

HOW DOES SCIENCE INFORM THE UK GOVERNMENT?

The British Ecological Society (BES) is committed to making the best ecological evidence accessible to decision-makers. Policymaking processes are rarely straightforward, however, and understanding how best to share their expertise with decision-makers can be challenging for scientists. Our Policy Guides aim to improve communication between our members and policymakers, increase the impact of ecological research and support evidence-informed policymaking.

INTRODUCTION

This third Policy Guide provides an introduction to the structure of the UK Government, focusing on the various bodies within and across departments that use and provide scientific evidence. It also offers advice on how researchers can engage government with their expertise.

WHAT IS THE UK GOVERNMENT?

The Government has the power to make policy and implement laws, and is accountable to Parliament¹. The Prime Minister is the leader of the political party with the most seats in the House of Commons (the Commons), or who stands the most chance of commanding a majority in a vote of confidence.

With the support of Cabinet and other ministers, the Prime Minister is ultimately responsible for all policy decisions in Government. The Cabinet is an executive body made up of the Secretaries of State and other senior ministers which meets frequently to discuss government policy.

WHAT IS THE DIFFERENCE BETWEEN GOVERNMENT DEPARTMENTS, AGENCIES AND PUBLIC BODIES?

DEPARTMENTS

Ministerial departments are responsible for deciding government policy, each covering a particular policy area, and are led by a Secretary of State. Secretaries of State are appointed by the Prime Minister and are members of the Commons or the House of

KEY MESSAGES

- The Prime Minister leads the Government and with the support of the Cabinet holds executive power to implement policies and propose laws.
- Government departments develop policy, while executive agencies provide government services. One of the roles of non-departmental public bodies is providing expert advice to government.
- Chief Scientific Advisors and scientific advisory groups provide government departments with scientific advice.
- When providing advice to ministers, civil servants have to be objective, and therefore need high quality scientific evidence. Policy decisions, however, are ultimately made by ministers.
- Informing government of the scientific evidence can be done through formal channels, such as consultations, as well as through informal avenues such as relationships with individual civil servants.



Lords (the Lords)². Although chosen by the Prime Minister, they are accountable to Parliament and take regular questions from MPs. Where the Secretary of State is a Member of the Commons, the department will also have a Minister of State or junior minister from the Lords so that the department has a representative from both Houses. Non-ministerial departments are led by a civil servant and usually have a regulatory or inspection function such as the Water Services Regulation Authority.

EXECUTIVE AGENCIES

Executive agencies are parts of government departments that typically provide government services rather than develop policy. In the Department for the Environment, Farming and Rural Affairs (Defra) examples include the Rural Payments Agency, which administers payments for the EU's Common Agricultural Policy, and the Centre for Environment, Fisheries and Aquaculture Science (Cefas) which provides research, advice and consultancy services for the marine and freshwater environment.

NON-DEPARTMENTAL PUBLIC BODIES

These are parts of government that provide government services but have a degree of autonomy. There are several types of non-departmental public bodies (NDPBs) which include executive NDPBs, advisory NDPBs and National Park Authorities.

Executive NDPBs work for the government in specific areas and collaborate closely with different departments. Natural England (NE), the Joint Nature Conservation Committee (JNCC), Environment Agency and the Committee on Climate Change (CCC) are all executive NDPBs. NE is the government's advisor for the natural environment in England.

JNCC is the body responsible for advising Defra and equivalents in the devolved administrations on UK-wide and international nature conservation. The CCC advises the UK Government and devolved administrations on emissions targets, and reports to Parliament on progress made on reducing greenhouse gas emissions and the implementation of adaptation measures³. Advisory NDPBs provide independent, expert advice to government. The Council for Science and Technology advises the Prime Minister on science and technology issues which cut across government departments, whereas the Science Advisory Council (SAC) focuses support on Defra policy making. Other NDPBs include National Park Authorities such as the North York Moors National Park Authority.

WHO PROVIDES AND USES SCIENTIFIC EVIDENCE WITHIN GOVERNMENT?

Sources of scientific advice can be found across government. Research is also commissioned by government and conducted by a wide variety of people including consultants, academics and non-governmental organisations⁴. Users of scientific evidence include those who have a role in developing and deciding policy within government such as Ministers, their advisors and civil servants.

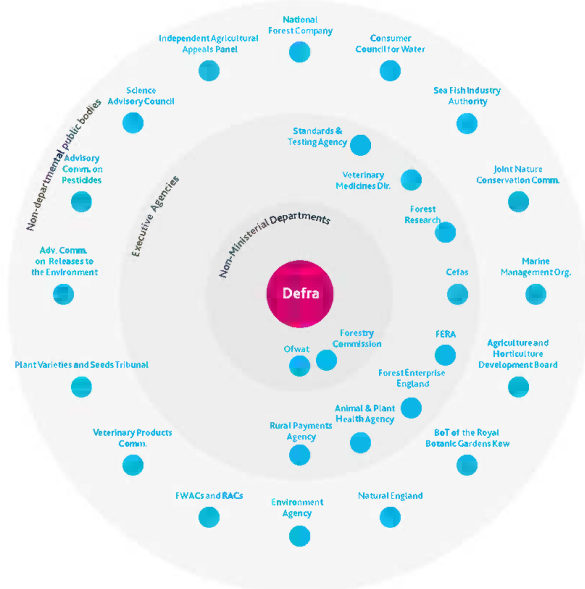
GO-SCIENCE

The Government Office for Science (GO-Science) is an organisation that ensures government policies across all departments are informed by the best scientific evidence and strategic long-term thinking. GO-Science is led by the Government Chief Scientific Advisor (GCSA).

FACT BOX

HOW IS SCIENTIFIC EVIDENCE USED, MANAGED AND ACCESSED WITHIN THE DEPARTMENT FOR ENVIRONMENT, FARMING AND RURAL AFFAIRS (DEFRA)?

- Defra is the government department responsible for the natural environment, the food and farming industry and the rural economy⁵. Defra is responsible for environmental policy in England, as this is a devolved issue, but represents the UK in EU and international negotiations.
- The Defra Science Advisory Council is composed of external senior scientists and oversees the work of the Chief Scientific Advisor and relevant scientific advisory groups.
- Different policy units have their own research interests which are often supported by a team of civil service economists, as well as social and natural scientists⁶.
- The Environment Analysis Unit aims to ensure data on flood alleviation, biodiversity, soil, air and farming is pooled, so that they can be considered together and not in isolation.
- Analysis and Evidence teams are developing plans to identify the evidence base and evidence requirements related to current policies and strategy⁷. Evidence plans should help facilitate co-design of research questions with Research Councils and the wider scientific community.



Source: IFC analysis of Cabinet Office, *Public Bodies 2015*, includes non-ministerial departments, executive agencies and non-departmental public bodies only.

GO-Science produces reports on current and emerging issues with priority areas and strategy set by the GCSA. Foresight projects report on issues emerging between 20-80 years in the future⁸. GO-Science also works with the Cabinet Office on the Horizon Scanning Programme to systematically investigate evidence on future trends. In the case of emergencies GO-Science quickly gathers the best scientific advice through the Scientific Advisory Group for Emergencies.

CHIEF SCIENTIFIC ADVISORS AND EXPERT ADVISORY GROUPS

Departmental Chief Scientific Advisors (CSAs) can be found in most of departments and form a network of scientific advice under the leadership of the GCSA⁹. CSAs meet weekly to discuss issues that cut across departments boundaries. Ministers tend to use CSAs as a source of advice during emergencies and when scientific advice is required.

The Science Advisory Council (SAC) provides expert independent advice to Defra primarily through temporary advisory groups or committees related to a specific topic which are chaired by council members. It also challenges and supports the work of the CSA. Previous advisory groups have looked at pollinators¹⁰ and water quality¹¹ producing reports on their findings. The Defra SAC has undertaken a review of all the departments' advisory groups to look at the processes for sourcing and using external advice through these groups¹².

CIVIL SERVANTS

The civil service helps the government develop and implement policies as well as providing services for the public. Civil servants work in government departments and agencies and have a range of expertise and backgrounds.

Individual civil servants with scientific or engineering expertise belong to the Government Science and Engineering (GSE) Profession, which aims to ensure that scientific expertise is deployed more effectively in policy development¹³. Civil servants from the GSE profession may work in Evidence and Analysis teams or within the CSA's office. As a scientist, it is likely that most of your interactions will be with civil servants in Evidence and Analysis teams.

Civil servants are accountable to ministers and are expected to adhere to four core values; integrity, honesty, objectivity and impartiality¹⁴. This requires civil servants to base their advice on rigorous analysis of evidence and to seek expert and professional advice to ensure that options and facts are presented as accurately as possible. Civil servants involved in policy development need to have access to high quality evidence. They do this by maintaining professional expertise in the relevant area and commission new research where it is necessary to inform policy understanding or development.

When a decision is made by a minister, civil servants are not allowed to turn down that decision regardless of the evidence that underpins it. It is the job of Parliament to scrutinise the decisions made by ministers.

TOP TIPS

HOW CAN YOU ENGAGE WITH POLICYMAKERS?

- Appreciate that scientific evidence is just one of many considerations that shape decisions in government. Economics, law and public opinion can also affect decisions.
- Make an effort to understand the current policy context of your research area.
- Ensure that all communications with policymakers are concise, digestible and unbiased. Try to provide options with the pros and cons and communicate levels of uncertainty.
- Try to make your research publicly available as policymakers often have limited access to scientific journals.
- Be available to provide your considered opinion but always be clear where there are uncertainties or inconsistencies in the evidence. Asking for more time and money is not helpful as budgets and staff time are limited. Instead try to identify funding streams that are relevant to policy and enable co-design of research.
- Build trust and long term relationships by ensuring you have frequent interactions with policy contacts and ask how you can help them.
- Policymakers do not always engage with scientists and evidence in a coordinated way as priorities and procedures differ widely between departments and individual civil servants.
- Stay up to date on events and news from the relevant government departments and non-departmental public bodies either through mailing lists or social media. This can provide you with events that are taking place which you can attend to build your long-term relationships.
- Be opportunistic; Defra civil servants attend BES Annual Meetings – find them and speak to them!



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HOW CAN RESEARCHERS ENGAGE WITH GOVERNMENT?

FORMAL AVENUES

The public are invited to give their views on new or changing government policies through consultations¹⁵. The government department responsible for the relevant policy area will then consider these responses before making a decision.

The BES responds to relevant consultations with contributions from members, who are encouraged to register on the BES Interests and Expertise Database or to contact the policy team to stay up to date¹⁶.

INFORMAL AVENUES

Building informal networks with civil servants is an important way of communicating research to policymakers. Finding out which civil servants are responsible for different policy areas is difficult, and it is often best to 'use people to find people'.

Defra civil servants involved in policy development frequently attend BES workshops and conferences, providing an opportunity to engage.

WORKING WITH GOVERNMENT

Research Councils UK funded PhD students can apply for three month internships at various government departments and agencies.

Early career researchers can apply for research council Policy Placement Fellowships¹⁷. BES also has its own Policy Fellowship which provides mid-career ecologists with experience of working in a government department or agency.

Senior scientists can apply to be members of advisory councils through a formal application process. Temporary advisory committees and groups tend to invite participants.

Researchers with a strong track record in their field, who are known to engage with policy, stand a higher chance of being approached.

CASE STUDY

DEFRA'S EXPERT GROUPS

Expert groups advise Defra on the use of evidence or the formulation of policy, provide a link to academic expertise, and provide independent advice and scrutiny. Expert groups can be strategic evidence advisory committees providing advice across a broad area (e.g. Defra's Science Advisory Council); expert advisory groups providing detailed advice on specific areas (e.g. Air Quality Expert Group); expert policy groups providing advice on policy formulation in a particular area; and project steering groups providing advice on specific time-limited projects.

Members are appointed from academia and the civil service based on their expertise. Invited experts may attend specific meetings. Most groups have a Terms of Reference document to outline the group's responsibilities.

Expert groups meet on a regular, annual or ad hoc basis, and produce annual reports on their activities or reports on a specific issue. Minutes of meetings are published online for some expert groups (e.g. the Adaptation Sub-Committee).

There is no one-size-fits-all approach to contributing to expert groups. Keep up

to date with the activities of the groups relevant to your expertise and look for opportunities to contribute. Join events that are attended by policy officials to develop a network of policy contacts. Experts who are aware of the constraints of policymaking are more likely to provide useful advice to policymakers.

REFERENCES

1. [British Ecological Society, 2017, An Introduction to Policy in the UK](#)
2. [British Ecological Society, 2017, How does Science inform Parliament?](#)
3. [The Committee on Climate Change, 2018](#)
4. [Defra funded research projects, 2018](#)
5. [Defra](#)
6. [Defra organogram, 2016](#)
7. [The Royal Society and Defra, 29-30 March 2017, Science for Defra: excellence in the application of evidence Conference notes](#)
8. [Foresight, 2011, The Future of Food and Farming Final Project Report, The Government Office for Science, London](#)
9. [List of Chief Scientific Advisors](#)
10. [Vanbergen et al., 2014, Status and Value of Pollinators and Pollination Services](#)
11. [Defra, 2015, Science Advisory Council Water quality sub group Final Report, SAC-WQ \(15\) 003](#)
12. [Campaign for Science and Engineering, 2017, Evidence: Improving the use of evidence in UK government policymaking](#)
13. [The Government Office for Science, 2016, The Government Science and Engineering \(GSE\) Profession Strategy: Our Blueprint for the future of the GSE profession](#)
14. [The Civil Service code, 2016](#)
15. [Government consultations](#)
16. [BES responses to consultations](#)
17. [NERC Policy Placement Scheme](#)



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BRITISH ECOLOGICAL SOCIETY POLICY GUIDES

Policy Guides will provide an information resource for BES members, focusing on the policymaking process in the UK and the various avenues through which scientific evidence can be used to inform policy.

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