FOOD ETHICS COUNCIL

The Food Ethics Council reports on ethical issues in food and agriculture. We develop tools to help make ethical thinking a standard practice in policy, business and everyday life. We work towards a food system that is fair, humane, secure and sustainable.

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The Food Ethics Council is a registered charity (No. 1101885).

Public engagement in science

Like a growing number of other key players in science and innovation, the UK government has committed to engaging citizens 'upstream' in science. We share this aspiration, although we emphasise that it will only be met if additional changes are made to policies on science and technology (see inner pages). In particular, 'upstream' public engagement cannot substitute for much needed improvements in 'downstream' engagement, such as a more participatory approach to technology assessment. Public engagement is an iterative process, and it would be naïve to think that effective upstream engagement would eliminate the need for subsequent social and ethical appraisal.

There is no shortage of methods for involving members of the public and stakeholders in decisions about science and technology. The greatest challenge is not to find good ways of listening to citizens, but to ensure that decision-makers take their input seriously.

Previous public engagement processes in the UK and other countries suggest six criteria for success:

- **Purpose** The purpose of involving members of the public should be clear to the organisers and to the participants.
- **Participation** The participants should be selected fairly and in a way that is appropriate to the purpose. They may be selected using statistical sampling techniques, but this is not always necessary. In some cases it will be suitable for people to take part as individual citizens and, in others, as representatives of stakeholder groups.
- **Methods** An appropriate method of participation should be used. Tried and tested processes range in scale from small discussion groups to nation-wide debates, and include citizens' juries, consensus conferences and broad-ranging stakeholder panels (see below). Sometimes more than one method may be appropriate.
- **Resources** The organisers should provide the money and possess the skills that their chosen method demands. Depending on the method, costs may include travel and bursaries for participants. Under-resourcing can jeopardise success and alienate participants.
- **Learning** Feedback processes can help institutions learn from their own and others' experiences.
- **Outcomes** The intended outcomes should be clear to participants and to observers. According to the government, public participation "is a waste of everyone's time unless the decision-maker is willing to listen to others' views and then do something which it would not have done otherwise".[3]

[3] Quoted in **POST** (2002) *Public dialogue on science and technology* (Postnote 189). POST, London, November: 2.

UK examples and resources

AEBC
A government commission that has sponsored a number of citizen processes on biotechnology and is now investigating agricultural research agendas. **www.aebc.gov.uk**

Alzheimer Society QRD Advisory Network
Research applications are reviewed by carers and people with dementia, as well as by scientists. **www.qrd.alzheimers.org.uk**

Citizen Foresight
An initiative combining the most successful elements of existing deliberative and participatory processes, such as citizens' juries. **www.peals.ncl.ac.uk**

ESRC Science in Society
Social science research on public engagement. **sbs-xnet.sbs.ox.ac.uk/scisoc/**

Feeding the Debate
A government technology Foresight panel compared four ways of involving consumers in R&D decision-making. **www.foresight.gov.uk**

Forum for Technology, Citizens and the Market
For companies, organised by the Royal Society of Arts. **www.thersa.org/projects/forum_for_technology.asp**

GM Jury
The Consumers Association, the Co-operative Group, Greenpeace and Unilever sponsored two parallel citizens' juries on GM crops. **www.gmjury.org**

GM Nation?
A government-sponsored debate on GM crops which involved over 30,000 people and cost £650,000. **www.gmnation.org.uk**

NICE Citizens Council
The board of the National Institute for Clinical Excellence must respond to reports produced twice each year by a council of citizens. **www.nice.org.uk**

Sciencewise
A new government grant scheme to promote public dialogue. **www.sciencewise.org.uk**

Technology Democracy
The UK-based Intermediate Technology Development Group on technology and international development. **www.itdg.org/?id=technology_in_society**

Weekends Away for a Bigger Voice
Involving low-income consumers in debates about the future of farming and food. **www.ncc.org.uk**

FOOD ETHICS COUNCIL

JUST KNOWLEDGE?

governing research on food and farming

Public confidence in the ways that science and technology are governed has been shaken by a succession of controversies about risk regulation, new technology and public health. As ethical and social issues have been thrust to the forefront of debates about research and innovation, scientific and policy institutions have struggled to cope. Food and farming have been at the epicentre of this upheaval, in the wrangling over BSE, Foot and Mouth Disease, GM crops and, of late, obesity.

The policy response has been twofold. First, the evidence base for government decisions has been shored up with revised guidelines on expert advice. The second response has been to promote public engagement in science, both during research and 'upstream' in research planning.

Public engagement has been a priority for science policy since 2000, when a House of Lords committee reported that there was a crisis of public confidence not in science and technology as such, but in the ways they were handled by government, businesses and other institutions. Until then, politicians and scientists had tended to assume that anyone who was uneasy about science and technology simply did not know enough about them. By contrast, since the House of Lords report, 'science and society' initiatives have been developed to help decision-makers listen to public concerns and take them more seriously.

Upstream public engagement is more recent, at least in the UK. Consensus is growing that citizens should engage in science when choices remain open and research priorities are being set. Public engagement should take place during research and development (R&D), rather than being confined to the regulatory end-of-pipe. This idea has quickly entered the mainstream. Not only do campaign groups such as Greenpeace espouse it, along with policy think tanks like Demos, but so also do the Royal Society, the science journal Nature, the Research Councils and the UK government.

The arguments for greater and earlier public engagement in science are compelling. However, science and policy must meet four additional challenges in order to earn public trust. The governance of science and technology must be:

- **Consistent** The government treats public engagement as a brake on scientific progress, albeit a necessary one. By contrast, non-scientists representing business are routinely involved in decisions about science, on the assumption that they will help drive science and technology forward. Different methods of engagement may be appropriate. Different rules of engagement are not.
- **Sustainable** The central aim of science policy is 'wealth creation', in a narrow sense. This conflicts with the government's commitment to sustainable development, which encompasses economic objectives but places equal emphasis on social and environmental aims. Sustainable development would be an appropriate objective for a more joined-up approach to governing science and technology.
- **Accountable** Public engagement should be seen as a complement to political representation in decision-making, not as a substitute for it. Policy advice should be transparent, independent and should open up the possibilities available to decision-makers.
- **Fair** The privatisation of public sector research is concentrating decision-making power and research resources in the hands of corporate stakeholders, at the expense of other citizens, science workers and farming communities. A serious restructuring of decision-making and a radical redistribution of research resources are both preconditions of a just research system.

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This briefing sheet is based on a report called *Just knowledge? Governing research on food and farming.* You can obtain the full report by contacting us or visiting our web site.

"An important and timely contribution… an invaluable guide to how, where and why social and ethical questions can be addressed."

Dr James Wilsdon, Demos (co-author of *See-through science: why public engagement needs to move upstream*)

BEYOND PUBLIC ENGAGEMENT

towards a just research system

Research and education

Research scientists cannot avoid ethical issues. In the first place, in the practice of research, they are faced with numerous ethical codes, guidelines and procedures. These cover issues that range from confidentiality and data protection, to the ethics of publishing papers or experimenting on animals.

But most existing requirements and guidelines only address a small subset of the ethical issues that arise in research. They focus on the conduct of research, and are largely blind to its social context and consequences. They do not address the question that many non-scientists care most about: what is the wider purpose of the research and what are its social implications?

It is essential for scientists to deliberate on the social consequences of their work. To help achieve this:

- Funding bodies should reward research grant applicants who consider the social context of their research.
- Scientists can follow the example of the Cambridge University nanoscience laboratory, which has employed a social scientist to help them reflect, in real-time, upon the social implications of their work.
- Now that ethical and social objectives feature in science curricula, science teachers in schools and universities should be given the support, training and resources they need to meet them.

Engaging in innovation

The idea that non-scientists should be more involved in decision-making about research seems to worry many scientists and business people. They fear that public engagement will bog down scientific ingenuity and economic performance. The government, for all its talk of upstream engagement, seems to sympathise with this view. Its *Science and innovation investment framework* sees public concerns as a "brake" on progress.[1]

Although the vast majority of the public have often been characterised as risk averse and morally conservative, that stereotype is rarely imposed on all non-scientists. Indeed, stakeholders from industry, many of them non-scientists, are already deeply involved in research and research policy, upstream, downstream and in between. Government policies highlight the crucial contribution these 'professional stakeholders' make to science and innovation – their involvement is seen as an asset to research and development (R&D) and not an impediment.

Wider public engagement cannot be confined to special 'science and society' initiatives. This is necessary if policies are to be both consistent and credible, because we are all stakeholders in science:

- Not only should public engagement play a greater part in the government's own science procurement and funding, but it should also be integrated into flagship policy initiatives to support business R&D.
- There is strong business case for listening to a wider range of stakeholders during R&D. Citizens who are not professional stakeholders are a source social intelligence and therefore a potential asset. The failure of GM crops in Europe demonstrates the commercial risks of underestimating public concerns. Public engagement processes had clearly identified that risk at least three years before the GM 'crisis' broke in 1998.

Public and private

Science policy emphasises the economic returns of public and private spending on R&D. This has been one of several factors behind the privatisation of food and farming research over the past 20 years. Private spending has risen relative to public spending, in the UK and internationally, and public research institutions have been sold off. The distinction between public and private has also become increasingly blurred: public research is contracted out to private companies; public research organisations follow industry trends towards short-term staff contracts; regulatory agencies such as the Pesticides Safety Directorate (PSD) and Veterinary Medicines Directorate (VMD) are run like companies and gain income from licensing fees; and the outputs of public research are privatised through intellectual property (IP) protection.

This means less long-term research. It also makes it more difficult for public researchers and organisations to pursue the public interest, and sometimes generates conflicts of interest. In particular, there is a risk that public health will be compromised in some fields of product regulation, where regulators compete internationally for industry licence applications.

The government claims to address areas of 'market failure', yet official data on research spending defy comparisons between the public and private sectors. It is therefore difficult for anyone, including government decision-makers, to make informed assessments of the proportion of research in any field which is in the public interest. Furthermore, public researchers are increasingly under market pressures themselves, not least because many of the intellectual resources they rely upon are privately owned. We are concerned that IP rules, which govern the exploitation of knowledge, are currently contrary to the public interest, though we recognise the value of regulatory incentives for knowledge creation. Policies governing the exploitation of intellectual resources should aim to reward collective creativity, combat the use of patents to block R&D, alleviate commercial pressures on public research, and strengthen the kinds of informal knowledge that are stewarded by rural and urban communities.

Current policies to promote broader public engagement in research and research policy will be largely cosmetic unless control of the resources for research is radically redistributed. First steps include:

- Developing official data categories which facilitate cross-departmental and public-private research comparisons.
- Restructuring regulatory agencies so as to ensure their financial independence from industry.
- Undertaking an international review of alternative incentives for knowledge creation in order to inform UK policy.

Sustainable science policy

Science policy and agricultural policy both bear on food and farming research. They intersect, for instance, in the work of a research institute that gains some of its funding from the research councils and some from the Department for Environment, Food and Rural Affairs (DEFRA). However, they centre on different aims and use different languages: science policy focuses on a narrowly conceived notion of wealth creation, whereas agricultural policy focuses on sustainable development.

The stress that science policy lays on the commercial returns of research spending and investment jars with sustainable development, which encompasses economic objectives, including a fuller notion of wealth creation, but places equal emphasis on social and environmental aims. Some commercially profitable technologies are environmentally damaging and socially regressive.

A concept of sustainable development is already prominent in UK policy, particularly in DEFRA, and is currently being further refined. We recommend that the government develops a more joined-up approach to research and innovation around the theme of sustainable development:

- This would ease the conflicting pressures on publicly funded researchers and help to ensure better use of resources.
- A sustainable science policy would presuppose precautionary product regulation.
- Given that precautionary decision-making entails a comparison between alternative options, a sustainable innovation policy might aim to promote a diversity of technologies and products, rather than 'picking the winners'.

Governing technology

Some official discussions of ethics and public concerns draw a line between science and its application. As the Prime Minister has put it, "Science is just knowledge. Science doesn't replace moral judgement… with scientific advance we need stronger analysis of how to *use* knowledge for good not ill".[2] This implies that if social and ethical issues are not addressed in research they will be addressed downstream.

This clear-cut divide is inconsistent with government policy on innovation, which recognises that the research, development, regulation and use of new technologies are inseparably linked. Nor does it fit with the government's current focus on upstream public engagement, which aims to address concerns sooner rather than later. But the research-application divide is most misleading because many ethical issues and public concerns are *not* addressed downstream in technology regulation:

- Ethical issues have been systematically excluded from regulatory assessments for new products like veterinary drugs and GM crops. In some cases it is considered that they would contravene international trade agreements. The UK government therefore needs to press in international trade negotiations for amendments to any clauses that are perceived to rule ethical or social issues out of product assessment processes.
- The UK can boast nothing like the organisations for participatory technology assessment that operate in many other European countries. To address this deficit, the government should establish a clear and cross-sectoral responsibility for participatory technology assessment.

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[1] **HM Treasury, Department for Education and Skills and Department of Trade and Industry** (2004) *Science and innovation investment framework 2004-2014.* HMSO, London, July: 156, added emphasis.

[2] **Blair, T.** (2002) *Science matters.* London, April 10, added emphasis.