intelligence on Netherlands science and technology and identifies long-term trends. The staff manages and conducts the research themselves.

The Instituut also train intermediary professionals including police, city councils, mayors, and provincial authorities to talk to the public. This includes methods like focus groups, experiential learning and facilitated reflection to reflect on assumptions and better understand the values of citizens. For example, if the police define their role as security, the Instituut helps them understand what security means to people, and then the police can reflect this in their decisions.

- **The relationships between the organisation and commissioners, government, and providers:** The Instituut do some of their work as research on request for government, ministries, and public organisations, published in open access formats. No more than 25% of its funding can come from other clients.
- **The responsiveness and impact of dialogue delivery:** The Instituut uses an impact model drawn from development organisations and NGOs. This includes defining an area that is being explored, what is at hand, why is it important, what are desirable societal outcomes, what are the interventions that make that outcome more likely and then what is the effect of the interventions. The Instituut considers whether the policy debate was better informed because of the work and track how politicians use information and if politicians reference their arguments or figures in the debate. The Director acknowledges that it is hard to measure impact – The Instituut can only measure what they do themselves (number of publications, recommendations made, etc.) and then look for the ripples in the political and media conversation.

Singapore Youth Conversations

Singapore Youth Conversations (SYC) is a team of nine full-time employees within the National Youth Council, which sits in the Singapore Ministry of Culture. They have an ongoing charter to understand what younger populations aged 15-35 care about, what they have to say about those issues. They channel this understanding into both policymaking and direct action. The conversations evolved out of a large-scale public dialogue in 2018 which included over 3,000 young people in 30 in-person discussions.

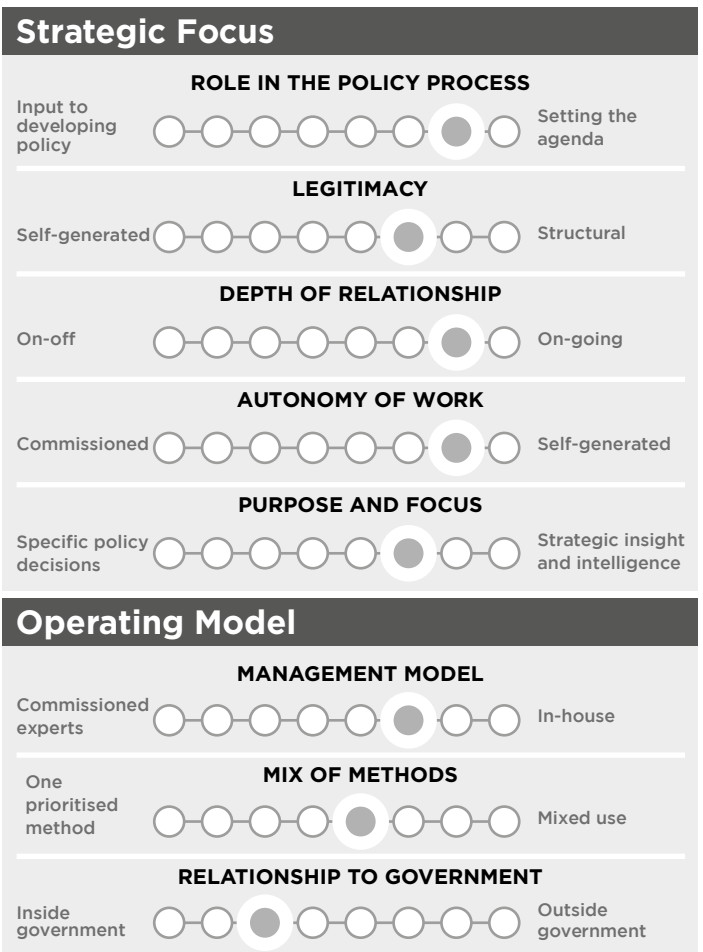
Following a period of reflection and experimentation in 2019, SYC set out a programme for 2020 which includes 6 engagements, with appropriate adjustments for COVID-19

SYC uses the content that comes from youth engagements to create communications and programs that inspire youth to mobilise into action around those same concerns against a perspective of ‘This is what you care about, now here’s how to take action yourself.’

The organisation characterises itself as ‘learning as we go,’ with an experimental, even renegade attitude. They start small, try their ideas, and scale out from what works. They have permission to innovate and expect to experiment.

SYC has developed a 5-stage process which blends in-person and online methods. During COVID-19 restrictions, they are convening the in-person conversations on Zoom. Each project takes about 3 months to conduct. The process includes:

- Sensemaking via social listening, digital polling, and community conversations, which is reported to the cabinet and used to design the next stages;
- Engaging across multiple channels such as Facebook, Instagram, YouTube, and convened dialogues;
- Programs that are conceived of and run by young people drawing on the resources of the youth council;



- Amplifying the message across media channels. For example, a Facebook Live explaining what was heard in a dialogue and having the minister in question responding in further conversation;
- Summarising findings and sharing the outcomes.

Insights for UKRI

- **How projects are identified and commissioned (including methods and tools used):** The 2018 dialogues identified 12 themes, which the organisation is attempting to address in further conversation over the next several years. They also receive top-down requests from ministries and need to prioritise initiatives based on the current situation. For example, COVID-19 has accelerated conversations over mental wellbeing, education, and jobs over issues like climate change.

Singapore Youth Conversations rely heavily on digital participation. It believes that scaling participation using digital tools helps to draw on wider knowledge and build greater awareness about the process, in turn maximising impact. The transfer to digital was painful and challenged a lot of inbuilt assumptions and biases of the team. It required a period of not doing anything at all, and then small trials, before finding a combination of methods, platforms, and activities that worked well together at scale.

The team identified issues around self-selection of participants as one of their biggest areas for improvement. They are trying to ensure inclusion of underserved and underreached populations. The organisation looks to build the confidence in dialogue by going back to young people, communicating what was said and done with that information through broadcast channels, but also in personal emails to all dialogue participants.

- **The relationships between the organisation and commissioners, government, and providers:** The projects often relate to many different departments and findings are distributed across the government rather than specific to one department. For example, the project on mental wellbeing has four government agencies collaborating.
- **The responsiveness and impact of dialogue delivery:** A “Youth Conversations Report” was published out of the 2018 dialogues. In 2019, as part of the Singapore Youth Action Plan, they carried out engagements to find out what young people want to see in Singapore by 2025. A “Youth Vision” was derived by sense-making the results of the 2019 engagements. From 2020 through 2025, engagements and programmes will be carried out to help young people turn the “Youth Vision” into reality through a system of grants, mentoring and training efforts.

CIMULACT was a three-year project across 29 European countries that used citizens' visions for the future to recommend research topics within the EU Horizon 2020 work programme. It was co-ordinated by the Danish Board of Technology.

The EU Horizon 2020 provided 30 billion Euros in research and innovation funding between 2018-2020, making it the largest funding programme for setting science direction in the EU.

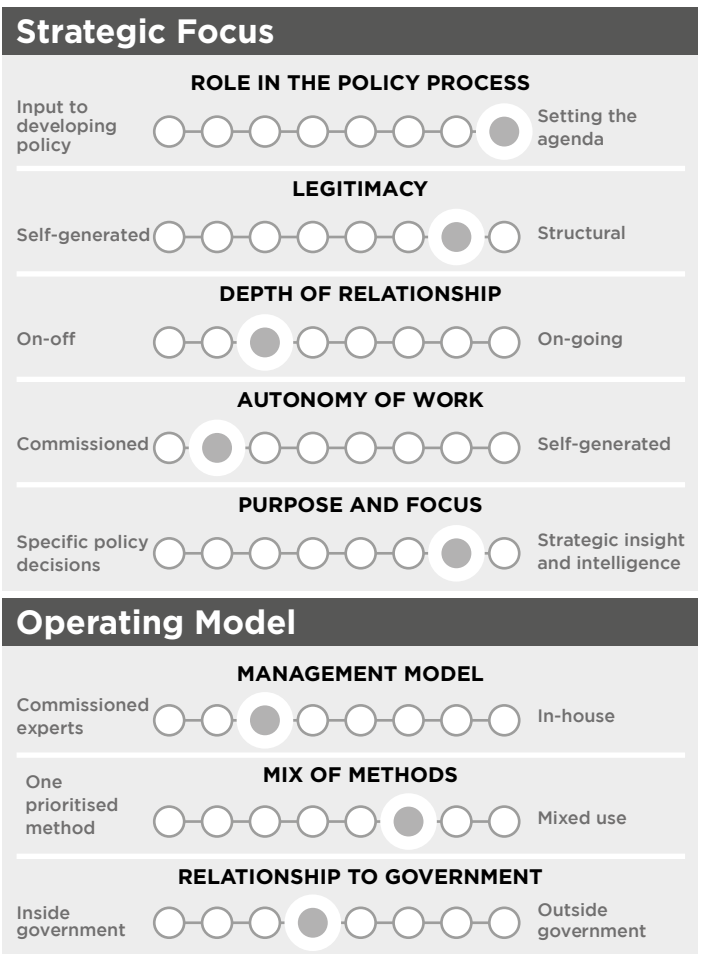
CIMULACT was the only framework programme project that enabled direct interaction with citizens about transforming citizens' visions, needs and concerns into research topics. CIMULACT's role was to help the public express the way they want science to develop including:

- looking beyond the next linear step in a science-led research agenda;
- getting more societal benefits from science investment;
- having more focus on the societal aspects of technical research and innovation;
- informing which research to do and not do;
- doing this through conscious discussion and decision-making.

CIMULACT delivered 23 topics to Horizon 2020, of which 15 (65%) clearly overlapped with the final work programme.

Insights for Sciencewise

- **How projects are identified and commissioned (including methods and tools used):** CIMULACT grew out of CIVISTI, a small, blue-sky EU research project with the Danish Board of Technology as coordinator, experimenting with citizens to define research topics. The project found citizens and scientists largely identified the same topics but defined the work within those themes differently. Experts looked to the next step along a path that had already been established. Citizens wanted research to question how science works for society.



The method included foresight techniques to generate visions for people's desired futures which were then translated into recommendations for research topics. This included four styles of in-person workshops complemented with an online consultation. Eleven new or adjusted participatory methods for horizon and foresight scanning were published as part of a practitioner's toolbox.

- **The relationships between the organisation and commissioners, government, and providers:** CIMULACT worked in tandem with the Horizon 2020 programme to ensure that outcomes were available at the right time for influence. Although outreach was wide, policymakers often lacked understanding of the relevance of the CIMULACT topics to the research agenda at hand. These officers need to be reached well in advance of time in order to maximise impact.
- **The responsiveness and impact of dialogue delivery:** Interviews with Horizon 2020 project officers established that topics emerging from CIMULACT were useful, helped distinguish between real problems and political pressure, and served as important justification in the final work programme. Project officers hesitated to publicly credit the source but did acknowledge its usefulness to inform internal discussions. Partnering organisations in the dialogue consortium gained training and experience in public dialogue.

The OECD has chosen CIMULACT as one of six good practice cases for engaging citizens in science. There were 902 dissemination activities of consortium partners, four peer-reviewed scientific publications and 126 presentations at workshops and conferences. CIMULACT received status as an EU success project.

The Resilience Dialogues

The Resilience Dialogues was a multi-year project launched by the White House Office of Science and Technology Policy under the Obama administration in 2015. The project held dialogues in more than 20 communities and is now on hiatus.

The dialogues included a technology platform and a network of subject matter experts to connect local communities with the resources they needed to address problems arising from climate change.

A member of the core team described the project as a “top-down” initiative of the federal government designed to create grassroots, or “bottom-up” conversations between these communities and experts. One of the core principles that drove the entire project was “treating everyone involved as an expert.”

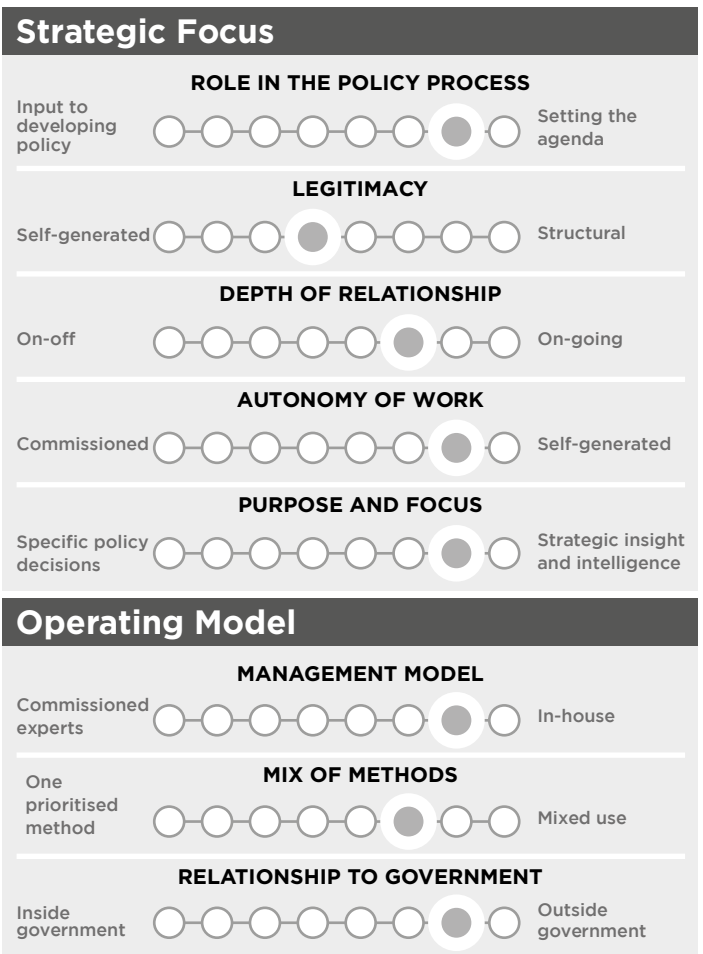
Participating communities were nominated by organisations that were providing climate resilience technical assistance to communities or identified through open calls.

Insights for UKRI

- **How projects are identified and commissioned (including methods and tools used):**

The first stage of each dialogue was to design the conversation in collaboration with the community. Community leaders were the ones who opened the first phase of information-sharing in the dialogue by responding to facilitator prompts designed to elicit information about the community. The conversations were entirely framed from the context of the community’s own needs, problems, assets and values, rather than those of the experts.

The dialogues with subject matter experts occurred over two five-day periods, usually separated by a week. The first period focused on the experts understanding climate-related threats to community resilience. The second on providing specific recommendations for beginning to address those issues.



- Conversations took place on an asynchronous online platform. Participants were asked to spend 1-2 hours a day on the conversation but not all participants did so. There was a facilitator providing prompts and summarising conversation. The online discussion periods were book-ended with conference calls. The subject matter experts were trained and coached in how to be open listeners.
- **The relationships between the organisation and commissioners, government and providers:** The project was a public-private collaboration, partly funded by a grant from the Kresge Foundation. In its first phase the program was co-managed by the U.S. Global Change Research Program (USGCRP) and the American Geophysical Union's Thriving Earth Exchange. In the second phase, the program was co-managed by USGCRP and The American Society of Adaptation Professionals. The program benefited from a large group of additional collaborators and subject matter experts involved in the climate resilience space from across the public, non-profit, academic, and for-profit sectors.
- **The responsiveness and impact of dialogue delivery:** The key indicators of success are tangible steps that improve the long-term wellbeing of a community. Program managers described the most direct impact as actionable next steps that communities took, as well as a general sense of momentum gained to work on the issue. The subject matter experts received training and experience in community engagement and were also exposed to ideas and context they weren't aware of, both forms of professional development.

This process was shown to break down many silos within the community and open local conversation that might otherwise not have happened. One element contributing to success in this area was the implementation team's efforts to assemble a team of community leaders with a variety of roles in the community, including local government, business, and community based organisations because the facilitators ensured the 'full fabric' of the community was engaged.

Wellbeing in Germany – What Matters to Us

Wellbeing in Germany is a national dialogue that was held across Germany in 2015 to define wellbeing in citizens' own terms. These values were linked to a set of indicators, or a dashboard, that shows the state of wellbeing over time, both nationally and regionally.

The project was designed to provide the broadest possible voice of the public into government in defining what is important in terms of wellbeing.

The Chancellor and all ministers of the cabinet were involved in the Wellbeing public dialogues with citizens. A scientific advisory board oversaw the project.

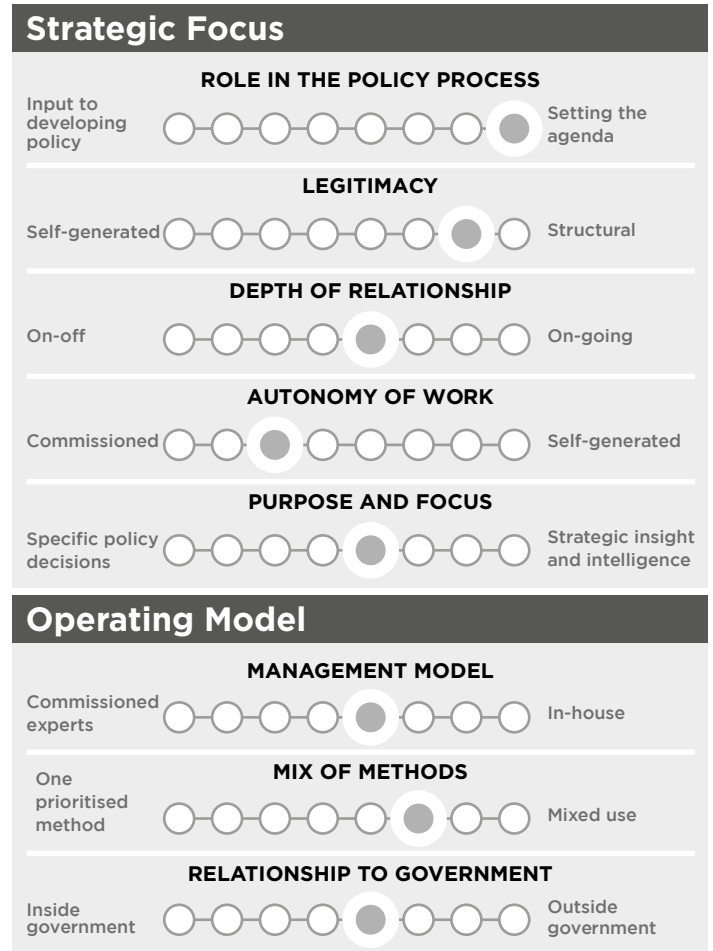
The project delivered a dashboard of wellbeing in Germany derived from what citizens said mattered to them. This includes 12 dimensions and 46 indicators to evaluate the key aspects of wellbeing in the country. An advisor to the project describes the dashboard as looking beyond GDP linking directly to what matters to people.

The dashboard was also seen as a visual representation of people's own inputs and values.

Insights for UKRI

- **How projects are identified and commissioned (including methods and tools used):** The idea for this project originated after a previous dialogue on Germany's future highlighted the difference between the way that citizens talk about certain issues and the way policymakers and experts talk about those same issues. At the same time, international trends demonstrated an emerging set of indicator systems, or dashboards, to describe and measure wellbeing. This project combined both ideas: how could Germany define wellbeing in people's own terms and create a dashboard linked to those values?

8,600 citizens participated in person and 7,000 responded online or via postcards and coupons, answering two questions. Qualitative and quantitative content analysis, including machine learning text mining software was used to identify the topics discussed most



frequently. There was also a literature review on wellbeing research and indicator and statistical systems.

The federal government hosted 50 events. Societal groups hosted an additional 153. The project provided a moderator for each session, and all events were conducted according to the same format and structure. The project had specific engagement with marginalised communities including people who are hearing-impaired, people living on the streets, people having trouble finding work after education and those in retirement homes

The findings were checked by an independent research institute based on data of a long-running population-representative panel study.

- **The relationships between the organisation and commissioners, government, and providers:** The idea originated within and was conceptualized and coordinated by the Chancellery (equivalent to the UK Prime Minister's Office). It was driven from the federal government.

Value was found in working with community organisations as they were seen to be more open and free spaces to share thoughts.

- **The responsiveness and impact of dialogue delivery:** The Wellbeing website links to government activities that are related to the indicators. However, direct impact on the legislative agenda via an action plan was interrupted due to the end of the election cycle. The scientific advisory board oversaw the project. published their own essays, reflecting on the process and underlying scientific issues, including those of dialogue and mixed methods.

There has been anecdotal evidence of the impact of the dialogue process itself. Ministers directly participated in several events, creating a rare opportunity to meet the public where they are at and converse about topics of mutual interest.

The indicators created by the process are monitored and continuously updated. The ambition is that the ongoing monitoring informs the government where there are open issues or blind spots and informs possible gaps in legislation.

Since the project, dialogue has grown in popularity across the German government. In 2018, Germany was one of 27 EU member states to hold citizen dialogues on the Future of Europe. During recent years, more and more projects directly involved citizens, ranging from broad dialogues to citizen participation in policy initiatives and legislation.



Section 2: Desk review case studies

The desk review case studies are a high-level description based on publicly available information. In each, we pose questions for UKRI as part of the consideration of the future of Sciencewise. In each, we pose questions for UKRI to consider. Taken together, this set of 15 examples provides a sense of the different structural forms, dialogue methods and relationships with government that UKRI might consider for the future of Sciencewise.

The first ten are organisations; the questions and considerations they pose are around legitimacy, function, audience and role in the wider science and technology ecosystem. They also provide some stretching examples of methodologies and approaches.

A further five are one-off initiatives; they give inspiration and prompt thinking about the themes that UKRI may want to incorporate into a future Sciencewise, as well as ways of delivering projects and programmes that UKRI may itself commission. They also give some insight into how to tie dialogues back into policy.

None of the case studies is directly analogous to Sciencewise; they serve to stimulate and inspire.

Ars Electronica launched on September 18, 1979 when 20 artists and scientists from all over the world gathered at a new Festival for Art, Technology and Society in Linz. The initiative for this came from Hannes Leopoldseder, director of the Upper Austria regional studio of the Austrian Broadcasting Company (ORF). With an electronic musician, music producer and cyberneticist and physicist this first festival has grown and grown.

Ars Electronica's activities are guided by the question of what new technologies mean for our lives. The activities bring artists, scientists, developers, designers, entrepreneurs and activists together and shed light on current developments in digital society and speculate about their characteristics in the future.

Since 1996, Ars Electronica has operated a Futurelab where artists and scientists create interactive scenarios to initiate a democratic discourse with the public. The aim of this is to make the outcomes accessible to the public and to thereby host a discussion about the social implications of these scenarios. In 2019, the FutureLab conducted 58 projects in six countries with sales of around 3.5 million Euros. It works with other parts of Ars Electronica and external clients to prototype digital futures so that society can consider their implications.

Questions for UKRI

Ars Electronica is very different to Sciencewise. However, it does provoke some questions on the edge of the model that UKRI might want to consider in the medium to long term:

- Are there different questions, conversations or imaginations that dialogue could address with different types of expertise in the room? What role might artists have in dialogue around science and technology?
- What types of environments and spaces - physically and digitally - might UKRI want to consider to broaden participation in dialogue?

CARE International ALP

CARE International is a global confederation of 14 national members and 4 affiliates with a common vision and mission to defeat poverty. Donors included governments of Denmark, UK, Austria and Finland. Each CARE member is an independent organisation supporting the work of CARE in their own country. There are CARE programmes in 95 countries around the world.

The Adaptation Learning Program (ALP) helps vulnerable households in sub-Saharan Africa adapt to climate change. It helps people understand impact, make informed decisions, and adjust livelihoods as circumstances change.

From 2010 to 2017, ALP worked with communities, government institutions and civil society organizations in Ghana, Kenya, Mozambique, and Niger with outreach to other African countries.

As a result of ALP, 1,620,688 climate-vulnerable individuals have benefited from adoption of one or more community-based adaptation approaches.

Practices are being adopted by CARE programmes in a variety of countries in Africa and Asia, and they are being taken up by governments and other organisations, in particular in Ghana, Niger, Kenya, Malawi and Benin.

Questions for UKRI

This project is an example of the value and impact of helping communities to address their most urgent needs, on their own terms, by connecting them to the right scientific information and expertise. It suggests questions for UKRI around:

- Could Sciencewise be a connector and facilitator of relationships in addition to the convening role it plays?
- How and would Sciencewise see itself as an enabler and builder of community capacity beyond the specifics of a given dialogue?

Created in 1995, the Commission Nationale du Debat Public (CNDP) is an independent administrative authority whose mission is to organise public discussion on large-scale public works project that are budgeted over 300 million Euros, excluding military and heavy industry projects. In 2002 it became an independent administrative authority; in 2016 its remit was expanded to include organizing public debates on plans and programs at national level and in 2018 it was given further powers including to ensure conciliation in the case of conflict on a project, and to organize consultations replacing public inquiries.

The CNDP is made up of 25 members from different backgrounds including parliamentarians, local elected officials, members of the Council of State, the Court of Cassation, the Court of Auditors, associations, employers, and unions. At the end of debates or consultations, the CNDP draws up one or more concluding documents showing the views expressed and specifies the conditions of feasibility of the project. The members then make decisions on the question at hand. 250 guarantors registered on the national list of the CNDP have been selected and trained to guarantee consultation procedures.

The CNDP has been approached more than 350 times and has organized 95 public debates and more than 250 consultations.

Questions for UKRI

CNDP derives its legitimacy and remit from legislation while the Sciencewise is defined by a government department and its legitimacy is primarily based on its reputation.

- What are the benefits or challenges for a legislated mandate and remit?
- Could / should legislation underpin public engagement in science and technology?

Curious Minds is an initiative of the Ministry of Business, Innovation and Employment in New Zealand. It provides grants to local communities to fund projects to develop innovative science and technology solutions for local challenges. It includes a 'Participatory Science' platform that builds capacity for people to participate in debates about complex questions around new technologies. This initiative supports collaborative, community projects that bring together locals and scientists or technologists on research investigating a locally important question or problem.

Considerations for UKRI

Curious Minds is another example of citizens setting the agenda for dialogues and citizen science rather than the policymakers making these choices. UKRI might want to consider:

- How can communities and publics in the UK drive demand for their own dialogues and/or local science?
- Can Sciencewise develop capacity in communities to participate in dialogue and to engage with each other more effectively rather than always rely on expert dialogue providers to lead the work?
- What types of micro-projects could Sciencewise fund that are for and by the people?

Dialogik is a specialist research non-profit that brings together experts in sociology, political science, administrative science, geography, biology, agricultural sciences and environmental sciences to lead dialogue-oriented research on pressing issues of science and technology. The organisation is committed to sustaining a rigorous approach to good scientific practice.

Projects are funded by the European Commission, the German Research Foundation (DFG), federal and state ministries and public and private foundations.

Dialogik has run more than 150 projects and makes use of discursive methods such as group Delphis to bring together different perspectives of social groups, individuals, and experts.

Sciencewise's International Comparison of Public Dialogue on Science and Technology highlighted Dialogik as a key German organisation; the Dialogik director has been an interviewee and reviewer of Sciencewise evaluation reports.

Questions for UKRI

Dialogik's team is highly expert in both the subjects it studies and in social research methods. It is one of a number of examples of independent institutions funded by commissioned work. This suggests some questions for Sciencewise:

- What expertise might Sciencewise want to have in-house in the future?
- What impact might a commissioner-funded approach have?

Geekulcha was established in 2013 in South Africa. More than 20 employees, most of them application developers, work together to develop South Africa's creative technology capability amongst young people, transforming consumers into producers. It is overseen by an advisory board of six industry and technology leaders

Geekulcha focus on young people, building their skills to operate and solve real-world technology and science problems. It has a number of different programmes that bring young people together with each other and with industry leaders. This includes hackathons within specific community contexts to address problems that the community has identified. These hackathons often incorporate services and tools that existing organisations are seeking to test and iterate.

Considerations for UKRI

Geekulcha is one of the case studies considered in order to stretch the UKRI's own thinking about the potential of Sciencewise:

- What might an explicit focus on young people, their voices and their priorities look like in the wider Sciencewise portfolio?
- How might Sciencewise empower communities to respond to their own questions and challenges?
- What might it mean for Sciencewise to shift from focusing on bringing people together to do projects to an organisation that creates demand and capacity for public engagement, from a convenor to a system enabler?

Invasoras is a citizen science project stretching back to 1997. It works with the public to map invasive species in Portugal. Its goal is to educate people about the species and to provide crowd-sourced knowledge collected by the public to experts who use this knowledge to recognize and control invasive species. The programme is part of a ten-year partnership between researchers from the Escola Superior Agrária de Coimbra and Centre for Functional Ecology, University of Coimbra. The project includes 7 team members who primarily focus on producing insights from the information collected.

The programme provides a range of free real time tools including an app to recognise and map plants and a tool to log real-time sightings. It also offers support materials for environmental education, schools, and informal action groups. Data mapped on the project is available openly and in real-time. The work has informed an extensive list of books, scientific articles and theses which are all listed on their website.

Considerations for UKRI

Invasoras is one example of a citizen science project; it was selected for inclusion because of its longevity and because of its feedback loop to the public. It is one of the case studies considered in order to stretch thinking and possibility:

- What might a long-term citizen science component add to the Sciencewise model?
- How might UKRI empower and enable citizen science in the policy arena?

MindLab was one of the first public sector innovation labs in the world. Founded in Denmark in 2002, it embraced rapid prototyping and testing for government co-creation projects. As the Danish government's priorities shifted from experimentation and innovation to the digital transformation of the civil service, MindLab was closed in 2018. It was replaced by the Disruption Task Force intended by the Prime Minister to deliver this reform. The new Task Force took on 70% of MindLab's employees, who brought with them the experience of designed public engagement.

Consideration for UKRI

The process of change that the Danish Government chose is relevant to UKRI's consideration of the future of Sciencewise. Mindlab was closed, and the Disruption Task Force established, because there was a concern about how long it would take for MindLab to shift focus from a design organisation to a transformation team. As UKRI considers new approaches for Sciencewise, this example suggests asking:

- What are the risks to retaining the brand, name and staff of the current programme if a fundamental shift is envisaged?
- What is the most effective change journey to any new model of Sciencewise?

Sacramento Urban Tech Lab

Sacramento Urban Tech Lab is an initiative of the City of Sacramento Office of Innovation and Economic Development. There is a core team of three employees, including the city's first Chief Innovation Officer and an appointed tech council of 25 local innovation experts across industry and academia that advises the team and vets grants and investments.

The Lab focuses on seven industries that Sacramento wants to build in the city, including mobility, clean tech, life sciences, food systems, cybersecurity, civic technology, and workforce development.

The lab offers \$1 million in grants that help build the workforce, start-ups, or marketing promotions aligned with these verticals. It does this by bringing emerging technologies into communities that act as living laboratories to test, develop and scale ideas. Testing spaces are created within which regulations are relaxed to enable innovation and experimentation. An example of this is an autonomous vehicle lab where new mobility methods are tested in a more open and permissive environment than is possible when deployed into daily life. Each of the city's eight districts has developed an inventory of locations that can be used as living laboratories for new technologies. Area universities are also identifying resources they can connect into the system.

Considerations for UKRI

The Sacramento Urban Tech Lab is an example of a programme that delivers citizen engagement through doing and testing rather than talking and discussing. It poses some interesting questions for UKRI's model of Sciencewise including:

- What might Sciencewise look like if it gathers public feedback through testing and doing?
- How might a government programme modify regulation to help with testing and learning – and what challenges might this bring for that programmes?
- What role might Sciencewise have in helping to iterate and innovate technology in ways that involve citizens rather than in questioning and exploring something that is known?

The Solferino Academy is an initiative of the International Federation of Red Cross and Red Crescent Societies. The Academy undertakes horizon scanning, trends analysis and futures exploration to help the Red Cross and Red Crescent Movement understand the future of vulnerability and risk, and to develop strategies to enable change. It conducts its own trends research and analysis, and commissions work from universities and experts. It specialises in bringing people together for complex problem solving, using a combination of futures and foresight masterclasses, immersive simulations, scenario builders, and leadership forums. It works in partnerships with the private sector and academic institutions, entrepreneurs, start-ups, and others.

The Solferino Academy provides events and responds to requests from its network to apply its resources to local questions and challenges. The Academy creates reports, scenario builders and workshop resources (such as card sets) that are freely available to download and use.

Its largest project was the Strategy 2030 consultation which brought together 8,000 people in 68 face-to-face events and digital activities on social media and with youth.

Considerations for UKRI

The Solferino Academy provides an interesting example of how a specific project can evolve into institutional capacity. For UKRI, it suggests:

- How might Sciencewise build capacity around dialogue while also delivering specific projects?

Climate Protection Plan

The Climate Protection Plan dialogue ran between 2015 and 2016. It involved the public in the development of climate policies across Germany.

It originated in the region of Nord Rhein Westphalia, where from 2015 onwards a deliberative engagement process brought together 400 citizens, stakeholders and businesses in developing a Climate Protection Plan. This was then repeated at the level of the German Government and the federal states of Rhineland-Palatinate and Berlin.

The consultation began with a Kick-off Conference in Berlin and then a series of meetings with state, municipalities, associations, and citizens. The proposals for action were collated and presented at a meeting at the Environment Ministry and was used to help create the first draft of the Climate Action Plan 2050.

The process was organised by the Wuppertal Institute and the dialogue agency IFOK

Considerations for UKRI

The Climate Protection Plan project is a relatively straightforward citizen engagement project that took place across a number of regions. UKRI might want to consider:

- What would happen if a dialogue was geographically or regionally focused and did not include the whole country?
- Could UKRI orient Sciencewise to places as well as themes?

COVID-19 Collective Story

COVID-19 Collective Story is a project that uses an app to consolidate hundreds of individual stories to find patterns of collective experience. It is a global, public-private partnership led by its founding sponsors: Desert Research Institute, Spryng.io, and Human Systems Dynamics Institute.

People log on to the app to share their stories of COVID-19 and then answer questions about these stories. The app then applies textual analysis to the stories and questions to identify insights and themes that are emerging. The funders will share the analysis with the US Department of Health and Human Services and other government authorities with an emphasis on providing insight and decision-making guidance to leaders of national, state and local governments, their agencies, and non-profit organizations.

Considerations for UKRI

UKRI can glean a number of inspirations from the COVID-19 Collective Story including:

- How might Sciencewise operate in a more agile and responsive way, able to implement dialogues and programmes in response to changing context?
- What might a more distributed, tech-enabled form of dialogue look like for Sciencewise?

The Future Energy Lab

Future Energy Lab was an event that brought together government leaders and businesses from across the United Arab Emirates to engage with questions around climate change. This included the Prime Minister, Head of Cabinet, Ministry of Energy, as well as heads of utilities companies and energy sector organisations. The Lab participants were taken through five different future worlds in order to understand the differences between them. The scenarios varied at many detailed levels: implementation of renewable energy technologies, alternate public transport networks, peer-to-peer energy trading, as well as social and cultural shifts. Attendees had to make concrete choices and then experience/deal with the consequences as they arose.

For each model future, objects and experiences were designed to embody the reality. The event is credited as having created actionable insights toward the goal of achieving the UAE's National Energy Strategy 2050.

Consideration for UKRI

The dialogue in the Future Energy Lab was between business and political leaders; while the public was not physically present, their voice was brought into the room through the experiences that participants had. The case study was included by UKRI because the methods deployed go beyond what Sciencewise does at the moment. Questions it raises include:

- Does the public have to be in the room for their feelings, preferences and views to be powerfully present?
- How might Sciencewise create experimental laboratories in which government officials (or the public) can experience the consequences of their choices today?
- How might Sciencewise harness growing evidence around experiential dialogue and engagement?

Night Club is a physical installation that is set up on-site in workplaces to help night-shift workers engage with the topic of sleep and sleep health. The Wellcome Trust commissioned The Liminal Space to lead a multi-partner project that brought leading sleep researchers from the University of Oxford together with the Co-op initially. This led to the creation of an installation that allowed participants to experience elements of night shift work and to contribute to the evidence about the impact of nightshift working. At the same time, participating night shift workers learned about sleep and sleep health.

Co-op, who hosted the first installation, are reviewing working practices on the night shift. The project has now moved into a second year with more commercial partners bringing the installation to their organisations.

Considerations for UKRI:

Night club is another example of the power of experiential dialogue and the power it has to allow for asynchronous experiences to create a body of insight and evidence around what the public thinks and feels. UKRI may want to consider:

- What new and creative models of engagement does Sciencewise want to explore?
- Can Sciencewise contribute to the experimentation around dialogue between the public, policymakers and industry leaders?

The Tomorrow Project

The Tomorrow Project was a between Intel and Arizona State University's Center for Science and Imagination. It used science-based conversations about the future to create anthologies of original stories, essays, artwork, and videos. It engaged with people of all ages from children as young as 5, as well as experts in the field of technology and science fiction. One resulting publication, *Science Fiction Prototyping: Designing the Future with Science Fiction* set out the method while the anthology of stories was published by ASU. Intel used the outputs to help create several generations of processor roadmaps, which require definition about 10-years in advance. It was also used with the Intel research labs to define specific research programmes and projects that fed into all of its public products and tools.

Considerations for UKRI

The Tomorrow Project is an example of how industry might engage with the public to inform its strategic plan. It is one of the case studies chosen to illustrate other methods of engagement, particularly narrative methods. UKRI can consider

- How might Sciencewise use narrative story-based methods to explore the public's view on a particular topic?
- How might Sciencewise expand its audience to include young people and children?