



UK Research
and Innovation



How can public dialogue deliver better outcomes?

Key impacts from UKRI's
Sciencewise programme



The background features a vibrant, abstract composition. On the left, a solid orange vertical bar is partially overlaid by a blue vertical bar. The rest of the background is a complex, colorful pattern of swirling, iridescent shapes in shades of blue, green, and purple. A prominent feature is a large, clear water droplet in the lower right quadrant, which is surrounded by concentric ripples and reflects the surrounding colors. The overall effect is dynamic and visually rich.

The UKRI Sciencewise public dialogue programme connects the public with science and technology, leading to better research, better policy and better outcomes.

In this report, we demonstrate how the Sciencewise programme has helped organisations facing different challenging questions, to make key decisions in strategy, policy, implementation and delivery

This report is intended to build understanding of how public dialogue can support decision-making, and to be a resource to support policy makers and research funders considering their own dialogues or for those looking for societal insights.



Treating the public as an equal stakeholder

Public dialogue is used in many ways, for many purposes and civil servants and researchers testify enthusiastically about its value and impact.

Unlike surveys, focus groups or other approaches to engagement, public dialogue provides a route to exploring the richness and variety of public views on a topic, and the values that underlie them.

It enables conversation on controversial and sensitive issues, with no clear answer, giving commissioners insight into routes forward and how these might impact on different groups.

Despite the diversity in topics, the **messages about the impact of dialogue are remarkably consistent:**

- Policy, advice and guidance informed by public dialogue can be compelling: it can give decision-makers more confidence in their position, identify gaps in thinking and challenge embedded assumptions.
- When decision-makers working on science and technology research and policy development go hand in hand with the public, the outcomes are more likely to align with societal needs. Its positive potential may be more widespread and its downsides more easily understood and mitigated when public voices are heard alongside that of other stakeholders.
- Dialogue reaches the parts that other approaches to engagement do not. It provides insight into the values that underlie people's views, the trade-offs they make and the issues that really matter.

The examples in this report show that Sciencewise public dialogues have been used to directly inform the work of government departments, arms-length bodies, regulators, and research funders. Equally, the evidence collected has also proven to be valuable to elected decision-makers.

How has Sciencewise dialogue shaped strategy and agenda-setting?

What will the world be like in 20 or 30 years' time? How will research, science and technology change our lives and how do we help to ensure that their impact is positive? Developing strategy and anticipating the future is complex and uncertain, but public dialogue can help.



■ Shaping national strategy documents:

Whether it's a 5-year or 50-year timeframe, anchoring a technology or science strategy in public opinion helps ensure that it aligns with public aspirations and concerns. Exploring public views on the values that should underpin a strategy and the trade-offs that need to be made can support a strategic direction that carry societal principles within them.

- Using future scenarios depicting 2040, the principles developed during the Future Cities dialogue, commissioned with Innovate UK, provide a clear foundation for how future technology enabled systems infrastructure work.¹
- The [National Genomics Healthcare Strategy](#) drew from the Sciencewise / Genomics England dialogue², calling it “an important foundation [which] will continue to inform policy making here and around the world in the future”.
- Henry Dimbleby says in the final National Food Strategy report that the voices of those involved in the Sciencewise public dialogue “fundamentally informed my views, [and] flow throughout this report”.

“ This dialogue report highlights the crucial role that ethics and participant engagement play in establishing and maintaining public trust in genomics. It is essential reading for everyone with an interest in genomic and data-driven medicine.

Prof. Mark Caulfield, (then) CEO, Genomics England)



- **Developing action plans:** In public policy, plans are more effective - and sometimes only work - if the public are on board and can see the benefits. Dialogue can help you to develop a realistic plan, providing insight into people's aspirations and concerns, and the ways in which science and technology might impact on different people's lives.
 - The [2050 net zero pathways calculator](#)⁴ was tested through public dialogue⁵ and the outcomes formed a key part of raising public awareness of the debate around ways to achieve net zero in the UK.
 - The Industrial Biotechnology Innovation and Growth Team's report was informed by our public dialogue , and prompted the establishment of a group including NGOs to look further at industrial biotechnology.

1 [Future cities dialogue | Sciencewise](#)

2 [Genomic medicine | Sciencewise](#)

3 [National Food Strategy | Sciencewise](#)

4 [Energy 2050 Pathways | Sciencewise](#)

5 [Industrial Biotechnology: Public Perceptions | Sciencewise](#)



■ **Engaging the public on sensitive and controversial research areas:** A great strength of public dialogue is that it provides a way of engaging the public on sensitive and controversial topics. This supports policy makers and researchers to see beyond polarised debates and provides insight into the richness and nuance of public views.

■ Following a Sciencewise dialogue, the UK fertility regulator were able to move forward and allow the use of hybrid and chimera embryos in research, under the careful scrutiny of the HFEA licence committee.⁶

■ The use of animals in research is a highly sensitive topic. A consortium led Sciencewise dialogue helped shape the development of a sectoral Concordat on openness.⁷

“The dialogue has given more weight to the argument that openness is needed. It has convinced some of the more sceptical members and individuals. (Working Group member)

■ A consortium led dialogue fed into EA, EPSRC and BBSRC policy on nanotechnology.⁸

■ **Developing organisational strategies and funding priorities:** Dialogue can also help organisations to sense check the way they are prioritising publicly funded research and help them shape their organisational strategies.

■ The What Works Centre for Wellbeing used dialogue findings to help shape its future work programme.⁹

■ The Babraham Institute dialogue, supported by BBSRC¹⁰ found strong public support for fundamental research, which in turn helped shape its future science strategy.

■ The John Innes Centre (JIC) dialogue revealed the extent of public interest and support in the kinds of scientific research pursued by JIC.¹¹

“Rather than a mandate for ‘yes, you’re fine, go on’, it was more a case of “the public really do value what we value as well”. (Stakeholder, John Innes Centre dialogue evaluation)

Whether it is very early days and you are sounding out where people stand to inform stakeholder discussions or a written strategy, or whether you are ready to start developing a plan for action, dialogues have been proven to provide valuable insight which organisations have used to support them in socially relevant decision-making.

6 [Hybrid and chimera embryos for research | Sciencewise](#)

7 [Openness in Animal Research | Sciencewise](#)

8 [Nanodialogues | Sciencewise](#)

9 [What Works Centre for Wellbeing: three themes | Sciencewise](#)

10 [Babraham Institute Future Strategy | Sciencewise](#)

11 [John Innes Centre Science Strategy | Sciencewise](#)

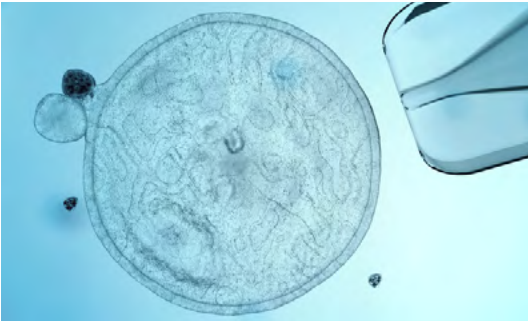


**This was an excellent
and timely opportunity
for us to listen to public
views to help in framing
our future science
strategy**

The late Prof. Michael Wakelam, Director of the Babraham Institute 2007-2020

How has Sciencewise dialogue shaped policy and research?

Policy development and research agendas that follow the grain of public aspirations and concerns about the future are more likely to be effective and to spend public money well. Sciencewise dialogues have been used flexibly, at different points in policy development.



- **Informing upstream policy development and research priorities:** Dialogue can reach the parts that other engagement approaches do not: it allows policy makers to explore the values and principles that underlie top of mind attitudes, hopes and concerns. The social, ethical and regulatory issues associated with new technologies or scientific innovation can be explored in detail, setting a direction for future travel.
 - The synthetic biology dialogue¹² helped to shape BBSRC's own approach to research funding calls, and its contribution to the consultation on Nuffield Council on Bioethics Biotechnologies.¹³
 - The RCUK, the Royal Society, and JISC supported dialogue on data¹⁴ informed policies on the development and use of open data principles.
 - A dialogue for DfT and MoD surfaced the public's views on drones.¹⁵ The DfT and MoD used this to help them design their consultation on the safe use of drones in the UK.

- **Testing specific options:** Further along in the policy process it's possible there might be particular options to explore. Dialogue can be used to understand the advantages and disadvantages of different options and to establish which are more likely to align with public priorities

- The Big Energy Shift dialogue¹⁶ led to the development of the Low Carbon Communities Challenge which invested £10 million in 22 communities to test out energy developments.
- A public dialogue on how to address food challenges fed into policy thinking within Defra, the Global Food Security programme, the Food Standards Agency and Department of Health.¹⁷
- A Defra and the Environment Agency (EA) dialogue¹⁸ informed a new national policy framework to manage water quality and water resources.¹⁹

“ The bottom line is ministers are real people and have the same concerns as a member of the public. Anything which contributes to ministers and confidence and their certainty about this is incredibly important

Interview with stakeholder involved in the dialogue development phase

12 [Synthetic biology | Sciencewise](#)

13 [Synthetic Biology Dialogue – Impacts \(May 2013\) \(ukri.org\)](#)

14 [Open data public dialogue | Sciencewise](#)

15 [Drone use in the UK | Sciencewise](#)

16 [Big energy shift | Sciencewise](#)

17 [Global Food Security | Sciencewise](#)

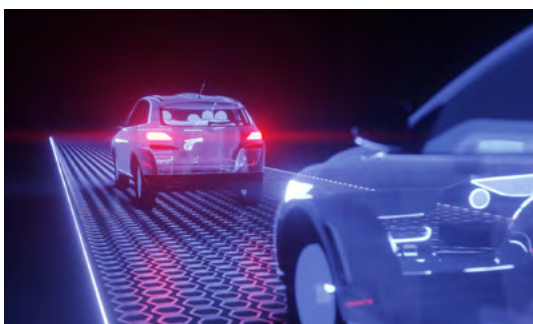
18 [Water Catchment Planning: a national pilot with public community dialogues on water quality and sustainability | Sciencewise](#)

19 [Catchment Based Approach: Improving the quality of our water environment](#)



The results of this very worthwhile exercise have provided some longstanding and telling insights that have shaped the thinking of policymakers, industry and academics.

Senior civil servant, evaluation report



■ **Development of legislation and regulations:** Further downstream, dialogues are also useful when drafting legislation and regulations. Public dialogue can give assurance to the government on legislation and regulatory frameworks on topics that have no clear economic or technical answer.

- Defra's dialogue on nanotechnologies informed its position on the European Commission Nano Transparency and REACH proposals, bringing public voice alongside those of stakeholders.²⁰
- DfT's dialogue on connected and autonomous vehicles (CAV) fed into government strategy and regulation of this new technology.²¹
- Following its dialogue on mitochondrial disease²², HFEA said it had proven to be a **"direct route for public dialogue to feed into decisions of Parliament"**.²³



■ **Development of guidance papers and advice to government:** when guidance is informed by public voice, it helps to ensure that those following the guidance take societal ethics, preferences and priorities into account. A number of different organisations and departments have used dialogue to inform and shape the guidance they provide to others.

- Our online targeting dialogue²⁴ shaped CDEI's advisory report to government²⁵, the recommendations of which have in turn shaped the Online Safety Bill.
- The Location Data dialogue report will influence the guidance on location data ethics that the Geospatial Commission intends to publish next year and help deliver the UK Geospatial Strategy.²⁶
- A dialogue on Geological Disposal Facilities provided the policy team with valuable evidence to inform policy-making.²⁷

20 [Nanotechnologies | Sciencewise](#)

21 [Connected and Automated Vehicles | Sciencewise](#)

22 [Mitochondrial replacement | Sciencewise](#)

23 [House of Commons Hansard Ministerial Statements for 27 Feb 2014 \(pt 0001\) \(parliament.uk\)](#)

24 [Online Targeting | Sciencewise](#)

25 [Online targeting: Final report and recommendations - GOV.UK \(www.gov.uk\)](#)

26 [The ethics of location data | Sciencewise](#)

27 [Geological Disposal and Working with Communities | Sciencewise](#)



■ **Advice for wider audiences:** Dialogue can be useful wherever people are making decisions on behalf of the public. The following examples used dialogue to inform their guidance for professionals:

- The Data Science Ethical framework identifies key principles for data science ethics which align with concerns and values from a Government Digital Service commissioned dialogue.²⁸
- Policy makers reported findings from a Wellbeing dialogue to ministers and to the cross-government Social Impacts Task Force.²⁹
- Through Sciencewise, the National Data Guardian provided guidance to support those making public benefit assessments on the use of citizens confidential information.³⁰

Public dialogue has been helping policy-makers shape their thinking for over a decade. They have found value in doing this work early to shape their direction of travel or later on in the process when there are options to choose between. Many have used dialogue evidence in submissions to government committees and inquiries, and to inform guidance to a range of organisations and professionals. Including the public voice gives additional credibility to the conclusions and gives decision-makers confident they are considering the public interest in their work.

28 [Data Science Ethics | Sciencewise](#)

29 [Ways to Wellbeing | Sciencewise](#)

30 [National Data Guardian - Putting Good Into Practice | Sciencewise](#)



For me the key is that this work moves the debate on and looks at some of the emerging issues.

Stakeholder quote in evaluation report

How has Sciencewise dialogue shaped delivery and implementation?

Understanding public views on the delivery and implementation of policy can help those responsible to ensure that the range of different impacts on different groups can be considered in practice. From planning ongoing conversations with the public about difficult decisions to mapping the site for a nuclear plant, dialogue provides insight into the local impacts of delivering national policy.



- A BEIS commissioned public dialogue identified attitudes towards carbon capture use and storage (CCUS).³¹ The dialogue 'principles' or 'criteria' for taking CCUS forward have shaped the research programme of the UK Industrial Decarbonisation Research and Innovation Centre (IDRIC).
- Sciencewise dialogue findings have informed the UK nuclear regulators' public engagement initiatives and Generic Design Assessment (GDA) of new nuclear reactor designs.³²

"It's an eye opener for me. When you are used to working with people from within the industry or academics, you can easily fall into the pitfalls of talking in detail." (Regulator)



- Through Sciencewise the Environment Agency (EA) identified approaches to communicating flood risk to the public, to improve understanding, response and community resilience.³³

“ We are already using [the dialogue findings] to assist in our work with community groups, in the redesign of our new flood warnings system and our flood maps

John Curtin, Director of Incident Management and Resilience, Environment Agency

31 [Carbon Capture Usage and Storage | Sciencewise](#)

32 [New Nuclear Power Stations: Improving Public Involvement in Reactor Design Assessments | Sciencewise](#)

33 [Flood Risk Communication | Sciencewise](#)

- A Sciencewise public dialogue informed the development of DECC's public engagement strategies, including local events around shale gas and oil.³⁴
“[The public dialogue] hit a gap and hit it very well in terms of informing policy” (DECC representative)
- Dialogue participants' views, ideas and concerns fed into plans and priorities for the EA's River Basin Management Plans.³⁵

In the past there have been some high profile cases where decisions have been made that then have to be un-made due to a high level of public or NGO resistance. Dialogue will not magically 'make it ok' to do something controversial, but with the right level of public engagement the risk of making a bad decision is reduced.



34 [Shale Gas and Oil Developments Public Engagement Policy | Sciencewise](#)

35 [Significant Water Management Issues: engaging the public on the big issues affecting the water environment | Sciencewise](#)





We want the UK to become a world-leader in CCUS and studies like this will ensure public views will be one of the key influences in our decision-making on this, ensuring communities benefit from this exciting technology and the jobs that can be created as it's developed.

Anne-Marie Trevelyan, Minister for Energy and Climate Change in 2021

How has Sciencewise dialogue had wider impact?

There are a wealth of examples where Sciencewise dialogues have directly or indirectly influenced research, science and technology decisions in the UK.

These examples demonstrate that this diverse programmes is having wider impacts:



- Identify strategic direction for research and innovation, aligned with public priorities (**social relevance**)
- Help decision makers **navigate risks and uncertainty** – e.g. caused by the application of new technologies, scientific innovations in society – by surfacing **governance models and key principles** thus giving confidence to decision makers.
- Advise on how to **communicate** complex issues to the public (**narrative and messaging creation**)

In addition, as a programme, Sciencewise is delivering further benefits including:

- Ensures the **public voice** heard in policy, priorities, plans, **addressing power asymmetry in decision-making**.
- Ensure decisions are sensitive to diverse perspectives and needs (**inclusive and open policy making**)
- **Culture of policy-making:** there is increased appetite for the use of Sciencewise among UKRI and our stakeholders





Inclusive and open decision-making

One of the key impacts of public dialogue is exposure to diverse viewpoints that are not often heard. Many stakeholders reflect that they had underestimated the ability of the public to engage with complex issues, while others underestimated public interest in their work. Dialogue demonstrates the public have a clear appetite to learn more about science and technology and an enthusiasm for participating in discussion.

In turn, this process can highlight new perspectives which would not otherwise have been heard, bringing true diversity to decision-making.

Sometimes the value of hearing these diverse views can be significant. For example, the government potentially saved millions by not running a Ways to Wellbeing campaign that would not have resonated with its target audience and instead was able to target its funding elsewhere.

“ Sciencewise definitely helped the Authority come to a robust decision as it gave in-depth knowledge of public opinion and the reasoning behind it. With questionnaires you don’t get the rationale behind it³⁶”

Policy maker interviewee (Dialogue on hybrid and chimera embryos for research)



Culture of policy making

A further impact of public dialogue is that, despite the fairly significant investment of time and money it requires, many commissioners don’t stop at one.³⁸ Being involved with a dialogue often leaves people with the motivation and desire to do more. Sciencewise provides support as well as funding, ensuring that dialogues build capacity in the teams we work with, embedding dialogue as a way of working.

Finally, we see an appetite for dialogue move from team to team as individuals move on, or as word spreads. For example, our successful dialogue on Connected Autonomous Vehicles, which led to legislative change, has in turn led on to a dialogue on the regulation of Drones. Equally, people involved in the dialogue on Carbon Capture and Storage have more recently commissioned a dialogue on the role of Biomass in our energy mix.

36 Hybrid and chimera embryos for research | Sciencewise

37 Quoted in Warburton, D. (2011) Evaluation of Sciencewise-ERC. Harwell: [Sciencewise-ERC. SWise EvalReport Draft18 FINAL \(sciencewise.org.uk\)](https://sciencewise.org.uk)

38 <https://sciencewise.org.uk/2022/02/telling-the-story-of-a-genomics-dialogue/>



It saves you a lot of difficulty further down the line if you do public dialogue early on³⁷

Policy maker quoted in evaluation report

Appendix – methodology note

This report has been produced based on the data included on the Sciencewise website. A spreadsheet was compiled which outlined every dialogue conducted, the theme and main impact as identified on the webpage. Based on this information, the impacts were grouped thematically to aid reporting.

Once the basic structure of the report and key impacts were agreed, further work was done to find evidence of impact within the evaluation reports and case studies also published on the Sciencewise website.

Finally, Sciencewise has recently changed its approach to evaluation – allowing longer between the end of the dialogue and the evaluation close, in order to better understand the impacts. Therefore, the recent evaluation reports were used to identify key policy papers and guidance which made explicit reference to the dialogue and links were added to the report.

By its nature, this approach was limited to compiling what is already known about the impact of dialogue. Future work could include a more robust contribution analysis, rather than relying on stakeholder feedback. Nonetheless, the weight of qualitative evidence included in this report, and the fact that people who have commissioned dialogue often become repeat customers, gives us confidence that the dialogue approach is valued and is having a real impact on science and technology in the UK.

About UKRI Sciencewise

- The report is commissioned by Sciencewise, a UKRI funded public dialogue programme that supports government departments and other public bodies to listen to and act on diverse voices, to shape science and technology innovation policy and priorities. Important benefits of the programme include:
 - Helping decision makers to formulate policy with a deeper understanding of public views, concerns and aspirations;
 - Supporting high quality, best practice public dialogue; and
 - Bringing credibility and independence to public sector-led public dialogue projects.
- Further information on the Sciencewise programme including impact case studies can be found at the following link: <https://sciencewise.org.uk/>
- To get in touch please contact: simonburall@sciencewise.org.uk and graham.bukowski@ukri.org





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