



Science Policy Careers

What is Science Policy?

Science policy is defined as being *an area of public policy which is concerned with the policies that affect the conduct of the science and research enterprise...often in pursuance of other national policy goals such as technological innovation, weapons development, health care and environmental monitoring. Science policy also refers to the act of applying scientific knowledge and consensus to the development of public policies.* Science policy workers consider the ethical and political dimensions and how science and technology can best serve the public.

There is a wide range of employers in this field, with many roles in government departments, non-governmental organisations (NGOs), think tanks, charities, private sector businesses such as the food industry and pharmaceuticals, and in professional and learned organisations such as the Royal Society. Science policy experts must have an understanding of science, politics and economics, and the work involves a combination of science writing, communication and advocacy. Some roles may require a science degree, but others may be open to non-science graduates who have excellent research, analysis, writing and advocacy skills.

The related field of **science communication**¹ generally refers to communicating science-related topics to non-experts, but it overlaps and complements science policy. Work in this field is sometimes referred to as 'outreach' or 'engagement', and it includes science fairs and exhibitions, journalism, policy or media production.

This document is a starting point for researching this type of work: what the work involves, the skills and experience required, who the main employers are, how to find relevant work experience and networking opportunities, and where to find jobs.

What the job involves

Enthusiasm for science and its broader relevance to society is vital. Communication is central so you need be able to work collaboratively, and produce clear, concise briefs, both written and oral. There is a great variety of activities and topics you may have to engage with so adaptability is also important.

Many people become involved in science policy as they are keen to show how discoveries in the lab can benefit everyone in society - saving lives, creating jobs and promoting education. They aim to bridge the gap between scientists and the public, using their knowledge and skills to find ways to translate highly technical scientific issues into something that can be easily understood as good policy. Politicians, for example, rely on policy experts to analyse and produce scientific reports, and to interpret laws and bills.

¹ Search for 'science communication' in MyCareerHub Resources for tailored information that covers working in science communication, in particular public engagement, press & PR, and working in the media.





Science policy experts work in a wide range of organisations. Typical responsibilities include collecting and synthesising information, writing reports and policy documents, identifying and analysing policies on myriad topics such as emergency planning for natural disasters, patent regulations and medical testing, and imparting expert advice to a range of audiences. They also have a vital role in fostering relations between people, organising and facilitating events, talks and meetings involving scientists, policy makers (e.g. government agencies) and other organisations (e.g. research centres, scientific bodies) to help them work together. Many liaise with scientists to help them get support for their research, and to help them to communicate their knowledge to government and the public, to inform policy or tackle national and international challenges.

The aim of the role can be to generate support for scientific research or study, or to develop government science policy and inform decision making, including political and ethical thinking. Professionals in this field must have a deep understanding of the relationship between scientists and the public, how people learn about and engage with science, and how to use mass media effectively. Blogging has become an important way of communicating in this field (see below for some useful blogs).

This is still an evolving profession and there is no single, clear-cut route into science policy work. Much may depend on when you decide to pursue policy work as a career. Some scientists want a research career before going into policy work, while others decide to enter the profession early and choose to obtain postgraduate qualifications in science policy, such as the ones offered at Edinburgh University.

Postgraduate study

For those interested in science policy careers postgraduate study could be very useful. There are now a number of masters and PhD courses in science policy, including the interdisciplinary *MSc in Science and Technology in Society* offered at Edinburgh, and the popular *MSc Climate Change and Environmental Policy*. These courses allow students to develop an understanding of policy as a field of practice, to critically evaluate and think analytically about science and policy issues, understand new developments and evaluate the implications for business and society, and how to encourage participation with relevant groups.

Applicants to the ***Fast Stream Science and Engineering*** programme, for example, must have either a postgraduate degree in science or engineering, or be a chartered engineer. These fast streamers aren't bench scientists or technical engineers, they apply their specialist skills and knowledge to the development and application of policies, working alongside other specialists and generalists. You'll be expected to become as comfortable in a policy or operational delivery role as you are in a technical environment.





Who employs science policy workers?

Scientific societies, international organizations, charities, lobby groups, government bodies and NGOs all need specialists working on science policy.

Many science policy workers start out doing scientific research for organizations involved in social issues, before their concern leads them towards helping to shape policy. Others join independent think-tanks, to advise official bodies from the outside. Some even create their own science-policy positions by setting up a think-tank, or acting as independent advisers.

But before anyone takes the plunge into policy, veterans advise you to consider what you wish to do in the long term: whether you want to move back and forth between science and policy, or make the decision to leave one world for the other.

At the end of this document you will find annotated lists of

- **organisations employing science policy workers (Appendix 1)**
- **organisations offering shorter-term opportunities (Appendix 2)**

Getting involved in Edinburgh

Getting involved in societies is a great way to develop your skills and increase your knowledge, as well as for networking. Societies very often organise events and invite speakers from their area/s of interest. On the Student Association Societies website search Academic (Sci & Eng) for a list of societies that may be very useful to anyone interested in science policy.

- <https://www.eusa.ed.ac.uk/getinvolved/societies/findasociety/>

Some societies will also help you develop your research skills, as well as increase your knowledge, e.g. Science young researchers

- <https://www.eusa.ed.ac.uk/societies/society/young-researchers/>

Events are also organised by universities, learned societies, employers and others, that provide both excellent learning and networking opportunities, including academic and professional conferences, science festivals and training events.

Find out how you can be part of the annual Edinburgh Science Festival:

<http://www.sciencefestival.co.uk/news-article/be-part-of-science-festival-2017>

Work Experience

Internships

Many of the organisations listed in the Appendices offer internships in this area. Read here how an internship led Paul Richards to a career in Science Policy:

<http://www.sgm.ac.uk/en/all-microsite-sections/careers/science-policy.cfm>





Speculative applications

Track down your own opportunities! Use the resources on our website to identify the employer/s you would like to work for, then ask if they can offer you work experience. <http://www.ed.ac.uk/schools-departments/careers/looking-for-work/internships/unadvertised-internships>

Social media & networking

Social media is an increasingly important tool for careers research, networking opportunities, and finding job vacancies. The information and advice on our website will help you to learn to use Twitter effectively, how to write a great LinkedIn profile, and to manage your digital footprint:

- <http://www.ed.ac.uk/careers/looking-for-work/social-media>

Useful blogs

Policy Lab - Supports policy workers in government to develop knowledge and skills. <https://openpolicy.blog.gov.uk/>

Sciengage blog network <http://www.sciengage.com.au/blog/>

Additional resources

PSCI-Comm - excellent resource for science communicators, educators, policy workers, researchers and anyone with an interest in science and society. Includes a bibliographic database of references to books, reports, journal and newspaper articles.

- <https://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=PSCI-COM>

Scicommjobs - website and blog for science communicators, also posts job vacancies and job descriptions. It's also a store for other 'scicomm' resources and job postings. Useful to see the roles out there, and find out what 'desirable / essential' skills you need to have to apply for jobs now, or when the time comes you want to apply for a more senior role. Usually the only opportunity to see what roles an organisation has 'in play' is when someone leaves creating the vacancy.

- <https://scicommjobs.wordpress.com/page/2/>





Appendix 1 Organisations employing science policy workers

Charities

AMRC (Association of Medical Research Charities) - charities are at the heart of UK medical research and the AMRC is the national organisation that represents leading medical and health research charities. AMRC supports individual charities to deliver their programmes effectively, but also influences change at a national level, through groups such as the Policy and Public Affairs Working Group (PAWG) and PAWG Scotland. This network brings together policy and public affairs leads from AMRC members and other organisations. They meet to discuss policy issues and coordinate activity, and also to share information and ideas for the APPG (all-party parliamentary group) on Medical Research.

- <http://www.amrc.org.uk/>

British Council - their work in public engagement includes supporting researchers in showcasing their work internationally, working with new talent in science communications globally, and engaging the public directly with scientific subjects that affect society. The Council also runs programmes funded by the £375 million Newton Fund for science and innovation to promote the economic development and social welfare of partner countries.

- <http://www.britishcouncil.org/education/science>

Research Councils

Research Councils UK (RCUK) – the umbrella organisation for the seven UK research councils, offers a range of opportunities for scientists interested in policy, including fully-funded 3-month **Policy Internships** to all research council funded PhD students:

- <http://www.rcuk.ac.uk/RCUK-prod/assets/documents/documents/RCUKPolicyInternshipsApplicantGuidance.pdf>

Read about the experiences of science policy interns with the British Library Science team:

- <http://britishlibrary.typepad.co.uk/science/2014/07/my-internship-with-the-british-library-science-team.html>
- <http://www.bbsrc.ac.uk/news/food-security/2013/130805-n-bbsrc-bee-science-on-bbc-horizon/>





Some Research Councils run **policy training** workshops for researchers. For examples see:

- <http://www.nerc.ac.uk/using/publicsector/workshop.asp> or
- http://www.esrcsocietytoday.ac.uk/ESRCInfoCentre/Support/knowledge_transfer/find_out_more/training_and_development/GRIP.aspx

Exchange schemes between researchers and government employees. Several Research Councils run such schemes. Find more information on the RCUK Knowledge Transfer Portal:

- <http://www.rcuk.ac.uk/innovation/ktportal/evidence.htm>

Medical Research Council (MRC) - plays a key part in shaping public policy and legislation relating to the use of animals in research. The website offers information and advice about biomedical careers and advertises vacancies within the MRC.

AMS/MRC policy internship scheme – offers MRC-funded PhD students the opportunity to undertake a three month internship at the Academy offices in central London.

- <http://www.mrc.ac.uk/documents/pdf/2014-ams-mrc-policy-internship-scheme/>

Ben is currently a Policy Officer with AMS. Read how his career aspirations and options were impacted by his MRC internship:

- <http://www.mrc.ac.uk/skills-careers/career-profiles/policy-officer-ben-bleasdale/>

Government

The **Civil Service Fast Stream** recruits graduates into the Science & Engineering Fast Stream:

- <http://faststream.civilservice.gov.uk/about-fast-stream>

Government Office for Science - ensures that government policies and decisions are informed by the best scientific evidence and strategic long-term thinking.

- <https://www.gov.uk/government/organisations/government-office-for-science>

The Council for Science and Technology (CST) – a non-departmental public body (NDPB), advises the Prime Minister on science and technology policy issues. Internships are often available.

- <https://www.gov.uk/government/organisations/council-for-science-and-technology>





National Assembly for Wales Research Service

Nia Seaton, Members' Research Service (listed as contact for internships):

- Email: Nia.Seaton@Wales.gov.uk

Parliamentary Office of Science and Technology (POST) RSC Westminster
Scholarship interns:

- <http://www.parliament.uk/post/home.htm>

Scottish Government - employs science policy workers in a variety of settings, including Europe and External Affairs, Health and Social Care and the Environment.

Internship opportunities - contact **Jude Payne**, Senior Researcher, Health & Social Care, Scottish Parliament: jude.payne@scottish.parliament.uk

Sciencewise - a BIS funded programme to improve Government policy making involving science and technology, provides co-funding and specialist advice to help government departments, agencies and NGOs develop and commission public dialogue.

- <http://www.sciencewise-erc.org.uk/>

Scientific organisations

British Science Association – a charity aiming to place science at the heart of society and culture. They organise major initiatives across the UK, including British Science Week and the annual British Science Festival, and host policy debates through their Policy Networks programme.

- <http://www.britishtscienceassociation.org/science-matters>

CaSE: Campaign for Science & Engineering Policy - the leading independent advocate for science and engineering in the UK, working with a wide range of industrialists, educationalists, researchers and academics to raise the profile and obtain vital research funding. Advertise jobs ranging from internships and graduate entry, to more experienced positions, and very senior roles suitable for career changers. The website has useful links to science policy blogs, government departments, and to other science organisations.

- <http://sciencecampaign.org.uk>

The Physiological Society - the Society's policy work aims to identify and act upon issues of importance to physiology as a discipline and to promote physiology in science and education policy. Their policy work spans from primary level to postgraduate education.





The Society offers a range of grants, awards and prizes to undergraduates, postgraduates and researchers. Vacation studentships give undergraduates the opportunity to undertake a research project on an area of physiology over their summer break.

- <http://www.physoc.org/policy>

The Royal Society - the UK's national academy of science. Its Science Policy Centre plays an influential role in national and international science policy, providing independent and authoritative scientific advice to UK, European and international decision makers. It works in collaboration with other experts to champion the contribution that science and innovation can make to economic prosperity, quality of life and environmental sustainability, and provides a hub for debate about science, society and public policy.

Paid policy **internships** of varying length are offered (usually 4 or 6 months). All jobs are advertised on the Royal Society portal, and applications are made online. Interns get involved in a wide variety of projects and activities relating to science policy. Public Engagement internships are also offered.

- <https://recruit.royalsociety.org/AccessSelect.rEcruit/Recruitment/Default.aspx>
- <https://royalsociety.org/policy/>

Royal Society of Chemistry – the RSC is very active in the development of policy relevant to the chemical sciences. They strive to maximise the effectiveness of research and education, and facilitate policymakers' use of scientific information. They provide expert information and gather evidence so policy makers and the public are informed and up to date on current scientific and education issues.

The website includes vacancies within the society and information about the career paths they offer, as well as wider chemistry-related careers information and advice.

- <http://www.rsc.org/campaigning-outreach/policy/>
- <http://www.rsc.org/careers/work-for-us/>

Society for General Microbiology – professional society for microbiologists. It provides useful careers information, including what a science policy officer in this field does.

- <http://www.sgm.ac.uk/en/all-microsite-sections/careers/science-policy.cfm>

The Society of Biology – represents a diverse membership of individuals, learned societies and other organisations, including a number of Special Interest Groups. It is involved in advising Government and influencing policy; advancing education and professional development; supporting members, and engaging and encouraging public interest in the life sciences. The website also provides careers information and advice and hosts a jobs board.





Internships - Contact Dr Jackie Caine, Senior Science Policy Advisor, to find out about internship opportunities: jackiecaine@societyofbiology.org

- <https://www.societyofbiology.org/policy>

Think tanks

SciDev.Net is a company committed to putting science at the heart of global development. Their mission is *to help individuals and organisations apply evidence and insights from science and technology to decision-making in order to have a positive impact on equitable and sustainable development and poverty reduction*. The website is an invaluable source for information, news and blogs about the biggest challenges facing science communication, as well as job adverts in science policy, science communication, and related fields worldwide.

- <http://www.scidev.net/en/jobs/>

The Science Council is a membership body of learned societies and professional bodies across science, including the **Science in Health Group**. It aims to provide leadership in policy by fostering debate and the exchange of ideas about scientific concerns with member bodies and a wide range of stakeholders through research, meetings, seminars, discussion papers, policy proposals, consultations, and public affairs activities. The Council hosts the **Public Affairs Network**, an informal forum for people engaged in science policy to widen their professional network

- <http://www.sciencecouncil.org/>

WISE Women in Science and Engineering (WISE) - works with schools, colleges and universities across the UK with the aim of increasing the gender balance in the STEM (science, technology, maths) workforce. *An important part of this work involves influencing policy in the STEM sector. The website offers careers advice and advertises opportunities to work for WISE, and jobs from employers with a positive attitude to recruiting a diverse workforce.*

- <http://www.wisecampaign.org.uk/jobs>

NIDOS - network in Scotland that unites the international development sector to promote effectiveness and collectively influence the policy agenda. Our aim is to strengthen the contribution of Scottish organisations to reducing inequality and poverty worldwide. NIDOS member organisations, both individually and through collective fora such as NIDOS, are also active in policy work to tackle the root causes of poverty. members working in at least 142 countries with a wide range of specialisms. Networking with member organisations and key stakeholders including the Scottish Government and DFID, events and training, member directory

- <http://www.nidos.org.uk/policy>





International Organisations

European Parliament Scientific and Technological Options Assessment (STOA) - develops policy for technological and scientific advances, works in partnership with external experts, including research institutes, universities, laboratories, consultancies, and individual researchers contracted for specific projects.

- Stoa@europarl.europa.eu
- <http://www.europarl.europa.eu/stoa/cms/home/about/contact>

epolicy works - initiative set up by the U.S. Department of Labor's Office of Disability Employment Policy (ODEP) to address barriers to employment for people with disabilities through a web-based approach to policymaking that engages citizens and stakeholders in new and innovative ways.

- <https://www.epolicyworks.org/epw/>

International Council for Science (ICSU) – an NGO with a global membership of national scientific bodies and International Scientific Unions. The ICSU aims to strengthen international science for the benefit of society so that excellence in science is valued and scientific knowledge is integrated into international policy development. They identify issues of major importance, promote and facilitate interaction amongst scientists, and provide independent, authoritative advice to the scientific community, governments, civil society, and the private sector. Their website includes information about interdisciplinary bodies involved in science policy and current projects, publications and news, and is home to an online scientific community.

- <http://www.icsu.org>

United Nations Educational, Scientific and Cultural Organization (UNESCO) – aims to use science to find solutions to economic, social and environmental challenges, and to achieving sustainable development and greener societies. Believes that collaborative work and cooperation with NGOs and intergovernmental organisations contributes not only to scientific knowledge but also to building peace.

The **internship programme** and jobs are advertised on the website.

- <http://www.unesco.org>
- <http://en.unesco.org/careers/internships>





Appendix 2

Short-term opportunities

If you are unsure about leaving science for policy you may wish to take a short-term position - these are often available for scientists with specific technical knowledge and policy interests. Some scientists may question the value of leaving science completely but agree that short-term experience is useful as it allows scientists to return to the lab with a greater understanding of policy needs.

Short-term positions may also offer the opportunity to work abroad, with international organizations such as the United Nations <http://www.un.org/en/index.html>.

International Council for Science - short-term positions at **ICSU** come up periodically and offer training in international policy. As the invited 'voice' of the scientific community at the World Summit on Sustainable Development meetings in Rio de Janeiro, ICSU enables trainees to get a bird's-eye view of policy development and become part of the network of international players.

- <http://www.icsu.org>

The **UN Educational, Scientific and Cultural Organization (UNESCO)** has a science analysis and policies division based in Paris, and they recruit scientists for short-term, project-based positions that deal with legislation or public awareness of specific issues. Opportunities vary by country.

science analysis and policies division, based in Paris

- <http://www.unesco.org/new/en/natural-sciences/science-technology/science-policy/>

The **European Parliament's Scientific and Technological Options Assessment** office offers a limited number of opportunities for short-term work experience. Its Ramón y Cajal scholarships are available to scientists and engineers, but unpaid research visits can be arranged as well.

- http://www.europarl.eu.int/stoa/scholars/default_en.htm

Some countries are promoting interactions between scientists and policy-makers at the national level. In the United Kingdom some ten formal fellowships, each lasting three to six months, are funded by **scientific societies**, **research councils** and the **Parliamentary Office of Science and Technology**. The fellows provide briefings on scientific issues to members of parliament (MPs).

- <http://www.parliament.uk/post/home.htm>

UK Parliament - another option for experienced scientists is to be appointed as a committee specialist for the House of Commons or the House of Lords, to advise their specialist committees. These are full-time paid positions lasting up to four years.

- <http://www.parliament.uk/business/committees/>





The **Royal Society** has set up a short-term pairing scheme, where a scientist shadows an MP for one or two weeks. In turn, the MP visits the scientist's lab. The hope is that each will then better understand the demands and constraints of their two worlds.

- <https://royalsociety.org/policy/>

Europe - Be proactive in your job search. Many short-term opportunities in **Europe** are under-publicized, so some scientific organizations encourage those interested in policy to contact them directly for information. Organisations open to such approaches include:

DFG - Germany's main research funding agency:

- <http://www.dfg.de/en/>

Max Planck Society - has 83 research institutes in Germany and other parts of Europe:

- <http://www.mpg.de/en>

Think-tanks

There are many researcher-led **think-tanks** all over Europe providing policy-makers with scientific advice.

The **International Institute for Applied Systems Analysis** (IIASA) in Laxenburg, Austria. Conducts policy-oriented research into problems of a global nature that are too large or too complex to be solved by a single country or academic discipline.

- <http://www.iiasa.ac.at/>

RAND – an established US think-tank, has European branches in Cambridge, Berlin, Leiden, and the Netherlands.

- <http://www.rand.org/>

Tyndall Centre for Climate Change Research – a more recent establishment, based in Norwich, UK, hires a few postdocs each year to conduct research. Within the organization, which is a collaboration of nine research institutions and three UK research councils, there can be up to 80 postdocs. Research at Tyndall includes assessing viable options for reducing carbon dioxide emissions and examining society's options for adapting to unavoidable climate change.

- <http://www.tyndall.ac.uk/>

The **Wuppertal Institute for Climate, Environment and Energy** - research institute based in Wuppertal, Germany. Conducts research mainly in projects funded by third parties, over 150 projects each year.

- <http://wupperinst.org/en/home/>





US - Scientists switching into policy work often follow more direct paths in the United States.

The **American Chemical Society (ACS)** - supports annual short-term positions for scientists and graduate students who want some experience in public policy.

- <http://www.acs.org/content/acs/en/careers.html>

The **American Association for the Advancement of Science (AAAS)** - coordinates the Congressional Fellowship programme for more than 30 science societies and federal agencies, including the AMS. Fellowships are for one year, working as a special assistant in legislative and policy areas requiring scientific and technical input for a member of Congress or a committee. In many instances, the experience is career-changing, with around one-third of participants move into policy-related positions.

- <http://www.aaas.org/careers>

The **American Mathematical Society (AMS)** – offers annual sponsorship for science students and professionals. As well as the Congressional Fellowship programme, it sponsors Mass Media Fellowships for graduate students to work for ten-weeks over the summer as reporters, researchers, and production assistants in U.S. mass media organizations including radio and television stations, newspapers and magazines.

- <http://www.ams.org/policy/policy>

The **National Academy of Sciences** - sponsors annual internships for postgraduate students in both the natural and social sciences.

- <http://www.nasonline.org/>

Other US scientific organizations may also offer this type of opportunity. Find a list and links to all the major bodies on the AAAS website:

- <http://www.aaas.org/aaas-affiliates>

