



Sciencewise - Interim Evaluation 2012

March 2013



CONTENTS

Executive Summary

1. Introduction

2. Influence on Government policy and policy making

- 2.1 Influence on policy decisions and plans
- 2.2 Improved policy and decision making
- 2.3 Provided new insights and perspectives
- 2.4 Influence on policy and decisions making systems to use more public dialogue
- 2.5 Dialogue results disseminated widely to policy and decision makers
- 2.6 Value for money
- 2.7 Unanticipated results

3. Quantity and quality of public dialogue projects

- 3.1 Sciencewise impact on the development of new public dialogue projects
- 3.2 Sciencewise impact on the quality of dialogue projects

4. Willingness and ability of public bodies to undertake public dialogue

- 4.1 Learning from doing
- 4.2 Understanding the place and value of public dialogue
- 4.3 Drivers and barriers to more public dialogue
- 4.4 Embedding public dialogue into policy making

5. Awareness and understanding of public dialogue by public policy bodies and other stakeholders

- 5.1 Current awareness and understanding of public dialogue
- 5.2 Building awareness and understanding in future

6. Recognition of the value of Sciencewise from key stakeholders

- 6.1 Sciencewise reputation
- 6.2 Awareness and understanding of Sciencewise
- 6.3 The value of Sciencewise materials

7. Conclusions

- 7.1 Focus on impacts
- 7.2 The practice of dialogue
- 7.3 Sciencewise role and profile
- 7.4 Overall conclusions

Annex A. Evaluation Methodology

Annex B. Brief summary of Sciencewise activities in 2012

Executive Summary

This Summary identifies the main findings from an interim evaluation of the Sciencewise programme in 2012. As the new Sciencewise programme had only been operational for about six months at the time of the evaluation research in November 2012, it has focused largely on the 10 projects completed since the previous evaluation in 2010, and on the support work undertaken by Sciencewise to help develop and deliver those projects. Evaluation research included 57 new interviews, documentary reviews, and two surveys across Government. The findings are structured here around the five success criteria agreed with the Sciencewise Steering Group in July 2012.

- **Influence of public dialogue on Government policy and policy-making.** Evidence shows that public dialogue projects completed with Sciencewise support: influenced policy decisions and plans (e.g. feeding into new policy directions and into wider plans); improved policy and decision-making (e.g. improving the feasibility of policy by providing better risk and conflict management, credibility and accountability, and more socially informed policy); helped policy makers gain new perspectives and insights from the public participants (e.g. around specific topics and on the value of public dialogue); and influenced policy and decision making systems to include more public dialogue in future. In addition, dialogue results were often widely disseminated to policy and decision makers. Unexpected outcomes included reduced conflict between stakeholders, and new local initiatives being established.

Evidence also shows that public dialogue projects were considered value for money: all interviewees with a view said the public dialogue projects they were involved in represented money well spent. In addition, there is evidence that some projects led to saving money by avoiding policies that could not be implemented or would not work and led to the development of less costly approaches to public dialogue. Feedback also stressed that the costs of public dialogue were relatively small compared to the policy and research programmes to which they related.

- **Increased quantity and quality of public dialogue projects.** Sciencewise is one partner among the many organisations and individuals involved in public dialogue projects. However, evidence from interviewees indicates that very few of the public dialogue projects supported by Sciencewise would have gone ahead at all without Sciencewise support, and none would have gone ahead in the same way.

The sometimes extended timescales for setting up new projects remained a challenge but, compared to the 10 completed projects in the two years since the last evaluation in 2010, in the six months since April 2012 11 new projects were in progress and/or had been approved for funding, plus a pipeline of 29 further projects had been developed. Projects continued to be run at many different points in the policy process including very upstream in the development of the science, close to application, testing an approach to implementation and focusing on governance and regulation of existing technologies. Projects have also varied significantly in approach, scale, cost, topic and geographical focus (from national to community level).

Interviewees took the view that Sciencewise support and advice were at least as valuable as funding to the quality of dialogue projects. Every interviewee involved in a project agreed that Sciencewise advice had improved the quality of their project, largely through the one-to-one advice provided by the Sciencewise Dialogue and Engagement Specialist (DES), the Projects Manager and the Evaluation Manager. All these interviewees said they would work with Sciencewise again and would recommend the programme to colleagues. Factors affecting judgements of the quality of dialogue projects included clear links to policy; appropriate scale, representation and recruitment (mix and numbers of participants); effective stakeholder engagement; and practical design and methodological issues (e.g. information provision and follow-up with all participants).

- **Increased willingness and ability of public policy bodies to undertake public dialogue.** Evidence shows that those involved in running dialogue projects with Sciencewise support had learnt a great deal about dialogue; the Sciencewise capacity building approach to support by working closely alongside project managers and providing detailed advice and guidance whenever needed was highly valued. Data showed that the impact of projects on learning was often seen by those in public bodies as being as important as impacts on policy. This learning

through experience had enabled people in public bodies to better understand the place and value of public dialogue as well as building skills and knowledge. There remained challenges in relation to the extent to which public bodies had incorporated public dialogue into their main policy making processes.

Survey results identified the main drivers for more public dialogue as being for it to help provide new perspectives, increase transparency and avoid unforeseen conflict. Less but still important were adding robustness and credibility to policy making, adding to the evidence base and avoiding costly mistakes. The main barriers identified were the representativeness of participants, the inability and/or unwillingness of public participants to engage meaningfully, the credibility of the dialogue results and - to some extent - costs. Interviewees on the other hand, who had been involved in dialogue projects themselves, identified costs as a key barrier, alongside lack of time and skills among staff, the case for dialogue not having been made with senior staff, and similar issues to those raised by survey respondents about the credibility of the process (such as representativeness).

Feedback on projects that had started to be developed but were not implemented identified three specific barriers: timing (both changing circumstances and long development times); lack of internal senior support; and procurement problems.

- **Increased awareness and understanding of public dialogue by public bodies and other stakeholders.** Survey results show that in some parts of Government there is little knowledge of public dialogue: 81% of survey respondents said they knew little or nothing about public dialogue and nearly 60% said they felt there was little or no knowledge of public dialogue in Government. Those who had been involved directly in public dialogue projects, by contrast, often had a deep understanding of the place and value of public dialogue, although there remained some basic lack of clarity about the concept of public dialogue even there.
- **Increased recognition of the value of Sciencewise from key stakeholders.** Evidence from interviews suggests that Sciencewise had a good reputation among those who had worked with the programme, but a very low profile. Support and advice on projects were highly valued, and those who knew about Sciencewise materials were positive about the quality (65% of survey respondents said these were good or excellent). However, less than half of those interviewed had heard of Sciencewise before their involvement with a project and even some who had been involved remained unclear about the Sciencewise role and remit. Levels of understanding of Sciencewise appear to have been affected by the way Sciencewise has worked in supporting the commissioning body rather than as an explicit partner in projects, so the main Sciencewise input was often behind the scenes. More generally, survey results show that 81% of respondents had never heard of Sciencewise before, and nearly 70% said Sciencewise was not well known in Government.

Conclusions

The research for this evaluation was completed only nine months after the new Sciencewise programme was launched in 2012, with much of the research undertaken two to three months earlier than that. It did not therefore attempt to assess the new activities of the programme developed since April 2012. However, this summary and the full evaluation report identify the main impacts resulting from the Sciencewise programme to date, demonstrating significant achievement in relation to the support and development of new public dialogue projects, and a good reputation. Areas where further development and new priorities would be valuable have also been identified. In particular:

- **Focus on impacts.** The emphasis in Sciencewise support for public dialogue projects has often been on developing new projects and improving the dialogue process rather than maximising the impacts of projects. While the programme can only continue if there is a continuing stream of new and different public dialogue projects, more emphasis is also needed on making the best use of the results and learning from the projects that have been completed.

The evaluation has identified some good practice but, in order to maximise the impacts of projects, also the need to: understand the importance of learning as an impact of working on dialogue projects, and use and build more on the learning from past dialogue projects; ensure that dialogue results are recognised, disseminated more widely and used wherever relevant; and find new ways to identify and report the impacts of public dialogue in meaningful and realistic ways.

- **The practice of dialogue.** The design, delivery and evaluation of public dialogue projects has been working well, and good practice has continued to be developed. However, issues identified which would benefit from significantly more effort include the need to develop and complete more new public dialogue projects, and to clarify and share good practice on: the scale of projects and the number, representativeness and recruitment of public participants required to produce credible results; early and effective stakeholder engagement; and follow-up information to all those involved in projects on results and impacts. These factors have affected the quality and credibility of dialogue projects, and therefore the influence they were able to achieve.
- **Sciencewise role and profile.** Sciencewise has a good reputation, especially for its support on projects and its materials, but a very low profile. Public dialogue is not well known across Government and not widely understood. A higher profile for Sciencewise and public dialogue would enable the programme to work more effectively towards its objective.

Overall, this evaluation has found good evidence that the Sciencewise programme is making progress towards its stated objective. However, there is also evidence that there are areas of work that will require further attention if progress is to be maintained in the coming months, and to meet the high expectations from those already close to the programme and wider external stakeholders.

1. Introduction

The Sciencewise Expert Resource Centre for Public Dialogue in Science and Innovation (Sciencewise)¹ is funded by the Science and Society team of the Department for Business, Innovation and Skills (BIS). Sciencewise aims to improve policy making involving science and technology across Government by increasing the effectiveness with which public dialogue is used, and encouraging its wider use where appropriate. It helps policy-makers commission and use public dialogue to inform policy decisions in emerging areas of science and technology. Sciencewise provides co-funding to Government departments and agencies to develop and commission public dialogue activities.

Sciencewise evaluates all its activities: all the public dialogue projects it supports and co-funds, and other activities by the Sciencewise programme more generally. The focus for Sciencewise evaluation has been to test the effectiveness and impacts of the programme in meeting its overall objective, which is:

To improve policy making involving science and technology across Government by increasing the effectiveness with which public dialogue is used, and encouraging its wider use where appropriate.

The evaluation was designed to help improve the effectiveness of future practice and policy around public dialogue, to demonstrate the value of public dialogue to encourage wider use, to increase the transparency and accountability of Sciencewise, and to improve the effectiveness and impacts of the programme in meeting its overall objective, by measuring progress against agreed metrics of success.

This interim report provides the first annual review of programme progress towards the Sciencewise objective since the re-launch of the programme in April 2012. As many of the new activities of the new programme had only just begun at the time of the evaluation research (undertaken between October and December 2012), these findings focus largely on the effectiveness and impacts of the 10 public dialogue projects completed between July 2010 and November 2012; earlier public dialogue projects were covered in the previous evaluation report. A brief summary of Sciencewise activities since April 2012 is given in Annex B. The evaluation analysis, and this report, have been structured around the five success criteria and metrics agreed by the Sciencewise Steering Group in July 2012. These were, in summary:

- Positive influence of public dialogue on Government policy and policy making
- Increased quantity and quality of public dialogue projects
- Increased willingness and ability of public policy bodies to undertake public dialogue (embedding)
- Increased awareness and understanding of public dialogue by public policy bodies and other stakeholders
- Increased recognition of the value of Sciencewise from key stakeholders.

Evaluation research included 57 new interviews in October and November 2012; two online surveys which gained 26 responses from those on the Sciencewise mailing list and 54 from the survey of the Government Science and Engineering (GSE) network; reviews of dialogue project evaluations; and full analysis (see Annex A for more details on the evaluation methodology).

This interim report has been designed to support internal Sciencewise programme discussions on strategy and priorities for the coming year. A background Sciencewise Dialogue Projects Impacts Summary gives details on the activities, costs and impacts of each of the 10 public dialogue project that had been co-funded by Sciencewise and was completed by November 2012.

¹ For more information see: <http://www.sciencewise-erc.org.uk>

2. Influence on Government policy and policy making

Evaluation findings show that the public dialogue projects co-funded by Sciencewise have influenced public policy decisions and plans, improved policy and decision making, helped policy makers gain new perspectives and insights, influenced policy and decision making systems to use more public dialogue, that dialogue results have been disseminated widely to policy and decision makers, dialogue has represented value for money, and that dialogue has resulted in some positive unanticipated impacts, as shown below.

The 10 Sciencewise funded public dialogue projects reviewed have varied significantly in approach, scale, cost, topic and geographical focus (from national to community level). They have also worked at a range of different points in the policy process, including:

- very upstream in the development of the science (e.g. Synthetic Biology)
- close to application (e.g. Animals Containing Human Material)
- testing an approach to implementation (e.g. Low Carbon Communities Challenge)
- focusing on the governance and regulation of existing technologies (e.g. Open Data).

Projects have also focused on entirely new policy areas (e.g. Synthetic Biology) but also at many different stages of policy thinking as policy thinking and planning develops incrementally, such as when policy is being adapted, or policy is reviewed to test its fitness for purpose.

The analysis in this section is based on a review of individual project evaluation reports (completed on every funded public dialogue project), and the new interviews carried out for this evaluation. A full summary of the analysis, project by project, of the activities and impacts of the 10 projects completed since the last Sciencewise evaluation report, is given in the separate Sciencewise Dialogue Projects Impacts Summary 2012.

2.1 Influence on policy decisions and plans

Evaluation evidence includes examples of the influence of the dialogue projects reviewed on specific policy decisions and plans. While dialogue was rarely the primary influence in policy decisions, nevertheless it had effect. Examples include:

- **Gave policy makers confidence to pursue new policy directions.** For example, the Low Carbon Communities Challenge supported and gave confidence to a developing policy movement around community based energy strategies, such as the forthcoming DECC Community Energy Strategy, the Local Energy Assessment Fund (LEAF) and the increased role of communities in the Green Deal.

"In terms of light bulb moments where policy radically changed I would struggle to say yes. But shaping policy so that policy makers consider communities as part of the process then definitely yes." (project manager 48)

- **Influenced regulation.** For example, public views were fed through into the adoption in the UK of the EU Directive on experimentation on Animals in Research, and into the development of a new national body to advise on its implementation (ACHM).

- **Results were incorporated into wider plans.** For example, public dialogue results fed into:

- the development of the Living Wales Green Paper on the ecosystem approach to resource management, and dialogue results were highlighted in Highland Council's climate change adaptation plan (Ecosystems):

"I think the Highland Council is the best example. It's fed into their climate change adaptation plan and into local plans: the features and issues or concerns raised by the community were put into the document and highlighted, so the dialogue outputs went directly into the document." (project manager 8)

- the foundations for the development of the sector as spelt out in the Synthetic Biology Roadmap for the UK, published by the Technology Strategy Board (TSB) in July 2012, including that the sector should be of clear public benefit, followed in November 2012 by the announcement of £20 million government funding for research in the field (Synthetic Biology)

- the 2012 UN Convention on Biological Diversity (CBD), which is the Government's framework for reviewing geoengineering (Geoengineering)
- BBSRC discussions with the Technology Strategy Board on the ethical, social and regulatory elements of the TSB commercialisation of research findings competition on synthetic biology and the TSB Response to Innovation framework (Synthetic Biology)
- Research Councils UK's open data policy, and specific plans by Glaxo Smith Kline (which was represented on the project oversight group) to include the public in a new panel advising them on their new policy to make raw data available to researchers (Open Data)

2.2 Improved policy and decision making

'Better' policy and decision making has been defined as greater feasibility in implementation linked to better outcomes and lower costs, and acceptance by policy targets².

There is evidence from policy maker interviewees of the positive impacts of the public dialogue projects reviewed on the quality of policy and decision making by enabling more effective risk management; achieving more socially informed and robust decision making; improving credibility, accountability and clarity; and resulting in greater confidence in decision making (see below).

For some policy makers the impact of dialogue was to widen the evidence base (to include public as well as stakeholder views, for example); other impacts included the inherent importance of consulting the public on the decisions that affect them, and the increased accountability achieved by that. Some saw public dialogue as simply broadly improving the quality of policy:

"[Public dialogue is] very important to improve the quality of policy and increase the validity of proposals. ... some issues are difficult, knotty and stuck, and you can't just impose policy around them but need to move with the debate." (policy stakeholder 6)

- **More effective risk management.** Issues of risk management raised by interviewees included avoiding unintended consequences and reduced vulnerability to criticisms from interest groups because of public as well as scientific input. Comments included:

"[The organisation] wanted evidence. So they were also managing risk because there was going to be conflict." (project manager 33)

"Someone tried to have a judicial review over the licensing agreement but it failed – the issue had been so thoroughly researched but not sure it was the public dialogue or legal advice that carried most weight. It would have assisted in the decision of the High Court to say no. You are forearmed because you have done this work. ... For this project we got the greatest reassurance that we had done it in the best possible way ... Knowing you had gathered evidence that you could trust and be able to make decisions confidently." (project manager 33)

"We didn't get a big backlash from religious organisations etc. I think it was hard for them to argue against what the report said because the recommendations and conclusions were based on the input of the public and scientists." (project manager 27)

"It did have a public profile and wide coverage, especially on the radio, which was quite interesting. I don't think there would have been a discussion about synthetic biology in that calm and mature way without the dialogue. The press didn't try to get people to take sides; it was more reflective than that. It was great, and you could see the beginnings of a debate without hysteria and with balanced reflection. That's needed in these areas of science." (policy stakeholder 25)

"In formulating the carbon plan we focused not just on the least cost pathway but also on public acceptability ... it certainly informed the way we thought about the work and the reasoning around it ... it forced us to think about a dimension that just doesn't get talked about normally in our work" (policy stakeholder 6)

² HM Government (2012) *Open Data White Paper. Unleashing the Potential*. Cm 8353, June 2012; HM Government (2012) *The Civil Service Reform Plan*. June 2012; Hallsworth, M. and Rutter, J. (2011) *Making Policy Better. Improving Whitehall's Core Business*. Institute for Government, April 2011.

"If you are talking about dialogue it is less evidence base, more to do with understanding the risks to particular policy initiatives." (policy stakeholder 36)

- **More socially informed and robust decision making as a result of a wider and stronger evidence base.** Comments included:

"I think [public dialogue is] incredibly important. It's about having evidence-based policy. It doesn't make sense to make policy without knowing what people think." (project manager 13)

"The dialogue process allows different perspectives to come in. For government also risk management as well involved. If people disagree it is a good way to say we have taken into account public opinion. ... It was very useful when we were questioned by sceptics about why the research was licensed and we could refer back – robust evidence base – and say these are the findings. We had followed a robust process and this couldn't be questioned." (policy stakeholder 34)

"I think it really underscored the importance of societal and environmental and ethical impacts of synthetic biology for us, in our work and across other scientific centres, and the need to take these things into consideration: e.g. at worst have the least possible environmental impact and at best provide some environmental benefits." (policy stakeholder 21)

"There is work now on developing a community strategy which will take into account learning from [the project] ... Will decisions be better for having done the dialogue? Yes definitely." (project manager 10)

"As far as I know there was no evidence base at all on how people react to this topic, so it filled a gap." (policy stakeholder 29)

- **Improved credibility, accountability (including for public funding) and clarity.** Comments included:

"[Dialogue is] Extremely important. It helps make better decisions, it helps government policy reflect public values and helps make trustworthy decisions and in itself it is a good thing." (project manager 32)

"[Most valuable achievement was] An awareness that the science needs public approval. An awareness that science has a policy context and policy is in the context of a population, and a population is made up of individuals with views. So, in short, giving the context to the science in a policy field." (policy stakeholder 9)

"It's referred to yes, and is part of the body of literature and information to build on. And it helps credibility." (policy stakeholder 9)

- **Greater confidence in decision making.** Comments included:

"You have the reassurance and confidence that you are making policy decisions, especially in controversial areas of science, that are based on all streams of evidence." (project manager 33)

"Scientists have been doing it for decades but the techniques are now getting more sophisticated and the dialogue was had at the right time. It meant progress was not hindered ... we were able to have more confidence in our recommendations ... because of the dialogue scientists are confident to progress with the research, hopefully leading to new treatments and cost saving. (project manager 27)

"It made our conclusions very much stronger. ... I would say it improves the robustness and clarity of the conclusions and the confidence with which they could be defended in a public arena is greatly enhanced. ... It gave us for the first time an insight into how people from ordinary walks of life will react to this kind of science, which is becoming increasingly important in our society." (policy stakeholder 2)

2.3 Provided new perspectives and insights

The dialogue projects reviewed had provided a range of new perspectives and insights on policy issues that policy makers often felt could not have been gained in other ways. Comments included:

"The [dialogue] findings were really informative and a good barometer of public opinion in this area. Easy to base policies on internal discussion but this was a valuable opportunity to gauge public views on this issue." (policy stakeholder 37b)

"[Would recommend public dialogue] Without a question because you learn things that you wouldn't otherwise think. It's the classic 'we need to think outside the box' and we live inside the box in organisations. Public dialogue can be very challenging and it enables you to think outside the box." (policy stakeholder 35)

"It's risk management in terms of investment in science programmes. Also it's finding something you might not have thought about that will give you a different perspective." (policy stakeholder 38)

The dialogue projects reviewed had 'surprised', 'challenged' and prompted policy makers to think differently about their work, as well as having provided valuable insights into public attitudes and values on science and scientists, on specific policy areas and on the value of public dialogue.

- **Insights on specific policy issues.** Broad public values around scientific and technological developments have increasingly been identified and shared through reviews of the findings of a range of dialogue projects³. However, the public dialogue projects reviewed had created specific insights related to specific policy issues. For example, interviewees identified the following:
 - that 'natural' carbon reduction techniques such as afforestation were preferred to solar radiation management techniques such as space mirrors (Geoengineering)
 - challenges to the 'moral hazard' argument that geoengineering would undermine popular support for climate change adaptation or mitigation (Geoengineering)
 - a focus on governance and robust regulation to ensure data provision was in the public interest (e.g. Open Data)
 - a more open public response to new developments in research techniques than expected (e.g. Animals Containing Human Material - ACHM)
 - where the boundaries of public acceptability of new research areas lay (e.g. ACHM)
 - where public concerns were on low carbon energy pathways (e.g. DECC 2050)
 - which approaches would or would not work in policy implementation around behaviour change (e.g. Wellbeing)
 - challenges to the expectation that scientific evidence was necessarily the most compelling factor in behaviour change (e.g. Wellbeing)
 - the greater potential for communities to effect change locally, and for government to engage with communities as deliverers of national policy priorities (e.g. LCCC).
- **Insights into public perceptions of science and scientists.** Dialogue projects enabled policy makers and others to consider more fully both the practical and ethical dimensions of scientific activity and development. The lack of public understanding but real interest in science surprised some. For example:

"They [the organisations involved] went in completely unaware of how the public viewed their work. They were particularly surprised at how little the public knew about what drove scientists and what went on in science. We used a video diary thing where experts or scientists recorded chunks of their day. The results were amazing: the public were surprised that scientists were ordinary people and the scientists were amazed at the public response to what they saw. I think it had a permanent effect; now some organisations have public panels and involve the public more." (policy stakeholder 25)

³ Doubleday, R. and Teubner, R. (2012) *Public Dialogue Review. Lessons from public dialogues commissioned by the RCUK*. Research Councils UK; Centre for Science and Policy, University of Cambridge. Involve and funded by Sciencewise. And Start, D. (2010) *Ethical Dimensions of Sciencewise: A review of public perceptions of ethical issues from Sciencewise dialogues*. Commissioned by BIS Science and Trust Group.

Public participants also raised issues about the motivations and ethics of scientists. In the Synthetic Biology dialogue, they raised five questions which summarised their concerns: about the purpose of the research, why scientists wished to undertake it, what they would gain from it, what else it would do, and how they knew they were right. This focus on the scientists' motivations for the research, and reflections on its potential implications, contributed to the developing concept of 'responsible innovation' by BBSRC and EPSRC.

- **Insights on the value of the input from the public.** Policy maker interviewees frequently reported being impressed by the maturity and high standard of the public discussions and debate, as well as the public's ability to understand and engage with complex technical issues. For example:

"The public can get their heads round very complex things, and we underestimate them at our peril." (policy stakeholder 39)

"Don't underestimate people's ability. If you are struggling to communicate it's probably your language rather than their understanding." (project manager 8)

"It was a nuanced and intelligent discussion of the topic even though at first impression it was a difficult one. This was the most impressive aspect of it, and an indicator that it can happen with other topics." (policy stakeholder 37)

"It has been presenting something that looks complex to a group of people from all different walks of life and for them all to find some interest in it. They got it straight away." (policy stakeholder 45)

"I remember the first thing that struck me was that it taught us to trust them to understand very complex issues and, in that structured environment, to make sensible and often constructive comments." (policy stakeholder 43)

"The public is always more sophisticated than expected and policy makers often give them not enough credit." (policy stakeholder 29)

Policy makers valued the insights into broader public attitudes and values as much as specific views on specific technologies, and were surprised at the extent to which the public participants were genuinely interested in learning about how science is done, and who does it, as well as about the issues the dialogue was informing. They also found that participants came without expected preconceptions, or strong views 'for' or 'against' a specific technology, and that they exhibited a nuanced, balanced and sophisticated response to scientific and technological developments, rather than blanket acceptance or negativity.

2.4 Influence on policy and decision making systems to use more public dialogue

Dialogue projects had influenced the ways in which policies and decisions were being developed to include greater emphasis on public dialogue, especially to consider social and ethical issues (embedding public dialogue). For example:

- BBSRC reviewed its grant applications procedures so that scientists now have to formally consider social and ethical issues (Synthetic Biology)

"We have reviewed the process for social and ethical evaluation of grant applications. Previously we just had a tick box, but now we ask people applying for grants to carefully consider the range of social and ethical issues. ... A lot has been a lot easier because of it, for example our review of social and ethical monitoring on grants would have been harder to justify without it." (project manager 19)

- a permanent public dialogue element was included in the European programme ERASynBio, running from January 2012 with significant funding to co-ordinate national research programmes on the topic (Synthetic Biology)
- the Academy of Medical Sciences had developed a strategic objective about encouraging public dialogue on medical science (ACHM and the earlier Drugsfutures project)
- NERC expected that dialogue would be included more often in research grant proposals, which also needed to consider public support and being open and transparent (Geoengineering)

- the ESRC had appointed a member of the public to help with grant assessment on healthcare issues (LWEC)
- public values were incorporated into the £1.7 million project to develop a framework for the Integrated Assessment of Geoengineering Proposals - IAGP (Geoengineering)
- the Synthetic Biology Roadmap for the UK proposed that future development should include facilitating increased levels of interaction between the research community and other stakeholders including the public (Synthetic Biology).

2.5 Dialogue results disseminated widely to policy and decision makers

As well as using the dialogue results within the specific policy development process that was the focus of the project, the dialogue results were often disseminated beyond those working on the project, both internally within public bodies and more widely. For example:

- dialogue results were disseminated to wider stakeholders within the Department of Health and Cabinet Office working on the topic (Wellbeing)
- BBSRC distributed hard copies of the dialogue report to over 200 stakeholders including policy makers, academia and non-governmental organisations (NGOs), and a letter to the Government Chief Scientific Adviser to follow up on specific issues raised by the dialogue on regulation beyond the remit of the Research Councils (Synthetic Biology)
- a Parliamentary Select Committee in December 2010 focused on the dialogue and it was also acknowledged in the Government response to the House of Commons Science and Technology Committee on bioengineering (Synthetic Biology)
- dialogue results went to the Government Administrative Data Taskforce, the BIS transparency task force, the Research Sector Transparency Board and Wellcome (Open Data)
- results went to policy makers writing the relevant White Paper; and to external stakeholders (e.g. Adaptation Scotland) who then ran a similar process in more localities (Ecosystems).

Dialogue results had also been extensively cited in subsequent relevant documents e.g. the NERC Scoping Study on gaps and opportunities for research on climate remediation and the resulting theme action plan on Counteracting Climate Change through Carbon Removal (Geoengineering).

2.6 Value for money

As dialogue was never the only influence on policy making, there was no hard evidence of the financial impacts of the public dialogue projects reviewed on the current and future costs of policy implementation.

However, interviewees frequently commented that they thought that dialogue projects had represented 'money well spent', even if seemingly 'expensive'. For example:

"I think [public dialogue is] incredibly important ... It can save money too – the amount of money that must get wasted on backtracking on policies where there wasn't public support." (project manager 13)

"Given it is all about the economy at the moment I would think that's a strong driver – saving money on policies that are then not supported." (project manager 13)

"My view is that it is all the more important when there is a limited pot of money as you need to make sure you are spending it wisely. Public dialogue is part of the toolkit that can improve the usefulness of outcomes." (project manager 19)

"It was worth the money, as it developed an insight into what could work in terms of an approach to public wellbeing." (project manager 23)

"Its difficult to feel that you can reflect as a strategic body on these issues without having made strenuous efforts to engage – so it was worth spending money on it." (policy stakeholder 36)

There were also several specific examples where the dialogue projects were reported as having led to money being saved, including:

- **Saving money by avoiding policy that could not be implemented.** Policy that is proposed and/or implemented without public support may create a backlash that may make it impossible to implement the policy direction, or make it very expensive to do so. Several interviewees mentioned that a dialogue enabled them to avoid a 'GM situation', including by proposing a more proactive and cautious approach to regulation (Synthetic Biology).
- **Saving money by avoiding a policy that may not work.** The Wellbeing dialogue was influential in the decision not to proceed with a social marketing campaign being developed by a public mental health team in the Department of Health, potentially saving significant funds. An earlier national social marketing campaign by Department of Health cost £10 million in one year to encourage healthier lifestyles; the Wellbeing public dialogue project cost £264,000.

Some interviewees reflected on the value for money of the dialogue project, and their ability to dialogue more cheaply in future as a result of having learned from this experience. One specific example of this was the way one dialogue project fed directly into the development of a pack by Scottish Natural Heritage that could be used by local communities to run their own dialogues, with just some minimal support being offered, rather than all dialogue activities being run by a central body (Ecosystems). Others found similar benefits from their initial experience of dialogue:

"It was a pioneering piece of work and it would be more cost effective if you did it again based on the learning from the first one. It worked, and it gave a body of real concrete activity we can look at and if we need to do public dialogue again we have ideas of the best way to do it." (policy stakeholder 25)

Several interviewees commented that the costs of public dialogue projects were relatively small sums in relation to the scale of research grants and the costs of national policy programmes. For example:

"There is no doubt about the value of it, and if you compare it with any other spend on science that has led to uncertain outcomes, this has led into other things and has been cited and will continue to be and you can't put a dollar sign on that." (policy stakeholder 9)

"I think it was [money] very well spent – remarkably cheap compared to other things." (policy stakeholder 41)

Some examples of comparisons between the costs of specific public dialogue projects and the fields in which they operate include:

- The Open Data dialogue was influential in enabling progress to be made on access to data. One estimate of the value of Big Data to Europe's public sector administration is Euros 250 billion per year⁴; the Open Data public dialogue cost £59,000.
- The global synthetic biology market was estimated to grow from \$1.6 billion in 2011 to \$10.8 billion in 2016⁵; the Synthetic Biology public dialogue cost £234,000.
- The Geoengineering dialogue results fed directly into an EPSRC sandpit workshop developing proposals for future research funding, resulting in the inclusion of discussion on moral and ethical issues, leading to two new research projects valued at £3.3 million; the public dialogue cost £182,000.

Not all projects reviewed were received so positively in terms of value for money. Even those that had not had large budgets were not seen as value for money if they did not influence policy or other decisions. Others felt that resources were not always allocated to the most important priorities, with more resources for the widest possible dissemination of results being seen as particularly lacking. Comments included:

"[Dialogue projects] can be useful, but looking at this one event, although it didn't cost a lot of money, I'm not sure it was good value as it didn't influence the ends." (policy stakeholder 50)

"The money was spent well doing good things. But you need to make sure you are putting enough resource behind the dissemination – that's the lesson." (policy stakeholder 39)

⁴ McKinsey Global Institute (2011) *Big data: The next frontier for innovation, competition, and productivity*. McKinsey & Company, June 2011

⁵ Technology Strategy Board (2012) *A synthetic biology roadmap for the UK*. The UK Synthetic Biology Roadmap Co-ordination Group, July 2012.

2.7 Unanticipated impacts

Dialogue projects sometimes led to unanticipated positive impacts. Examples included the project that built bridges between authorities and a group with a history of confrontation, and became recognised by those involved as a way of resolving conflict elsewhere in the region.

"We had a group who had been traditionally confrontational with the council and this definitely built bridges." (project manager 8)

The project also resulted in initiatives that continued after the project finished e.g. two active climate change groups had started in Scotland and were still going with very little support (Ecosystems).

3. Quantity and quality of public dialogue projects

This metric was identified to explore the extent to which Sciencewise work was leading to more and better public dialogue activity. Increased dialogue activity is an objective in itself for Sciencewise, as well as being seen to improve policy. Overall, the evaluation findings show that more new public dialogue projects had been supported by Sciencewise, and that Sciencewise has improved the quality of those public dialogue projects in which it has been involved.

3.1 Sciencewise impact on the development of new public dialogue projects

Sciencewise was one partner among the many organisations and individuals involved in public dialogue projects. However, evidence from interviewees indicates that very few of the public dialogue projects supported by Sciencewise would have gone ahead at all without Sciencewise support, and none would have gone ahead in the same way.

"We wouldn't have conducted it the same or in the right way without their input." (policy stakeholder 120)

"It probably would have done [gone ahead without Sciencewise] – there was sufficient [internal] funding. But I am absolutely sure the end product would not have been half as good." (policy stakeholder 25)

"I don't think we would have had the faintest idea without them – they were central." (policy stakeholder 43)

- **Projects developed and completed.** By November 2012, 10 projects had been completed in the 2.5 years since the last evaluation report in 2010 (see Sciencewise Dialogue Projects Impacts Summary for more details). The Sciencewise role in these 10 completed public dialogue projects built on the innovative approach to mentoring staff in Government departments and other public bodies developed earlier in Sciencewise: the Sciencewise team of Dialogue and Engagement Specialists (DEs) worked closely with staff in public bodies to develop ideas for projects, leading to jointly agreed business cases for (usually up to 50%) funding to be put to BIS, alongside gaining internal departmental / agency approval and funding.

The DE, alongside the Sciencewise Projects Manager and Evaluation Manager, then provided varying degrees of support to staff to help them commission and deliver the projects, from the appointment of contractors to fully design and implement the project, and contractors to independently evaluate, throughout the detailed delivery of dialogue events with the public and on to the production of final reports: each of the 10 completed projects produced a final project report, evaluation report and summary case study. Feedback on the approach to support has been very positive - the main criticism being a request for more support. For example:

"I think we would have valued a bit more input from Sciencewise on helping to keep the whole thing on track" (project manager 27)

"Yes [made a difference to the success / quality of the project]. They were very good. Involvement of [the DE] was very helpful in shaping the dialogue process. Made it run well and made sure the discussion itself was productive." (project manager 32)

"The uniqueness of it was commissioning a public dialogue about this area of science in its infancy, with no tangible products the public could identify with. So it was a challenge for the facilitators to put together an unbiased topic pack. Sciencewise helped enormously with that particular side of things." (policy stakeholder 25)

Many interviewees took the view that Sciencewise advice was at least as important to this development as the funding. For example:

"The money was good but it was also useful having people who had a good overview and expertise involved ... their feedback and advice was invaluable" (project manager 8)

"Apart from the finance, having a person to give good ideas of how to move the debate into the public domain. [The DE] was really great. ... Firstly it would definitely not have happened [without Sciencewise]. And yes, some of the initial ideas were really good and put us on the path." (project manager 47)

"Money is always useful, but largely irrelevant unless you have guidance and other resources from an organisation who's been there and done it before, and Sciencewise was absolutely great from that point of view. They were able to answer all the fundamental questions about what goes right and wrong in public dialogue, they helped us choose the contractor, and commented on the report." (policy stakeholder 25)

"The money was useful. Their unremitting drive towards stakeholder engagement and establishing a line between policy and stakeholders. So not just the money but the impetus to do what we'd hoped to do. ... It added a lot of value to our work. It gave an extra degree of credence and a sense of confidence in it externally." (policy stakeholder 45)

- **Projects in progress.** By November 2012, the number of projects in development was increasing. In the six months since April 2012, 11 new projects were in progress and/or had been approved for funding:
 - Four projects were in progress, with continuing diversity in the approach to dialogue, scale, cost, topic and geographical focus including: community-based dialogue support on water catchment planning (Defra); developing a visualisation tool to support dialogue on water catchment planning (NERC); a broad project including national public dialogue, open consultation, public meetings and opinion polling on mitochondrial transfer (HFEA); and a distributed dialogue on bioenergy (BBSRC). In these projects (as in some other recent projects), public dialogue had often been part of a wider policy development process, rather than a one-off, stand alone process.
 - Seven other projects had been approved by BIS for funding including on flood risk, health research, Nature Improvement Areas, stratified medicine, communicating risk and land use. These projects involved Sciencewise working with Government departments and other public bodies including BIS, the Environment Agency, Health Research Authority, Technology Strategy Board, Natural England and Countryside Council for Wales.
- **Pipeline of new projects.** Two further projects were at the stage of business cases awaiting approval, a further five were at advanced stages of development, another three were in development, plus a further 19 leads were being pursued. This was a pipeline of 29 leads in December 2012. The internal estimate for converting leads to actual projects was a 1:4 success rate (projects:leads), requiring continued efforts to develop new leads.
- **Timescales for project development.** The evaluation research showed that the timescales from identifying the potential for a project to the project being approved for funding varied greatly, with internal departmental problems being the most frequent cause of delay (e.g. procurement rules). It was not unusual for a project to take 9 - 12 months to get from initial contact to agreed funding, and then a further 6 - 9 months to be completed.

Two specific areas identified in interviews as having the potential for creating new opportunities for more public dialogue were a) to develop follow on dialogue about some key topics that had moved on significantly since the original dialogue (e.g. synthetic biology) and b) to follow up specific dialogues with more generic dialogue (e.g. a new dialogue on the use of animals in research).

New project development processes in Sciencewise since April 2012 had aimed to further increase the pipeline of projects, including identifying departmental policy priorities and building closer links between Sciencewise and specific departments and agencies. It was too early to evaluate the effectiveness of these at this time (see Annex B for more on these new approaches).

3.2 Sciencewise impact on the quality of dialogue projects

Evaluation evidence shows that Sciencewise had played a significant role in promoting and improving the quality of dialogue projects. Every interviewee who commented said that Sciencewise advice had improved the quality of their dialogue project, primarily through the one-to-one advice provided by the DES and also by the Projects Manager and Evaluation Manager. They all also said they would work with Sciencewise again and would recommend Sciencewise to colleagues. For example:

"I think the difference with [this project] was that we had a DES, who was really useful as a sounding board, source of advice and authority. That was great. ... Definitely [made a

difference to the success / quality of the project]. We wouldn't have had a dialogue as part of the project without Sciencewise involved and [the DES's] input definitely made a difference." (project manager 27)

"Sciencewise has been absolutely fantastic for catapulting us towards a new group of people and learning how to gain traction with them." (project manager 47)

"Yes [made a difference to the success / quality of the project]. Gave lots of practical advice in different techniques would work in this situation. Having someone there to guide through the process. We knew it would be picked apart because it was [our organisation] doing it and people will go through everything with a toothcomb. You know it is being done based on best practice and is being evaluated." (project manager 33)

"Just the general expertise they brought to the table – how to go about it, who to involve, what process and so on – we were all short of that knowledge and Sciencewise usefully plugged the gap. Also they played a great role as facilitator and broker and were able to draw people together, and I'm talking in terms of the Oversight Group – they really helped us to broker that, in fact they were invaluable. ... And they were also a constant source of reassurance when we asked 'are we doing this right?' ... It wouldn't have run so smoothly or been as successful without them. Undoubtedly, and I really mean undoubtedly." (policy stakeholder 20)

Interviewees identified advice of particular value from DESs as having included help with stakeholder engagement in the project (within and beyond any formal Oversight Group), participatory techniques, how to produce balanced and unbiased information materials for the public, the drive to link to policy, evaluation, and general overview and planning. Some would have valued more input and support, especially during the running of the project and not just at the start, but all agreed the advice provided was very valuable and improved the quality of projects. The Sciencewise Guiding Principles and case studies were also identified as useful, although:

"It was useful to have all the guidance documents and so on, but more useful to have someone directly involved. It was a very positive interaction all round." (project manager 19)

Interviewees suggested that additional support in future could include more advice on the substance as well as the process of projects, fewer contracts and documents related to funding, more lessons from previous projects, regional contacts, and contacts in government who could champion findings. Some also asked for greater clarity on the Sciencewise / BIS relationship and the Sciencewise role, remit and programme more generally including the potential for strengthening the Sciencewise role in democratising science by opening up decision making more. For example:

"I think they do what they do and they've become obligatory in certain scientific developments and they have real limits if one is concerned about the question of to what extent is it possible or necessary to make scientific research in a country like ours more democratic. There are lots of ways of doing it. Some are tools of legitimisation. Sciencewise aims to be more than that but the extent to which they actually go upstream is hard to tell. The idea of a one-off dialogue ignores the way in which science develops year-on-year. There are other methods such as anticipatory governance etc, all of which have positives and negatives. In terms of opening up the secluded context in which these decisions are made I don't think Sciencewise really does it." (policy stakeholder 142)

The main factors identified by interviewees as affecting their assessments of the quality of the public dialogue projects they have worked on with Sciencewise included the following, all of which are likely to require further attention in future:

- **Clear links to policy.** The timing of the dialogue in relation to specific policy decisions has been crucial in judgements of the success of projects, as has the direct involvement of those who could use the policy results (especially direct contact between senior key policy makers and the public).

In one or two cases, a strong focus in projects on robust dialogue processes with effective follow through had worked well to ensure that the dialogue results got to the right audiences in the right way at the right time to maximise impacts (e.g. the Synthetic Biology dialogue); in that case, Sciencewise DES time was allocated specifically to follow through the use of results and help develop specific events (e.g. workshops) to consider dialogue results, as well as encouraging policy makers to attend dialogue events in person.

Problems arose in those projects with insufficient buy-in from the key policy makers who would use the results and lack of a clear policy target or audience.

- **Appropriate scale, representation and recruitment.** This has emerged as an increasingly important issue affecting the credibility and influence of public dialogue projects. Projects that included a quantitative element (e.g. an opinion poll) alongside the dialogue were seen to increase the robustness of the process for policy makers (e.g. the Animals Containing Human Material project - ACHM), as was the effective recruitment of a good number and social mix of public participants. Some dialogues were seen as too small scale (too few participants) and unrepresentative (not sufficiently representative of the population to be seen as a 'public' view), which was seen as a key factor limiting the credibility of some dialogue projects and therefore the influence of the results.

However, scale cannot be assessed simplistically. It has not necessarily been the case that the more participants involved, the more influence the project results have had. Although some large dialogues have been very influential (e.g. Synthetic Biology), so have some very small projects (e.g. Open Data). Nevertheless, some projects found that while the additional costs of more and wider involvement (e.g. more regional workshops) may not have enhanced the actual dialogue results, such investment may have enhanced the credibility of the process.

- **Effective stakeholder engagement.** Some projects managed good relationships with and between stakeholders to help ensure robust decision making, including building a strong and diverse oversight group to give legitimacy to the dialogue process as well as providing a range of views on the scientific and technical issues considered in the project. However, some projects did suffer from poorly organised stakeholder involvement in oversight groups, slow decision making and confusion over roles, poor planning including insufficient time resulting in the process being rushed, lack of clarity or agreement on the questions for the public to consider, and lack of clarity over project ownership among stakeholders.
- **Practical design.** Interviewees identified particular issues around the practical design and delivery of dialogue projects including the need for a greater focus in future on:
 - The value of understanding the data / results from previous public engagement activities (public dialogue projects but also others including opinion polls etc) on the topic to help set the dialogue in a wider context, and to frame the questions to be addressed.
 - Ensuring a clear public participant role in the drafting and presentation of results. In spite of some assumptions to the contrary, in many cases public participants were not involved in the formation of dialogue results and, often, were not even informed of what the results said, nor how they were used.
 - Providing good information to stimulate and support dialogue. Some projects had developed highly effective and innovative ways to present information to stimulate and support participants' discussions, providing diverse perspectives on the issues and activities including case studies, an initial 'science lesson', self-guided learning and the use of actors to present scenarios. However, this was not always the case, with some examples of poor quality materials.
 - Ensuring follow up with those involved. Follow up communications with public participants and stakeholders were very variable, often non-existent. There were some examples of good practice (e.g. ACHM and Synthetic Biology), but those were the exceptions. Evaluation research shows that lack of follow up has negative impacts on how public participants feel about their engagement, and on other stakeholders' views of dialogue. Often, these public and stakeholder participants (including scientists providing information to dialogue events, and members of Oversight Groups) were provided with no information on the publication or use of dialogue results, or the influence or impact of the project.

Further development of better quality dialogue projects requires greater shared understanding of what constitutes good practice and therefore what is better quality dialogue. The independent evaluation of every public dialogue project funded by Sciencewise, and the distilling of the learning from the evaluations into case studies, had continued. However, the need for a greater focus on sharing learning and agreeing good practice is likely to demand more resources in the coming year, including through the establishment of the Sciencewise Community of Practice.

4. Willingness and ability of public bodies to undertake public dialogue

This metric was chosen to explore the embedding of dialogue into wider policy, rather than using the broader concept of 'culture change'. It aimed to address the development of specific understanding of the practice and value of dialogue, alongside specific skills and experience - leading to increased willingness and ability to undertake dialogue. Evaluation evidence shows that there has been significant learning resulting directly from the experience of running dialogue projects, and that policy makers and others recognise the value of public dialogue more when they have been involved personally.

4.1 Learning from doing

The evaluation has confirmed the general evidence on dialogue that learning from doing is a major impact from the work. The value placed by evaluation interviewees on the learning resulting from the experience of being involved directly in a dialogue project was much higher than expected; several said it was the learning from the experience that had made the project worthwhile (including as value for money).

The learning identified by interviewees included better understanding of public concerns and interests, of when *not* to use dialogue, of the best ways to run projects, and also potentially how to run dialogue more cheaply in future (see also 2.6). Comments included:

"It was a learning exercise. For myself and for most of the people - had never actually done something like that before. There was a real buzz. You go in with a certain amount of apprehension but people are really interested to know more." (policy stakeholder 38)

"I've learnt an awful lot about public dialogue and how it works. I have been involved in a number of science communications processes before, but with this I learnt how effective public dialogue can be, but also how messy – it is not a straightforward process." (policy stakeholder 25)

"It was a learning process for me personally and for us as an organisation due to my and our limited experience of this kind of process. Part of what came out was the resource intensity required, not just in terms of money but people and time. But it was also hugely valuable to have that perspective brought into our work." (policy stakeholder 20)

"It was done almost as a demonstration project. We chose it as well as it had become a bigger issue. You need a good reason to take on this kind of project – in the challenging areas where policy and science collide." (policy stakeholder 43)

"It was a pioneering piece of work and it would be more cost effective if you did it again based on the learning from the first one. It worked, and it gave a body of real concrete activity we can look at and if we need to do public dialogue again we have ideas of the best way to do it." (policy stakeholder 25)

"I think as an organisation we've always been good at engagement but within that our group has always been a little nervous. So this definitely made our group more confident. We deal with some contentious issues such as landscape and renewables but doing this has shown that if you approach them in the right way you can have really constructive conversations." (project manager 8)

Some organisations continued to do dialogue without Sciencewise support after an initial project, but called on Sciencewise again when specific help was needed. For example, the Academy of Medical Sciences learnt from the experience of their first public dialogue (Drugsfutures) to the extent that they had since run small dialogue projects themselves, without Sciencewise support (e.g. on the regulation of health research), while also returning for support to Sciencewise for a new project that was particularly high profile and highly contentious (ACHM).

4.2 Understanding the place and value of public dialogue

All interviewees who answered the question said they would recommend public dialogue to colleagues. Numerous interviewees identified the value of the specific dialogue projects they were involved in (see section 2). In addition, more generic contexts within which public dialogue was seen as particularly valuable were:

- **In very upstream discussions** at a stage where the science was in its infancy, before contention began and there were as yet no tangible products to consider.
- **In democratising scientific research and development in the UK.** Comments included:
 - "It's essential. Public dialogue is an essential part of democracy. It informs politicians about public views in a way that they themselves cannot organise. We need public dialogue to feed into policy as part of the democratic process." (policy stakeholder 25)*
 - "Very important in scientific issues because scientists don't have all of the answers. Science is about uncertainties as well as certainty." (project manager 31)*
 - "I start with the point of view of how one might democratise science, of which public dialogue is one way." (policy stakeholder 42)*
- **Where issues are already known to be contentious.** Comments included:
 - "If you are dealing with politically sensitive issues, public dialogue is an essential component as a reality check if nothing else. And it means you have to think through the arguments more carefully if you are going against public opinion. ... It is extremely important to get policy more or less agreed by the people for which it is made. It becomes a millstone round your neck otherwise." (policy stakeholder 2)*
- **To sit alongside the usual stakeholder engagement.** Comments included:
 - "We would always listen to our stakeholders and academics and industry and it's just as vital we get input from the public as well. It's not about doing what the public say, it's about making informed decisions based on an awareness of the full set of views." (project manager 13)*
 - "What we work on is ethically charged and there are lots of sceptics and so it is quite important that we haven't just talked to stakeholders but gauged views from a wide range of people – if it's going to impact on future generations or quite controversial it is particularly important." (policy stakeholder 34)*
- **To ensure policy development has appropriate checks and balances.** Comments included:
 - "There are areas of research where outputs can benefit from a sense check from the public ... Policy making is different to research. Sense checking of policy is vital ... I think it is definitely growing in terms of importance." (policy stakeholder 50)*
- **Where the public is or could be affected.** Comments included:
 - "There is a question about how you democratise scientific development when science becomes technology and has a shape on people's lives and is often unshaped by public dialogue. The thing public dialogue is trying to do is admirable. But whether public dialogue is the right way to do that I don't know. I would like to see a wider debate about this." (policy stakeholder 42)*
- **It fits with current UK Government policy priorities.** Comments included:
 - "[Public dialogue is] Very important. And you may be familiar with the Civil Service Reform Plan. It has a renewed focus on open policy making, involving experts, public and other organisations. So there is impetus from the centre as well. ... To improve policy outcomes and improve the communication of policy." (policy stakeholder 29)*
- **To help public bodies demonstrate their spending of public money in an accountable and useful way.** Comments included:
 - "It depends on what you are trying to do and what your motivations are. If you genuinely want to know what people think then it's good, but if you want to make policy legitimate it's not so valid. From our point of view it helps to show we are spending public money in an accountable and useful way." (project manager 19)*

Interviewees also felt there was potential for undertaking dialogue around bigger themes as well as specific issues (e.g. Research Council Grand Challenges), and to follow up on key topics where the field had developed significantly since earlier dialogues had been completed (e.g. synthetic biology).

Some interviewees were simply very enthusiastic about the more general value of public dialogue:

"This project is like the crown jewels of the work I've been involved in. The excitement of seeing the groups getting into it; it made me think that this is the way forward ... I don't think you can have too much dialogue. The more you interact, the more you learn. I think we learned enough to gather data for the next stage of the project we are talking about going to ... Once you work with dialogue you realise it's a very good and human way to work. It's completely essential and will become even more important. Around land use there tends to be an old-style reductionist approach – thinking there is a right answer if you lock yourself away and think about it. There isn't. These are big societal problems; you have to engage on these. ... There is the potential for integrated land use to be an increasing issue in the future and I think public dialogue can really help. It offers a great hope in achieving a land use balance that can contribute to a sustainable future." (policy stakeholder 45)

However, there was also recognition that dialogue was not appropriate in all circumstances. Caveats included that the value of dialogue depended on the topic, the process and the timing, especially needing to be before decisions are made and the need for sufficient time to do it properly. Comments included:

"All policy development does not require an exercise in public dialogue ... [but] there are some areas particularly where they are highly ambiguous in terms of ethical and social values where public dialogue is almost indispensable as a way of understanding those ambiguities and beginning to try to resolve them." (policy stakeholder 36)

Individual dialogue project evaluation reports show that, for public participants, opportunities to learn were highly valued - about the topic; about science, scientists and how science is done; about the policy and decision making process; and about their own capacity to be involved and to influence the decisions that affect them.

For public participants, the use and influence of the dialogue outcomes was the main factor affecting their assessment of whether taking part had been worthwhile; taking part was said to lift the veil on public policy making, put people at the heart of what is going on, and allow them to do their duty as citizens in a democratic process. In summary, public participants valued public dialogue as informative, transformative and empowering. In order to achieve this value, however, they needed to know the extent to which the dialogue results had been used and been influential.

4.3 Drivers and barriers to more public dialogue

The drivers for more public dialogue taking place identified by interviewees included risk management (including fear of 'another GM', and saving money on policies that were not then supported in implementation); growing expectations from the public for involvement; that 'wicked issues' needed a different approach to policy making; and that public dialogue fitted well with the current UK Government policy agendas of open policy making, open government and transparency, and localism.

The 54 respondents to the survey sent to the Government Science and Engineering (GSE) network prioritised the benefits that they saw that public dialogue could bring (from a checklist) as follows:

1. Provide new perspectives (73%)
2. Increase transparency (69%)
3. Avoid unforeseen conflict (65%)
4. Add robustness and credibility (46%)
5. Add to evidence base (42%)
6. Avoid costly mistakes (38%)

Interviewees identified the main barriers to more public dialogue as largely about lack of time in the policy process and for staff to do it, cost, the small numbers involved / representation, fear (of the unknown potential response and potential backlash), lack of skills (including in using dialogue results), and the case not having been fully made with key senior people.

Cost was also a concern but less of a priority for the GSE network survey respondents (as was lack of time); the main concerns they had about public dialogue were:

- =1. Public participants unwilling or unable to engage meaningfully (68%)
- =1. Representativeness (68%)
- 2. Credibility of dialogue results (48%)
- 3. Cost (28%).

Most of these respondents had little knowledge of public dialogue (and therefore may have known little about costs). However, this feedback suggests both significant distrust of the credibility of dialogue methods among new audiences, alongside recognition of the potential value.

Interviews were also undertaken with those involved in four projects that had started but had not been developed through to full implementation (e.g. business case agreed to and funding confirmed). These interviewees identified three main barriers to successfully setting up a new dialogue project: timing, lack of internal senior support, and procurement problems.

- **Problems with timing.** Timing problems for these uncompleted projects included changes of circumstances (e.g. changes to organisational priorities and budgets), or that there was no longer any potential to influence policy. The time taken to develop a major public dialogue project, and ensure that all key internal and external stakeholders were involved in the right way and could agree a way forward, was also identified as a barrier.
- **Problems with gaining internal senior support.** Interviewees also identified problems with gaining senior buy-in, and the importance of working within organisations' own ways of working and engaging colleagues, which could take time, especially if senior colleagues had not fully accepted the value of public dialogue. These problems were compounded where there were several different organisations involved in project development, as was often the case.
- **Problems with procurement.** Procurement problems were identified as creating delays and problems with gaining formal agreement to new projects. Different organisations, sometimes partners in project development, sometimes had different procurement rules and problems arose when Sciencewise procedures did not easily match departmental or agency procurement rules.

4.4 Embedding public dialogue into policy making

The evaluation evidence showed that some parts of some Government departments and agencies were becoming clearer about how public dialogue fits into their overall policy making processes, and there were some examples where dialogue was being incorporated into mainstream policy making processes within certain institutions. There had also been some formal Government recognition that public dialogue has a place alongside other evidence and development processes in government (e.g. in the advice from the Chief Scientific Adviser⁶).

However, public dialogue was not well-known in Government (see 5.1), let alone widely used or embedded as part of mainstream policy making processes. There remain significant challenges in embedding public dialogue into government policy making processes and systems, and a more targeted approach to achieving those changes is likely to be required for progress to be made on this.

⁶ Government Office for Science (2010) *The Government Chief Scientific Adviser's Guidelines on the Use of Scientific and Engineering Advice in Policy Making*. BIS, June 2010.

5. Awareness and understanding of public dialogue by public policy bodies and other stakeholders

Research for this evaluation has identified a widespread lack of knowledge and understanding of public dialogue in Government and among other stakeholders, as shown in this section. However, the new Sciencewise programme had been operational for less than nine months at the time of the evaluation research, and Sciencewise activities before the launch of the new programme had not focused on spreading awareness. These results are therefore perhaps best seen as a baseline against which future evaluation findings can be measured.

5.1 Current awareness and understanding of public dialogue

The results of the survey conducted for this evaluation suggested that the concept of public dialogue was not well known or understood in Government. The 54 respondents to the survey circulated to the Government Science and Engineering (GSE) network said dialogue was not well known in Government (39%), and another 20% said it was not known at all (i.e. nearly 60% in total felt there was little or no knowledge of dialogue). 26% said it was well known among some scattered individuals; only 2 respondents (4%) said it was well known.

The survey respondents also said that they largely either knew nothing (33%) or had just a little background knowledge of public dialogue practice in government (48%); a total of 81% with little or no knowledge of public dialogue.

While the GSE network is not the primary audience for Sciencewise activity (not all are policy makers), this suggests a very low level of general knowledge about public dialogue even among those scientists and engineers interested enough to complete an online survey.

The findings from evaluation interviews showed that many of those who had been involved directly in public dialogue projects did have a deep understanding of the place and value of public dialogue. This provides a valuable base from which to widen and deepen awareness and understanding more widely. However, even some of these interviewees identified continuing problems with the many definitions of 'public dialogue' and suggested a general lack of clarity about the concept for some key audiences.

In November 2012, Sciencewise published a new guide to the concept of public dialogue⁷, which is the result of extensive internal discussions about definitions, descriptions and examples. However, these materials remained little known and further investment in raising awareness of public dialogue is likely to be needed in the coming months.

5.2 Building awareness and understanding in future

The evaluation identified significant interest and willingness among those who had worked with Sciencewise before, especially those involved in previous projects - including past public participants - to work more closely with Sciencewise on projects and more widely in future. The Citizen Group discussions for the evaluation identified a major benefit of dialogue as the impact on public participants' understanding of policy making, and how their experience of dialogue empowers them with a sense that they can be influential in public policy decisions and a willingness to take part in future. Similarly, scientist and other stakeholder interviewees who had participated in projects (speaking at dialogue events, providing information for briefing materials, taking part in oversight groups or using the results of dialogue to feed into a wider study) spoke of their resulting increased understanding of the practice and value of dialogue on the specific topic and in their wider work. These relationships could provide valuable opportunities to build on existing contacts with stakeholders to help spread wider awareness and understanding of public dialogue in future.

⁷ Sciencewise (2010) *What is public dialogue? And other frequently asked public dialogue questions*. Sciencewise, October 2010.

6. Recognition of the value of Sciencewise from key stakeholders

New survey and interview research for this evaluation found that Sciencewise had a good reputation, especially for the support provided to public dialogue projects and for the materials it had produced, but a very low profile.

6.1 Sciencewise reputation

Sciencewise reputation was very good among those who knew the programme. For example, when Sciencewise provided evidence to the House of Commons Public Administration Select Committee Inquiry into Public Engagement in Policy Making in September 2012, four of the seven bodies providing evidence were directly involved in Sciencewise, and almost all mentioned the value of the Sciencewise role. This suggests a good reputation for Sciencewise as well as a strong inner network of key public bodies working on public engagement in policy making that support Sciencewise and its work. More broadly, comments from evaluation interviewees include:

"I think it has a very good reputation and is held in high regard by everyone I know." (project manager 13)

"Their role is really important – where it is now they have really carved out a really important role and some great case studies which they can call upon... Concept takes time to get straight in your head and then you realise how important it is for them to be doing it. All the people I know who know about them are positive towards them. If we have a new project our first port of call will be Sciencewise if we want to include public voices. Partly because it brings funding but also because of Sciencewise's friendly approach." (project manager 31)

"On reflection, I'm impressed with the amount of time and effort Sciencewise is putting into evaluating not just the process but also the impacts. Constantly questioning the role of Sciencewise and what it does is a good thing." (policy stakeholder 39)

The Sciencewise Dialogue and Engagement Specialists (DESSs) and others directly involved in providing advice and support on project design, delivery, management and evaluation were highly valued by those they work with on projects, creating a very good reputation. Interviewees referred to the quality of the people working for Sciencewise, identifying their expertise, intelligence, enthusiasm and friendliness as well as their ability to challenge and inspire - good critical friends. Comments included:

"It's absolutely the best thing the BIS Science and Society programme funds. From the Research Councils' point of view Sciencewise has been invaluable in supporting the Research Councils' public dialogue, as this is an area that is very new [to the Research Councils]. ... Also the training and mentoring aspect is really useful. I think the DESSs make it special – they are really valuable." (project manager 13)

"From my point of view I think they are an excellent organisation and hugely helpful. They have a vast array of experience as a resource and are an excellent organisation. I would recommend working with them to colleagues in other Research Councils and my own, and if I was going to do a public dialogue again I wouldn't do it without them. ... No [nothing more to say], only to say how very very helpful Sciencewise were in the whole process." (policy stakeholder 20)

"I hold them in very high esteem. As a catalyst for exercises like this they are invaluable; I don't see who else could do it." (policy stakeholder 25)

"We came to Sciencewise blind at the beginning. Now I am more familiar and, yes, it's very positive; I regard Sciencewise highly and the staff have been good." (policy stakeholder 45)

"I love the concept of what they're doing; the public should be engaged in science and what science means, i.e. that the exploration of science is a constantly evolving thing and you can never have the one right answer, just the best at the time. Sciencewise is much needed. We need to blow the myth that policy is based on evidence which is based on scientific truth and that science isn't fallible. It's very important." (policy stakeholder 39)

6.2 Awareness and understanding of Sciencewise

Fewer than half of those interviewed had heard of Sciencewise before their direct involvement in a project, so individual dialogue projects had clearly reached new audiences, and helped to create a positive reputation.

However, the further away from the detailed design and delivery of the project, the less clarity interviewees had about Sciencewise. Even some of those who had been involved in projects remained unsure about the exact nature, role, remit and purpose of the Sciencewise programme and its other activities. Comments included:

"I know of them but I don't have a strong sense of their exact remit or their forward programme." (policy stakeholder 6)

"What I was not sure about was how certain reports made reference to the involvement of Sciencewise and then others to the contractors. It was a bit confusing – I was never sure quite who was doing which role." (policy stakeholder 42)

"I didn't have as much involvement with Sciencewise as others perhaps. They were a bit invisible." (policy stakeholder 41)

"To be honest I wasn't even aware where the funding was coming from." (policy stakeholder 50)

This relatively low level of awareness and understanding appears to be partly a reflection of how Sciencewise had worked in supporting public dialogue projects. Dialogue projects had always been seen as the responsibility (and achievement) of the Government department or agency commissioning the dialogue - in order to maximise capacity building - and Sciencewise support and advice tended to be focused on working behind the scenes with that body rather than acting as an external expert centre advising the whole project. It seems that, as a result, many of those involved (e.g. scientists presenting at dialogue events and stakeholders on oversight bodies) often appeared to be unaware of Sciencewise's role in the project.

However, Sciencewise also appears to have a very low profile generally. Interviewees said Sciencewise was generally not well known across government (apart from in specific quarters).

Respondents to the GSE network survey confirmed this view: 81.5% said they had not heard of Sciencewise before. The majority of respondents also said Sciencewise was either not well known in Government (33%) or not known at all (36%); a total of 69% suggesting a low profile. Although these findings cannot be taken to fully reflect levels of awareness of Sciencewise across government generally, they are a useful indicator.

6.3 The value of Sciencewise materials

The existing Sciencewise products and materials were well respected by the 25 respondents to the reader survey: 65% said the materials were good or excellent. The most read and used materials were the quarterly newsletter (by 65% of respondents), monthly dialogue bulletin (58%) and the Guiding Principles (52%), followed by individual project case studies (42%). Very few respondents had passed on materials to others: 2 had passed on the monthly bulletin, and 1 the newsletter. Around one third of respondents had not heard of the case studies, but feedback from interviewees and the Citizen Group who had seen them was positive about the value of these. There was very little knowledge of the guidance on Sciencewise support and research reports.

Survey respondents identified how Sciencewise materials had impacted on them:

- 81% of survey respondents said the materials had given them a better understanding of Sciencewise
- 77% said Sciencewise materials and resources had helped them develop their understanding of public dialogue and engagement
- 73% said they had informed their own work
- 64% said they had clarified the benefits of public dialogue
- 46% said these had provided practical ideas and guidance on how public dialogue could be used in policy making.

Interviewees who had seen and could comment on the materials (a minority) agreed on the good quality of the newsletter, case studies and the website, with some caveats about problems finding what was wanted on the website and some lack of clarity over target audiences.

Reader survey respondents' priorities for future materials from Sciencewise were:

1. Insights and new thinking about public dialogue (61%)
2. Key facts on the impacts of public dialogue projects (54%)
3. Key facts on the costs and benefits of public dialogue projects (50%)
3. Practical information on running public dialogue projects (50%)
- =4. Case studies of specific public dialogue projects (42%)
- =4. Practical information on Sciencewise funding and advice (42%)
- =4. Summaries of public views from dialogues on specific topics (42%)

7. Conclusions

This evaluation was researched and completed nine months after the new Sciencewise programme was launched in 2012. As the new Sciencewise programme had only been operational for about six months at the time of much of the evaluation research, the research and this report has focused largely on the 10 projects completed since the previous evaluation in 2010, and on the support work undertaken by Sciencewise to help develop and deliver those projects.

This report identifies the main impacts resulting from the Sciencewise programme to date, demonstrating significant achievement and a good reputation. Areas where further development and new priorities would be valuable have also been identified. In particular, it is suggested that there should be a greater focus on the impacts of public dialogue projects, on some aspects of the practice of public dialogue, and on clarifying the role and profile of Sciencewise.

7.1 Focus on impacts

The emphasis in Sciencewise support for public dialogue projects has often been on developing new projects and improving the process rather than maximising the influence and impacts of projects. While the programme can only continue if there is a continuing stream of new and different public dialogue projects taking place effectively, more emphasis is also needed on making the best use of the learning and results from the projects that have been completed.

The evaluation has identified some good practice in using the results of public dialogue projects to influence policy and decision making but, in order to maximise the impacts of projects, it has also identified the need to:

- a) **Understand the importance of learning as a positive impact of working on dialogue projects, and use and build more on the learning from past dialogue projects.** While it has always been understood that capacity building happened during projects, interviewee feedback suggests it could be supported more explicitly, to enable the dialogue project to be seen as an exemplar as well as a one off project. More and different approaches for projects to share learning more widely would be valuable.
- b) **Ensure that dialogue results are recognised, disseminated more widely and used wherever relevant.** Although DES support is highly valued, that tends to focus quite narrowly on the dialogue process (design and delivery), and stops at the production of the case study at the latest; often in depth DES involvement stops much sooner. The focus on maximising impacts and benefits is not always prioritised, and there is rarely any continuing relationship with those involved in running the project to ensure impacts on policy, on policy making systems and on those involved. There are particular problems when the internal team running the dialogue is disbanded soon after the project (which is not unusual). There may therefore be a role for Sciencewise to work with and beyond the commissioning body to ensure that the results of the dialogue continue to be promoted and considered within a wider range of appropriate policy development initiatives.
- c) **Find new ways to identify and report the impacts of public dialogue in meaningful and realistic ways.** The direct impacts of public dialogue are hard to track, are often long term and the specific influence of public dialogue in terms of the cause and effect on policy decisions is almost impossible to identify. The Sciencewise emphasis on embedding and integrating public dialogue into policy and decision making, while increasingly effective, compounds this problem.

Efforts continue to be needed to demonstrate that public concerns feed through the entire process, but that is rarely simple and it is not helpful to overstate impacts that are not credible. Reported 'changes' to policy decisions resulting directly from public dialogue are very rare. It is expected that the focus on metrics to demonstrate the 'use' of dialogue, and effective dissemination of dialogue results, will be as important as demonstrating direct influence and impacts. It is also expected that the encouragement of more and better public engagement will be as valuable an impact as policy impacts, given the Sciencewise objective.

7.2 The practice of dialogue

The development, design, delivery and evaluation of public dialogue projects has been working well, with more new projects having been established, and good practice continuing to be developed. There have been innovative methodologies used, effective design to meet objectives, and valuable evaluation. However, greater numbers of new and different public dialogue projects need to be developed, and good practice clarified to increase the credibility and value of public dialogue, especially:

- **Appropriate scale, representation and recruitment.** The involvement of too few public participants has been shown to undermine the quality and credibility of the dialogue results. There remain questions here around how to decide how many is enough. Although public dialogue is very different from other approaches to public engagement, there may be potential to build on existing quality standards such as from qualitative research, market research, community development, and science communication.
- **Effective stakeholder engagement,** in oversight groups and also more generally in the framing, design and delivery of projects, has been identified as a weakness in some past projects. In some cases, lack of internal and external stakeholder buy-in has resulted in projects failing to be implemented at all; elsewhere it has undermined the reach and influence of dialogue results. Good stakeholder engagement has made a major contribution to the quality and impacts of dialogue projects. Ensuring good stakeholder engagement is built into the design and delivery of future public dialogue projects remains a priority.
- **Increased use of social intelligence.** The analysis and use of existing data on public attitudes and values on the topic (from previous dialogue, polls etc) has been used in the design of some previous dialogue projects. Increased use of this type of data could become a valuable element in more projects and wider work.
- **Stronger public participants' involvement in reporting results.** There is varying practice in the extent to which public participants have formally shaped dialogue results, and problems have arisen when participants are unclear what the results are, and whether they fully reflect their input. Ensuring that public participants are more involved in shaping the results from their input will require changes to some dialogue methods.
- **Follow-up communications with public participants and stakeholders.** Although there has been some good practice in some projects, it is still too often the case that public participants and other stakeholders are not even provided with copies of final reports from the projects in which they were involved, and even more often they are told nothing about the influence and impacts of the project. Significantly greater efforts will be needed within individual projects, and by Sciencewise more generally, to improve practice in this area.

7.3 Sciencewise role and profile

Sciencewise has a good reputation, especially for its support on projects and its materials, but a very low profile. Public dialogue is not well known across Government and not widely understood. A higher profile for Sciencewise and public dialogue would enable the programme to work more effectively towards its objective.

7.4 Overall conclusions

Overall, this evaluation has found good evidence to demonstrate that the Sciencewise programme is making progress towards its stated objective. However, there is also evidence that there are areas of work that will require further attention if progress is to be maintained in the coming months, and to meet the high expectations from those already close to the programme and wider external stakeholders.

Diane Warburton
Sciencewise Evaluation Manager

ANNEX A. Evaluation Methodology

A.1 Overall approach to evaluation in Sciencewise

In line with formal UK government advice on evaluation⁸, the overall focus for Sciencewise evaluation activities is to test the effectiveness and impacts of the programme in meeting its overall objective, which is:

To improve policy making involving science and technology across Government by increasing the effectiveness with which public dialogue is used, and encouraging its wider use where appropriate.

Sciencewise evaluates all its activities - all the individual public dialogue projects and the programme overall - for the following reasons:

- Improving the effectiveness of future practice and policy around public dialogue, by developing and sharing knowledge and evidence of 'what works' from project evaluations
- Demonstrating the value of public dialogue to encourage its wider use, by providing evidence of the impacts and benefits
- Increasing the transparency and accountability of the Sciencewise programme, by openly reporting what is being done and what is being achieved
- Improving the effectiveness and impacts of the Sciencewise programme in meeting its overall objective, by measuring progress against agreed metrics of success.

The emphasis of the evaluation work in Sciencewise is designed to ensure that the activities:

- Gather and present objective and robust evidence of the activities, achievements and impacts of the programme overall - covering impacts on policy and on all those involved (including policy makers, government bodies, scientists and other stakeholders, and public participants)
- Draw out and share learning from the evaluations of all Sciencewise public dialogue projects and other programme activities to identify what works well and where changes may be needed in future.

In summary, project and other evaluation activities in Sciencewise are designed to support learning and accountability by developing and sharing practical and useful knowledge.

The evaluation approach involves maintaining and developing effective evaluation research and reporting systems for projects and the programme overall, with an increasing emphasis on evaluation of outcomes and impacts as well as identifying lessons and good practice. Planning for all Sciencewise evaluation activities is based on official Government guidance on the evaluation of policy⁹, as well as the guidelines of the UK Evaluation Society.

All evaluation activities in Sciencewise are designed to be both formative (designed to feed emerging findings into continuing programme and project development) and summative (covering overall outcomes and impacts at the end of specific periods or activities). The evaluation activities focus on two of the three normal types of evaluation: 'process' and 'impact' evaluation; it was not possible to include any 'economic' evaluation during the initial phases of the programme. The key questions for the programme-wide evaluation included:

- **How was the programme being delivered?** 'Process' evaluation, providing:
 - factual descriptions of activities, numbers reached etc
 - qualitative feedback from stakeholders about the quality and value
- **What difference did the programme make?** 'Impacts' evaluation, providing information on:

⁸ HM Treasury (2011) *The Magenta Book. Guidance for Evaluation*. April 2011. (page 14)

⁹ *ibid*, plus Cabinet Office (2003) *Quality in Qualitative Evaluation: A framework for assessing research evidence*. National Centre for social Research for the Cabinet Office Strategy Unit.

- changes resulting from the projects individually and collectively, and from other programme activities - changes to policy and people
- extent to which the programme had met the stated objectives
- any unexpected outcomes, and their significance
- what would have happened if the programme had not happened / would the outcomes have happened anyway ('counterfactual').

Lessons from evaluations of projects and programme-wide activities have been identified and shared as early as possible, to enable internal audiences to review the delivery and responses to activities and consider changes to improve effectiveness, and to provide information to external audiences to demonstrate Sciencewise achievements and weaknesses, learning, effectiveness and value.

The framework for the programme evaluation is shown below.

Type of data	Definition	Focus for Sciencewise
Inputs	Resources needed to achieve the programme objectives	Resources to deliver the programme - direct resources, match resources, other leverage of funding and people
Outputs / activities	What is delivered to the target audiences and how that is used	Public dialogue projects undertaken and their results, provision and use of other services and products (including advice, written and individual guidance, Community of Practice, training).
Outcomes	Intermediate outcomes as a result of the programme	Results / findings from dialogue projects used in Government policy making, support and guidance used to improve the quality and quantity of projects, services valued and recommended
Impacts	Wider and longer term outcomes	Improved Government policy making involving science and technology

The programme-wide evaluation draws on the evaluations of individual projects, alongside evaluation research on other programme activities, to assess the effectiveness and impacts of the programme in meeting its overall aim.

The basic theory of change underpinning Sciencewise activities (and therefore this evaluation) is that public dialogue improves policy making, so doing more and better public dialogue is an achievement in itself, as well as seeking to ensure that the public dialogue projects influence policy decisions and systems.

A2. Approach to evaluation in Sciencewise in 2012

The main focus for the evaluation in this first year of the new programme (up to December 2012) has been to review the lessons and impacts of the 10 projects completed since the last evaluation (2010), and the support provided by Sciencewise around those projects. Information has also been obtained on the wider Sciencewise role and profile, awareness of public dialogue and current drivers and barriers to public dialogue across government. New Sciencewise activities (e.g. Community of Practice, Citizen Group) are not evaluated here as some are very new and/or not yet fully operational; these will be fully evaluated during the second and third years of the programme. The findings in the report are therefore retrospective in many ways - interviews were undertaken during October and November 2012, and most interviewees would not know about the most recent developments in Sciencewise.

Evaluation methods have been designed to ensure the objective gathering and reporting of evidence using rigorous and robust evaluation research and analysis. As in previous years, the evaluation was conducted internally (in accordance with the guidelines for self-evaluation of the UK Evaluation Society). There has been oversight through the Sciencewise Steering Group and

ongoing guidance through a member of the Steering Group with extensive evaluation experience (Professor Judith Petts).

The overall evaluation approach, including the theory of change (identified above) and the success factors and metrics, was agreed with the Sciencewise team and Steering Group. The five critical success factors agreed as the basis for the evaluation research and reporting in 2012 were:

- Positive influence of public dialogue on Government policy and policy making
- Increased quantity and quality of public dialogue projects
- Increased willingness and ability of public policy bodies to undertake public dialogue (embedding)
- Increased awareness and understanding of public dialogue by public policy bodies and other stakeholders
- Increased recognition of the value of Sciencewise from key stakeholders.

Evaluation research in 2012 has included two new surveys (see below), and 57 new interviews with those involved in developing and delivering dialogue projects: 24 policy stakeholders (in commissioning departments and/or stakeholders in dialogue projects), 19 departmental project managers who have run projects (including four from projects that started but were not completed), 9 contractors and 5 Sciencewise Dialogue and Engagement Specialists (DEs). All Interview data was collected by independent researchers and, as with survey data, analysed thematically. Review discussions were also held with the DES team, the Management Team, the Citizen Group and the Programme Board.

Two surveys were undertaken. One was a Readers Survey, which aimed to obtain feedback on the use of Sciencewise materials, and the quality and value of those to readers / users. The survey was sent to the 716 contacts on the mailing list for the Sciencewise newsletter, 116 opened the message (16% of those on the list), and 26 responses were received (3.6%). Although disappointing, this is a fairly average response rate for an online survey among those involved in a programme. The other survey aimed to test the awareness and understanding of Sciencewise and of public dialogue among people in government who had not necessarily been in touch with Sciencewise before. The survey was sent to the Government Science and Engineering (GSE) network, with support from BIS, to a total of 3,394 contacts and 54 responses (1.6%) were received. Again, this was not a big response but is considered sufficient for analysis. This survey provided 23 new contacts who wanted to receive more information from Sciencewise, 22 wanted to join the mailing list for the newsletter, 10 wanted more information on the Community of Practice and 1 wanted guidance on a specific project idea. 44 of the 54 respondents (81.5%) had never heard of Sciencewise before.

ANNEX B. Brief summary of Sciencewise activities in 2012

The new Sciencewise programme started in April 2012. A new governance structure was established, with a Programme Board that provided strategic overview (chaired by Roland Jackson of the British Science Association), bringing together the BIS Science and Society team and the three partner bodies running Sciencewise: the British Science Association, Involve and Ricardo-AEA. A Management Team has been responsible for operational delivery, made up of Ricardo-AEA (as programme managers), the Projects Manager, the Evaluation Manager, the Dialogue Manager, British Science Association and the BIS Science and Society team.

A new Sciencewise Steering Group was established, with some members from the previous Steering Group as well as new members, and an entirely new Citizen Group was established with seven members of the public who had participated in previous dialogue projects. Two Citizen Group members attended Steering Group meetings from November 2012, to bring a public voice to the formal oversight of Sciencewise work.

A new team of five Dialogue and Engagement Specialists (DESSs) was established, working to identify, develop and support new public dialogue projects. The project development process was streamlined including a new focus on identifying potential policy opportunities for dialogue as well as following individual leads: research by the British Science Association identified key policy areas and contacts within specific departments; high level networking led by the Programme Board worked to spread understanding and awareness of Sciencewise; there were plans for a high level academic workshop to review policy opportunities (with an associated public dialogue); and DESSs were taking new roles as account managers with responsibilities for deeper long term relationships with specific government departments and agencies.

It was too early to fully assess the effectiveness of many of these new developments in increasing the number and quality of public dialogue projects supported by Sciencewise, but the data available and feedback from all those involved indicated growing momentum and more project development activity than previously, with an increasing number of leads and contacts.

Support for the design, delivery and evaluation of every public dialogue project funded by Sciencewise continued, as did the publication of every project report and evaluation report, and a case study on each project. Brief details of the activities, costs, participants and impacts of each of the 10 public dialogue projects completed since the previous evaluation (in 2010) are available in the Sciencewise Dialogue Projects Impacts Summary background paper.

In addition to the dialogue projects, since April 2012 the programme had funded a review of dialogues by Research Councils UK (many of which were co-funded with Sciencewise), with a report published in July 2012¹⁰; and a small study revisiting past public participants in three earlier dialogue projects to test the impacts of their involvement on their willingness to be involved in future¹¹. The first thought leadership paper was published, providing data on Frequently Asked Questions about public dialogue¹² as basic briefing on the concept.

The website was refreshed and information updated, with increased emphasis on blogs and tweets. Four editions of the quarterly newsletter were produced (by March 2013).

Sciencewise was represented at the Science Communication Conference, British Science Festival, Cheltenham Science Festival and Civil Service Live. There is limited information currently available on the impacts of these activities, and they will be evaluated in more detail in future, with metrics established to assess effectiveness.

In September 2012 Sciencewise gave written evidence to the Public Administration Select Committee inquiry on Public Engagement in Policy Making, and the House of Lords Secondary Legislation Scrutiny Committee on consultations. Development work continued on the Community of Practice, training and mentoring.

¹⁰ Doubleday, Rob and Teubner, Rachel (2012) *Public Dialogue Review. Lessons from public dialogues commissioned by the RCUK*. Research Councils UK; Centre for Science and Policy, University of Cambridge, Involve and funded by Sciencewise.

¹¹ Sciencewise (2012) *Revisiting past participants. How do experiences of public dialogues affect people's motivations to participate in future?* Hughes, T. and Warburton, D. Sciencewise and Involve, July 2012.

¹² Sciencewise (2010) *What is public dialogue? And other frequently asked public dialogue questions*. Sciencewise, October 2010.