

The Parliamentary Office of Science and Technology (POST)

- How is research used in UK Parliament and POST?
- POSTnotes and POSTbriefs
- How to write for a policy audience
- Select Committees
- How to engage with Parliament
- Q&A



Natasha Mutebi, BSc, MSc, MBA (2025)

Social Sciences Lead at the Parliamentary Office of Science and Technology

Restricted: Management

Policy landscape is different to academic, but more policy-academic networks are sharing policy writing and tips on how to engage.

Key search terms:

Key terms include policy analyst/manager, public health practitioner, science communication, public affairs, researcher, data analyst, public health officer.

Job websites:

Home - Civil Service Jobs - GOV.UK

https://assets.publishing.service.gov.uk/media/61a605f2e90e07043d677dd0/gse-career-framework-v2.pdf

w4mp | The site for everyone working for an MP

https://www.who.int/careers/internship-programme

Young Associates Programme | OECD

Careers | About | Nuffield Foundation

public health jobs - NHS Jobs

Interview prep:

STAR and competency models - https://nationalcareers.service.gov.uk/careers-advice/interview-advice/the-star-method

PRACTICE! PRACTICE! PRACTICE!

Restricted: Management

Key skills:

Communication
Analysis (policy and data)
Stakeholder engagement
Problem-solving
Strategy

Key tips:

Know your strengths & passion: practice the Ikigai often

Be audacious but polite

It's ok to start off as an intern, I did!

Volunteer for leadership roles; trustee on boards, APPGs (All-party parliamentary groups)

Internships are easier for international students because they are likely to be part-time

What is the UK Parliament?









House of Commons

House of Lords

The Monarch

Parliament ≠ **Government**



UK Parliament



- Commons, Lords and Monarch
- Holds Government to account
- Makes laws
- Enables the Government to raise and spend money

UK Government



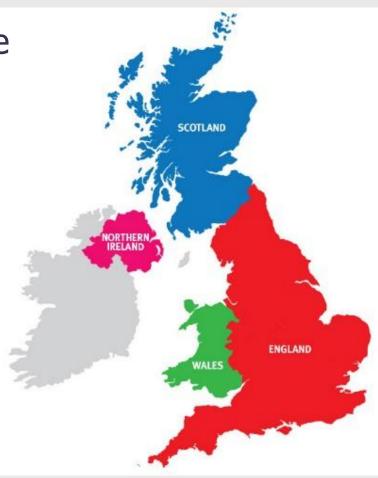
- Some MPs and some Lords, chosen by the Prime Minister
- Runs Government departments and public services
- Is accountable to Parliament

Devolved administrations

UK ParliamentPOST

- Northern Ireland Executive
 / Northern Ireland
 Assembly (Stormont)
- MLAs' = Members of the Legislative Assembly

- Welsh Government /
 Welsh Parliament (Senedd Cymru)
- 'AMs' Assembly Members



- Scottish Government / Scottish Parliament (Holyrood)
- MSPs' = Members of the Scottish Parliament

Since 1999

- Certain powers devolved (i.e. education or health)
- Certain powers are reserved (i.e. UK defence and foreign policy)

Who uses research in the UK Parliament?



House of Commons Select Committees

House of Commons Library

House of Lords Select Committees

House of Lords Library

Legislation – particularly Public Bill Committees

POST

Individual MPs and their researchers

Individual Peers and their researchers

All Party Parliamentary Groups



History

- 1960s-80s growing concerns from Members about lack of specialist support for science and tech issues: private company use of lie-detectors; persistent marine chemical pollution leading to shellfish extinctions; AIDS crisis.
- 1989-93 POST works as a charity
- Since 1993 funded to complement the research of the Libraries, to get expert specialist advice into Parliament, to support select committees.













Biological Sciences & Health

Physical & Digital Sciences

Environmental Sciences & Energy

Social Sciences

Knowledge Exchange

- Bicameral body of 16 people divided into five teams tasked to:
 - Publish independent research **briefings** across all policy areas
 - Support **select committees** with inquiries
 - Act as the bridge between **Research** and Parliament

What services does POST provide?



We're a specialist consultancy service for Parliament:



Analysis: we explain the latest evidence on issues and what this evidence means for Parliament.



Support: we help others to access and use research evidence



Engagement: we help to communicate Parliament's research needs to the outside world and to help research institutions to meet those needs.

Parliamentary Office of Science & Technology



- publishes informative research briefings across all policy areas
- supports select committees to access and use research evidence
- Training and support on methods of gathering assessing evidence
- organises events about research for Parliamentarians
- runs **fellowships** for PhD researchers and academics
- horizon scanning to identify future trends and developments
- builds connections between UK Parliament and the research community through the Knowledge Exchange Unit





POST briefings



POSTnote 701

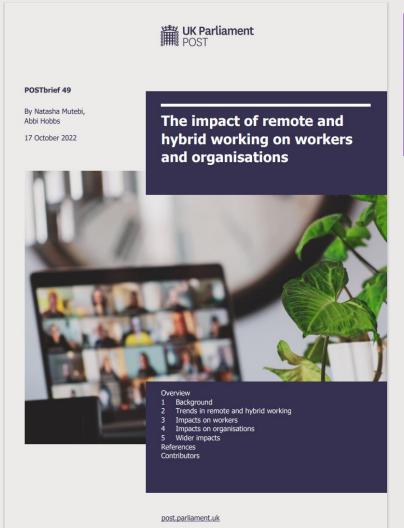
By Hannah Wolmuth-Gordon, Natasha Mutebi 19 July 2023

Public health and climate change: a One Health approach



Overview

- A One Health approach recognises that the health of humans, animals, and the environment are closely interlinked. It aims to design and implement policy that engages multiple sectors and disciplines to improve human, animal and environmental health outcomes.
- The approach has been recommended to understand the complex impacts of climate change on public health, including diseases passed between animals and humans, antimicrobial resistance and the safety and security of food and water.
- The UK Government's Biological Security Strategy (2023) emphasises the use of a One Health approach, specifically for tackling antimicrobial resistance and infectious diseases.
- Implementation of a One Health approach requires interdisciplinary and cross-sector collaboration, community engagement, monitoring and data management, and education.
- There is emerging evidence of the economic benefits of implementing One Health, though multi-sectoral cost-effectiveness can be hard to evaluate.
 Challenges of implementing One Health include power imbalances between
- lower, middle- and high-income countries, conflicts of interest between sectors, underrepresentation of the environmental sector and limited evaluation mechanisms.





Rapid response

COVID-19 vaccines safety and blood clots

Published Wednesday, 19 May, 2021

Rapid response Health and social core COVID-19 Research

& Cristiana Vagnoni

The safety of COVID-19 vaccines currently deployed in the UK is closely monitored. This monitoring has shown that the University of Oxford/AstraZeneca vaccine is associated with very rare blood clots. What is known about these very rare adverse events?



- VITT (vaccine-Induced thrombosis and thrombocytopenia) is a very rare adverse event characterised by
 presence of blood clots with low levels of platelets following vaccination with the University of
 Oxford/AstraZeneca COVID-19 vaccine.
- Between 9 December 2020 and 5 May 2021, there have been over 260 cases of VITT out of a total of 30.8
 million doses of the University of Oxford/AstraZeneca vaccine administered in the UK.
- The overall risk of VITT following a dose of the University of Oxford/AstraZeneca vaccine is 10.9 per million
 doses. This varies according to age groups and it is estimated to be around 1 in 100,000 for people over 50
 and 1 in 50,000 for people aged between 18 and 49 years.

POST fellowships



PhD students and academics are seconded into Parliamentary teams to conduct research

•POST Fellowships:

- PhD students
- Run with Research Council, Research Institutes and learned societies

Parliamentary Academic Fellowship Scheme:

- Academics work full or part-time with a Parliamentary team.
- Projects may: support core work; fill expertise gap; evaluate parliament's practices; build staff capacity



Restricted: Management



The POSTnote

A key example of embedding robust evidence for effective scrutiny of policy





660 January 2022

Preventing emerging zoonoses



This POSTnote summarises approaches to preventing zoonoses with pandemic potential by targeting animal-environment-human interactions. It reviews current biosecurity measures in the UK and globally, notes lessons from COVID-19 and identifies future prevention strategies.

Background

Zoonoses are diseases caused by nathonens (such as harteria or viruses) that can spread between animals and humans. In the last three decades, 75% of new diseases in humans have originated in animals. These include all recent pandemics such as the H1N1 ('swine') Influenza, and COVID-19 (caused by SARS-CoV-2).2,3 Zoonoses are said to be 'emerging' when they have recently spilled over into humans or have expanded into to new geographic regions.4

Zoonoses circulate within animal populations until 'spillover events' (when a pathogen jumps from an animal into a human) lead to human infections,5 Zoonoses become pandemics if localised outbreaks escalate into sustained global human-tohuman transmission.⁶ Animal-to-human transmission can happen by direct contact, consumption of contaminated animal products and through contaminated surfaces, water or air.7 PN 597 covers zoonoses transmitted indirectly through insect vectors such as mosquitos (e.g., Zika and West Nile viruses).

Humans can also pass diseases to animals ('reverse zoonoses'). Reverse zoonoses can impact domestic and wild animal health or create new sources (reservoirs) of human infection.8 For example, the human seasonal influenza virus has spilled over into pigs multiple times, and is subsequently circulating globally within pig populations, 9-11 Similarly, in 2020 and 2021 SARS-CoV-2 was detected in North American and European captive

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Drivers of zoonotic disease emergence Most animal pathogens do not directly infect people, but the number of spillover events is increasing. ^{24,25} This is largely due to human-driven factors such as increasing population size,

land use change and increases in wildlife trade of pets, meat and other products (PN 236).26 A greater number of human-

Land use change and biodiversity loss Land use change, such as land clearance for agriculture, can

affect the types of animals and plants (biodiversity) that live in an area. By removing predators, small animals such as rodents and bats can thrive. 28 These animals act as reservoirs and have



POSTNOTE

Number 663 January 2022

Genome-Edited Food Crops



Genome editing creates the possibility of making more precise alterations in the DNA of food crop plants than existing approaches. This POSTnote: describes genome editing technology; identifies which food crops are currently undergoing editing and why; describes the regulation and registration of nenome-edited food crops; discusses issues around trade: and describes stakeholder views about the technology.

Background

Genome editing encompasses a variety of techniques that add, remove, or replace DNA at targeted locations within the genetic code of living cells (the genome).1 The techniques can alter individual DNA bases (A,T,C and G) within the genome to modify the regulation or function of an existing gene,² or with lower efficiency, insert a new gene to provide novel traits (PN 541 and 548).34 Because of the mechanism involved, the European Court of Justice (ECJ) ruling in 2018 implied that genome editing techniques alter the genome in such a way that would not occur naturally/by mating and should not be exempt from regulation because they do not have a long safety record.^{5,6} Following this ruling,⁵ the UK regulates all genomeedited organisms as Genetically Modified Organisms (GMOs): "An organism...in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination".7 GMO regulations cover organisms in which DNA has been inserted into their genomes, regardless of whether the DNA is from a species that can interbreed, or cannot interbreed ('foreign DNA', PN 548),8 Regulations only allow GMO foods to enter the market, if it has been demonstrated that: they are not nutritionally disadvantageous; they do not have adverse effects on health or the

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Overview

- The Government is proposing that genomeedited crop plants are exempted from Genetically Modified Organisms (GMOs) regulations, provided the genetic changes could occur naturally or via existing conventional breeding techniques.
- Genome editing can manipulate DNA at specific positions in the genome to shorter timeframes for plant breeding of useful traits. This process can lead to unintended alterations of the genome, but these may be fewer than for conventional breeding.
- Some stakeholders believe this regulation change for genome-edited food crops could provide health and environmental benefits and make use of UK-funded research.
- Key issues for public acceptance and trust of genome-edited crops are tightly bound to transparency and how the public view potential risks and benefits.

environment, 9,10 Any GMO approved for market placement must also be accompanied by an analytical method that provides unequivocal identification of that GMO.9,10

Genome-edited crops must currently follow GMO regulations for field trials and for placing on the market. 5,7 Field trials are experiments that evaluate the consequences of changes to crops in agriculturally relevant conditions, 11 which are typically repeated over different years, seasons and environmental locations. 12,13 To conduct field trials involving GMOs, researchers must obtain consent from the Secretary of State under the Environmental Protection Act 199014 and the GMO (Deliberate Release) Regulations 2002, 15 Application fees and measures to ensure compliance with current regulations can amount to regulatory costs of approximately £10,000 per field trial.16 The UK Government, following their recent consultation on the regulation of genetic technologies in 2021,17 has outlined a plan to change regulation for certain genome-edited plants in two stages:18 first to exempt them from GMO field trial regulation in England,¹⁹ and then from the regulatory definition of a GMO. In April 2021, the European Commission also guestioned whether the EU's regulatory framework for GMOs. was 'fit for purpose' in the face of new technologies.8 This was



POSTNOTE

Sharing Public Sector Data



Public sector data can be used to improve services, facilitate research and innovation, and inform policymaking. This POSTnote looks at how public sector data is shared between public sector bodies and with researchers and private organisations in the UK. It looks at requirements for effective data sharing and discusses the associated risks and barriers.

Background

Public sector data refers to information generated and collected by public sector bodies, such as government departments, local authorities, police forces, the NHS, and schools. 1,2 Data are used to run public services, monitor trends, and understand the

- population's needs. Examples of public sector data include:1 personal data or records about people generated through interaction with public services, such as individuals' names or the outcomes of hospital appointments
- population level data and statistics, such as that collected through birth and death registrations³
- administrative, operational, and transactional data, such as tax records or procurement expenditure4
- infrastructure, geospatial and environmental data.5-7

It is widely agreed that sharing good quality public sector data, both within the public sector and externally, can improve public sector services and benefit the economy and society.8-12 However, risks and barriers associated with sharing public sector data persist, 13-1

The key pieces of UK legislation that apply to the sharing of public sector data are the Data Protection Act 2018, UK GDPR, and the Digital Economy Act 2017 (Box 1). Once a legal basis for sharing data has been established data can be shared by:

- direct data transfer between organisations, often through dedicated data sharing platforms 18 providing secure points where data can be accessed for
- analysis, without sharing a copy of the data 19,3
- publishing data so they are publicly available.8

- In its 2020 National Data Strategy, the Government outlined plans to increase the societal and economic benefits of data, including through improved data sharing.
- In September 2021 it proposed changes to the UK's data protection regime, which would affect public sector data sharing.
- Challenges to public sector data sharing include: cultural and skills barriers; poor data quality; a lack of public trust; and security and privacy concerns.
- Many experts say better guidance, more transparency and use of data intermediaries may address the challenges.

Many stakeholders, including the Government, have highlighted that public sector data are not shared effectively and that their value is currently underexploited.8-12 In September 2020, the Government published its National Data Strategy (NDS, Box 1 2) setting out plans to "unlock the power of data" in the UK. including the role and opportunities for public sector data.1 In September 2021, the Government opened a consultation on its proposals to reform the UK's data protection regime, which would affect sharing of public sector data (Box 3). 21-23

Public sector data sharing in practice

Public sector bodies share data with each other or with external organisations for a variety of purposes, such as to detect fraud, identify vulnerable people, or build infrastructure. 24,28 Public bodies may share data with contractors (e.g. to deliver IT services),26 or with researchers.27 Some public bodies make data freely available for anyone to access. Transport for London makes data on transport use publicly available, which Deloitte estimated adds up to £130m per year to London's economy mostly via privately developed journey-planner apps.²⁸

The wider economic value of public sector data is challenging to measure.^{8,29} However, a 2013 Government-commiss assessment of nublic sector data estimated its value to the LIK economy at £1.8 billion.30 Sharing data between public sector bodies also has societal benefits, such as the ability to identify vulnerable individuals and families. For example, the 'child protection information sharing project' facilitates data sharing between social services and parts of the NHS to assess a child's

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Background

Zoonoss are diseases caused by pathogens (such as bacteria or viruses) that can proud between animals and humans in the last three decades, 75% of new diseases in humans have originated in a minus! These include all recent pandemics at the INIX (Swine) Influenza, and COVID-19 (caused by SARS-COVI,3) abonoses are said to be "merging" where have recently spilled over into humans or have expanded into to new decoration receives.

Zoonose circulate within animal populations until 'polllower venets' (when a pathogen jumps from an animal into a human) lead to human infections. ² Zoonoses become pandemics if localed outbreaks escalate into sustained global human-to-mains of the contract consumption of contaminated animal products and through contaminated varieties, water or air. ² PM 532 Covers zoonoses transmitted indirectly through insact vectors such as mosquitos (e.g., ² Zian di West Hile viruses).

Humans can also pass diseases to animals ("reverse zoonoses"). Reverse zoonoses can impact domestic and wild animal health or create new sources (reservoirs) of human infection. For example, the human seasonal influenza virus has spilled over into pigs multiple times, and is subsequently circularing globally within pig populations. ** "Similarly, in 2020 and 2021 SARS-COV-2 was detected in North American and European catative

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Overview

- Zoonoses are diseases that can be
- transmitted between animals and humans.

 Most diseases emerging in recent decades are zoonoses, including HIV, Ebola, Zika, Swine flu (H1N1), and COVID-19.
- Approaches to prevent emerging zoonoses include ensuring safe human-animal interactions through good hygiene and improving global surveillance systems.
- During the G7 and the G20 summits, world leaders agreed to apply holistic approaches in future pandemic prevention and preparedness policies.
- In the UK, lessons from the COVID-19 pandemic include development of adaptable responses and scalable capacity in public health systems.

mink and in North American populations of wild white-tailed deer. These species could be a new source of infection for humans or animals. ¹²⁻¹⁸

Biosecurity is defined as a series of precustions applied together to prevent pathogon introduction and spread. ¹³ It is part of a broad set of international sanitary and phytosanitary measures set out by the World Trade Organisation (the SPS Agreement) to protect humans, animals, and plants from diseases, pests, or contaminants. ²⁴ Measures to prevent the emergence and spread of zonoses include hygiene and sanitation, disease surveillance and reducing risky humanismilar contact. ²⁴

Drivers of zoonotic disease emergenceMost animal pathogens do not directly infect people, but the number of spillover events is increasing. ^{24,25} This is largely du

Most animal pathogens do not directly infect people, but the number of spillower events is increasing, ^{8,45} his is largely due to human-driven factors such as increasing population size, land use change and increases in wildlife trade of pets, meat and other products (PN 236). ⁸⁸ A greater number of humananimal interactions increases the risk of zoonoses emergence.⁹⁸

Land use change and biodiversity loss

Land use change, such as land clearance for agriculture, can affect the types of animals and plants (biodiversity) that live in an area. By removing predators, small animals such as rodents and bats can thrive.²⁸ These animals act as reservoirs and have



POSTNOTE

Number 663 January 2022

Genome-Edited Food Crops



Genome editing creates the possibility of making more precise alterations in the DNA of food crop plants than existing approaches. This POSTnote: describes genome editing technology; identifies which food crops are currently undergoing editing and why; describes the regulation and registration of genome-edited food crops; discusses issues around trade; and describes stakeholder views about the technology.

Background

Genome editing encompasses a variety of techniques that add, remove, or replace DNA at targeted locations within the genetic code of living cells (the genome).1 The techniques can alter individual DNA bases (A,T,C and G) within the genome to modify the regulation or function of an existing gene,² or with lower efficiency, insert a new gene to provide novel traits (PN 541 and 548).34 Because of the mechanism involved, the European Court of Justice (ECJ) ruling in 2018 implied that genome editing techniques alter the genome in such a way that would not occur naturally/by mating and should not be exempt from regulation because they do not have a long safety record.56 Following this ruling,5 the UK regulates all genomeedited organisms as Genetically Modified Organisms (GMOs): "An organism...in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination".7 GMO regulations cover organisms in which DNA has been inserted into their genomes, regardless of whether the DNA is from a species that can interbreed, or cannot interbreed ('foreign DNA', PN 548),8 Regulations only allow GMO foods to enter the market, if it has been demonstrated that: they are not nutritionally disadvantageous; they do not have adverse effects on health or the

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Overview

- The Government is proposing that genomeedited crop plants are exempted from Genetically Modified Organisms (GMOs) regulations, provided the genetic changes could occur naturally or via existing conventional breeding techniques.
- Genome editing can manipulate DNA at specific positions in the genome to shorten timeframes for plant breeding of useful traits. This process can lead to unintended alterations of the genome, but these may be fewer than for conventional breeding.
- Some stakeholders believe this regulation change for genome-edited food crops could provide health and environmental benefits and make use of UK-funded research.
- Key issues for public acceptance and trust of genome-edited crops are tightly bound to transparency and how the public view potential risks and benefits.

environment.^{9,20} Any GMO approved for market placement must also be accompanied by an analytical method that provides unequivocal identification of that GMO,^{9,10}

Genome-edited crops must currently follow GMO regulations for field trials and for placing on the market. 5,7 Field trials are experiments that evaluate the consequences of changes to crops in agriculturally relevant conditions,11 which are typically repeated over different years, seasons and environmental locations. 12,13 To conduct field trials involving GMOs, researchers must obtain consent from the Secretary of State under the Environmental Protection Act 199014 and the GMO (Deliberate Release) Regulations 2002,15 Application fees and measures to ensure compliance with current regulations can amount to regulatory costs of approximately £10,000 per field trial.16 The UK Government, following their recent consultation on the regulation of genetic technologies in 2021,17 has outlined a plan to change regulation for certain genome-edited plants in two stages:18 first to exempt them from GMO field trial regulation in England,¹⁹ and then from the regulatory definition of a GMO. In April 2021, the European Commission also questioned whether the EU's regulatory framework for GMOs. was 'fit for purpose' in the face of new technologies.8 This was



Our flagship briefing: the POSTnote



An "impartial, accessible, summary of research evidence"

Impartial and objective

Both politically and scientifically

Accessible

Able to be read by a wide audience of non-experts

Summary of evidence

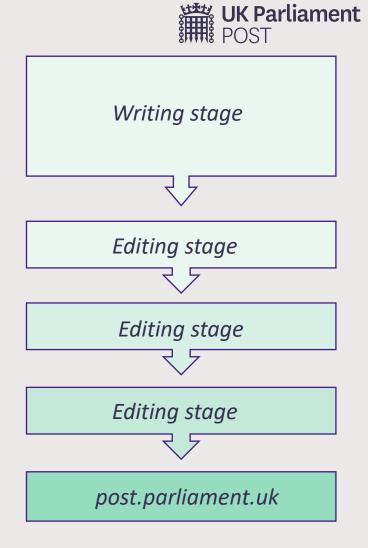
Presents a balanced account of the research

Concise

Parliamentarians are busy – should be able to read it over a cup of coffee

The POSTnote process

- Research stage: Reading relevant literature in the area
- Interview stage: Talking to stakeholders about the topic
- Internal review: Colleagues review the briefing and check for impartiality, accessibility and balance
- External review: Briefing is sent out to key stakeholders who provide feedback
- Sign off: The Head of POST reads the briefing and checks for impartiality
- Publication: The briefing is published online and distributed



Which stakeholders?

- Academics: Relevant research literature
- Government departments: information about policy
- Regulators or other public bodies:
 Legislation and current strategies
- Charities and think tanks: Wider public opinion and advocacy groups perspective
- Industry (if relevant): industry perspective
- Learned societies: combined perspectives from a number of academics and other experts



A case study: Marine microplastics





Number 528 June 201

Marine Microplastic Pollution



Plastic pollution is accumulating rapidly in the world's oceans. The potential effects of microplastics on the environment and human health are an area of active research. This POSTnote summarises their sources and spread, the evidence that they present a risk and possible strategies to reduce plastic pollution.

Background

Plastic is an extremely versatile resource whose production levels have increased dramatically since the 1950s.1 It can be made into a wide range of products that are strong, durable, inexpensive and lightweight. However, some of the properties of plastic that make it such an attractive material during use also make it problematic when it becomes waste. The primary issue is that it is highly resistant to degradation. Indiscriminate discarding and the accidental release of plastic into the marine environment has resulted in the rapid accumulation of persistent marine plastic debris in the world's oceans. By weight, most of this consists of large pieces of debris such as fishing gear, bottles and plastic bags; but by number, the dominant type of debris in the world's oceans are small pieces that are under 5 mm in size - these are known are microplastics.2 It has been estimated that there were between 15 to 51 trillion microplastic particles floating on the surface of the world's oceans in 2014, weighing between 93 and 236 metric tons.3

Sources and Spread

Microplastics can either be manufactured (for example, as microbeads for use in cosmetic scrubs, toothpastes, and cleaning products), or can result from the fragmentation of larger items of plastic debris. They are ubiquitous throughout the marine environment and have been found in estuaries, lakes, coasts, sediments, the open ocean, deep seas, and arctic sea ice.⁴⁶

Overview

- Microplastics, plastic pieces under 5 mm in size, are a widespread ocean contaminant.
- Sources of microplastic include fibres from synthetic textiles, microbeads from cosmetic and industrial applications and large items of plastic debris that break down into smaller pieces.
- Studies have shown the presence of microplastics in seafood. The potential risk to human health is little studied and remains uncertain.
- Laboratory evidence suggests that microplastics and their associated additives can be harmful to wildlife. However, not all species or life stages may be affected.

Sources

It is frequently possible to identify what type of plastic polymer (Box 1) a particular piece of ocean debris is made of, regardless of its size. However, when pieces become small, fragmented and degraded they are almost impossible to trace to their original source. As a result, her telative importance of different microplastic sources is unknown. The three largest sources are thought to be fibres from textiles, microbeads and large pieces of plastic debris, "o which will become microplastics as they fragment and degrade. However, a 2014 report by the Norwegian Environment Agency also highlighted the potential importance of microplastic emissions from normal wear and tear of plastic products such as tyres, fishing nets, rope and carpets, as well as plastics in paints and varnishes."

Fibres

Small fibres from synthetic clothing, such as polyester and nylon, are released into waste water through the process of washing clothes. ¹² Waste water treatment plants are not designed to retain microplastics, and the resulting sewage effluent can carry fibres out to rivers, lakes, estuaries and the sea. Fibres are commonly the most abundant type of microplastic found in marine wildlife and sediments ⁷[15-16].

Microbeads

Microbeads are small spheres or fragments of plastic that are used in cosmetics, household cleaning products and industrial blasting. They include beads used in exfoliants



House of Commons
Environmental Audit Committee

Environmental impact of microplastics

Fourth Report of Session 2016–17





House of Commons
Environmental Audit Committee

Environmental impact of microplastics:
Government Response to the Committee's Fourth Report of Session 2016–17

Fifth Special Report of Session 2016–17

Ordered by the House of Commons to be printed 8 November 2016

Published on 14 November 2016 by authority of the House of Commons Restricted: Management



Writing for a Policy Audience

Key tips on writing a policy briefing from POST

Audience



- As with all communications it's important to know your audience:
- Parliamentarians and policy-makers are busy people: Be clear and concise.
- Members do not necessarily have scientific or technical background on the topic they are being briefed on.
- Remember that research is just one type of information that gets considered when making policy decisions. Consider the impacts to people as well as the science.
- MPs are elected to represent a particular constituency can you connect the topic to local or regional areas that they are likely to be interested in?

What makes a good policy briefing?



Content: Does the briefing cover what you would expect it to?

Structure: Do the sections make sense and are they in the right order?

Accessibility: Is it easy to read? Is it concise?

Impartiality: Is it politically and scientifically impartial? Are all statements balanced and objective?



POSTNOTE

Number 500 July 2010

Small Modular Nuclear Reactors



There is growing UK and international interest in using 'small modular nuclear reactors' (SMRs) to generate electricity. Stakeholders suggest that, compared with conventional reactors, SMRs could offer cost savings to operators and consumers, more flexible energy production and a greater choice of potential sites. This POSTnote examines key aspects of

Background

To 2017, eight nuclear power stations generated 21% of UK electricity. Nuclear power can supply large amounts of electricity with one preventive generations, which are major contributors to climate change. Z Seven of the UKs muclear stations are planned to help meet future denand. The first of these, Inhighly Portic C, is under onstruction and due to start producing electricity in 2025. Rising gosts and construction delays in Europe and the US have raised concerns abont new nuclear power continuing to be a source of cost-effective dean energy. ⁵⁴

SMRs are small nuclear reactors, made of standardised factory-manufacture parts delivered ready for assembly. ¹⁰ SMRs have generated government and industrial interest internationally because designers have suggested SMRs could be a solution to the challenges of conventional nuclear power. ^{11,12} They may offer lower investment risk, reduced cost and greater compatibility with a flexible electricity network. ^{11,12} Soft, no commercial SMR has been built worldwide and there is considerable uncertainty around their costs, timescales and challenges, surply due to the diversity of SMR designs. SMR designs based on smaller versions of existing Gen III and III technology (Box 1) are expected to

Overvie

- Small modular reactors (SMRs) consist primarily of units built in factories and will generate less electricity than conventional nuclear reactors
- New conventional nuclear build has been challenged by rising costs and delays.
- Proponents suggest SMRs could reduce the financing challenges faced by conventional nuclear power
- There are many diverse SMR designs. No commercial SMR has been built; the first is expected within ten years. Future cost competitiveness is currently uncertain.
- The 2018 Nuclear Sector Deal prepares for SMR deployment through R&D, supply chain development and regulator support.
- Potential uses of SMRs in the UK and abroad could be limited by access to new sites, and regulatory and planning matters.

be commercially available for construction within the next 10 years. 15,16 More advanced Gen IV designs are not expected to be commercially available until after 2030.17

The UK Government has not set specific targets for future nuclear power beyond the six new planned large stations. ¹⁸ However, National Grid and government modeling suggests that nuclear power capacity may increase further in the future, and SIMS may comprise some of this new capacity ^{18,20} UK industry is developing different designs (ox 2), including some supported by the Government's Advanced Modular Reactors (AMR) programme and the 2018 Nuclear Sector Deal (80x 3). ²¹

This POSTnote examines SMR technologies in development, their proposed applications and the potential for producing competitively priced electricity. It also explores opportunities for the UK civil nuclear industry alongside planning and regulatory considerations.

Characteristics and Applications of SMRs
The key characteristics of SMRs are their smaller power
output and high degree of factory manufacturing. 1422 The
smaller output of SMRs could allow for their use in a wide
variety of applications than conventional nuclear reactors.

The Parliamentary Office of Science and Technology, Westminster, London SW1A OAA; Tel: 020 7219 2840; email: post@parliament.uk www.parliament.uk/po

UK ParliamentPOST

Content

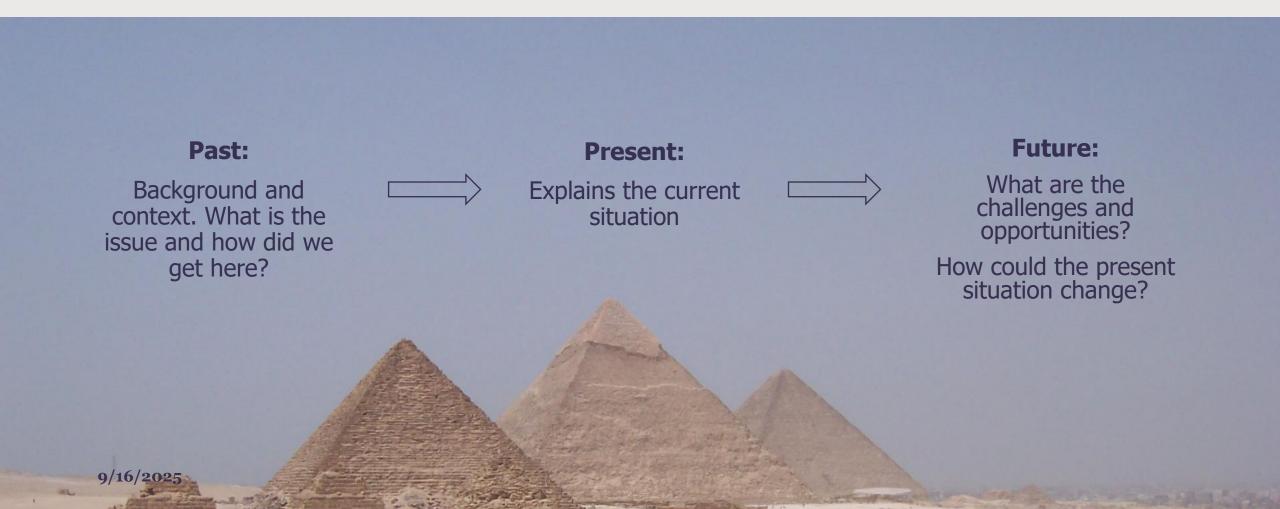
A briefing should tell the reader:

- What is the key issue(s)?
- Why is it of interest to policymakers?
- Who are the main stakeholders? Who are your sources?
- When are the major impacts and policy decisions likely to happen?
- Where is this happening (e.g. local, national, international)?
- How will the stakeholders be affected?

If the briefing is well written you should be able to articulate the answers to these questions easily after reading it

Structure: General





Restricted: Management

Structure: General



- Have a clear structure and make it easy to scan by using headings and subheadings to break up large blocks of text.
- Start with an overview that outlines the key points of the briefing.
- Use figures, charts or diagrams where suitable to help your briefing be more eye-catching and appealing.

Read through your briefing as you write and consider:

- Are the headings clear and in a logical order
- Does the briefing tell the reader at the start what it will cover and in what order?
- Does the briefing use linking sentences to guide you through the structure?

Structure: Summaries



POSTnote 697

By Josh Fearns, Lydia Harriss, Clare Lally 28 June 2023

Data science skills in the UK workforce



Overview

- Across the UK workforce, there is increasing demand for specialist data skills (including skills for artificial intelligence), which have the potential to bring economic and social benefits.
- Evidence suggests that availability of people with specialist data skills in the UK is insufficient to meet demand. A 2021 study found that in the UK, the supply of data scientists from universities was unlikely to exceed 10,000 per year, yet there were potentially at least 178,000 unfilled data specialist roles.
- Research finds that certain groups (such as women, those from minority ethnic backgrounds and people with disabilities) are underrepresented in the data workforce. A lack of workforce diversity has the potential to amplify existing inequalities and prejudices.
- Efforts to reduce the skills gap can be hindered by the inconsistent definition
 of data skills, organisational culture, the availability of specialist primary and
 secondary school teachers, and barriers to people moving between sectors.
 Initiatives to increase the number of people with data skills include degree
- conversion courses, doctoral training centres for PhD students, online upskilling platforms, apprenticeships, and visas to attract international talent.
- A 2022 inquiry by the Lords Science and Technology Committee found that there was a mismatch between the scale of the UK's STEM skills gap and the solutions posed by the Government.

Data science POSTnote – June 2023



3 Commons Library Briefing, 6 September 2019

Summary

What is 5G?

5G is the next generation of wireless communications technology. It is expected to provide faster connections with much higher capacity and very fast response times, allowing many more users and devices to access fast internet connections and large amounts of data at the same time. Mobile broadband is the first commercial application of 5G. 5G is also expected to be used in applications beyond mobile networks, for example in healthcare, smart cities, transport and manufacturing.

A more detailed discussion of 5G technology and applications is provided in the Parliamentary Office of Science and Technology <u>POST brief on 5G technology</u> (24 July 2019). This paper focuses on policy challenges and developments surrounding the roll-out of 5G in the UK.

When and where will 5G be rolled out?

5G for mobile broadband and is being rolled-out by private mobile network operators: EE, 02, Vodafone and Three. The first commercial networks went live in major UK cities in 2019. Initially, 5G is expected to be deployed largely from existing 4G base stations in busy urban areas. Detailed roll-out plans of private operators are not publicly available.

Government 5G policy

The Government has a target that the majority of the population will be covered by a 5G signal by 2027. The Government's strategy for future digital infrastructure – full-fibre and 5G – is set out in DCMS's <u>Future Telecoms Infrastructure Review</u> (FTIR), published on 23 July 2018.

5G policy challenges

5G presents some new and different infrastructure challenges compared to 3G and 4G. 5G is expected to see a greater number of small cells (low powered base stations that can be mounted on buildings and street furniture) and will require wider deployment of <u>full-fibre</u> broadband infrastructure. Additionally, 5G deployment will require significant investment from mobile operators and other stakeholders, which still presents commercial risks and uncertainties as 5G applications and business cases develop.

House of Commons Library briefing on 5G – September 2019

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Structure: Boxes



- Long lists of necessary (but quite boring) things
 E.g. definitions, legislation, "bodies", approaches in four nations
- Complex technical concepts
- Case studies

Box 2. Factors Affecting Fishing Yield

The yield of a fish stock depends on the stock size and status. This can be influenced by factors relating to the stock's biology, the fishing pressure applied to it, as well as wider environmental and human factors. Stock assessments focus on determining a number of key aspects: 40,41,62

- Fishing mortality: rate of removal of fish from the stock by fishing.
- Natural mortality: number of fish dying due to natural processes such as predation or disease.
- Recruitment: number of young fish entering the fishery each year.
- Spawning Stock Biomass: total weight of all sexually mature fish in the stock.

Box 1. Cyber-Attacks on Ukraine's Power Network

The first confirmed instance of a disruptive cyber-attack on an electricity network occurred in Ukraine in 2015.³ A cyber-attack on three power distribution companies caused a power outage that affected 225,000 customers.²⁹ Power was manually restored after a few hours, but all affected companies were still running reduced operations months later.²⁹ The attackers are thought to have used fraudulent emails to gain access to the target networks six months before the power outages, during which time they gained the security credentials and knowledge of the infrastructure needed to complete the attack.³⁰ During the outage, the attackers also overwhelmed the energy company's call centre with telephone traffic to obstruct communications during the incident response.³⁰ A more sophisticated attack caused another outage in 2016.³¹⁻³³ The Ukrainian security service has accused Russian security services of orchestrating both attacks.^{30,34}

The Cambridge Centre for Risk Studies estimates that the immediate economic impact of a significant cyber-attack on a UK regional electricity distribution network would be £12-86bn, including consequent disruption to transport, digital communications and water supplies. They note that this represents an extreme example used for stress testing, not a prediction of what is imminent or probable.³⁵

Box 1: Stalking and Harassment Legislation in the UK

England and Wales: Harassment was made a criminal offence under the Protection from Harassment Act (PfHA) 1997, which was subsequently amended by the Protection of Freedoms Act 2012 to include the crime of stalking.^{2,11} Perpetrators can be charged with either harassment or stalking under this Act.² Neither of these crimes are specifically defined. The Act prohibits a course of conduct (two or more incidents) of any behaviours amounting to harassment or stalking (though exact behaviours are not defined).² Stalking and harassment with fear of violence have maximum penalties of 10 years' imprisonment.^{2,12,13} Online stalking and harassment is covered by the PfHA and by other legislation (Box 2).

Northern Ireland: The Protection from Harassment Order (Northern Ireland) 1997 mirrors the wording of the PfHA relating to harassment but does not include amendments made by the 2012 Protections of Freedoms Act relating to stalking, meaning that stalking is not a distinct crime in Northern Ireland. Sentences for harassment with fear of violence carry a maximum penalty of 7 years' imprisonment. Scotland: The legislation criminalising harassment in Scotland is also found in the PfHA 1997, which enables the subject to bring a civil claim for a non-harassment order, obliging a perpetrator to refrain from the harassment behaviour. Stalking was made a criminal offence through Section 39 (Criminal Law) of the Criminal Justice & Licensing Act 2010. Stalking and breaching a non-harassment order both have maximum sentences of 5 years' imprisonment.

Accessibility

The briefing should be written in a way that anyone could pick it up, read it over a coffee and be able to explain what they read afterwards. This is really tough!

The general principles of writing that we follow:

- 1. If you can say it with fewer words, do
- 2. If you can say it with less complex language, do
- 3. Use objective, precise language
- 4. Use the active voice where possible
- 5. Be consistent with language, punctuation and definitions
- 6. Jargons and acronyms: only use the essential ones and define them before discussing.
- 7_{9/16} Include handy facts and figures & examples





"It is estimated that a Western European dairy cow can produce around 117 kg of methane each year, which is roughly equivalent to driving 12,000 km in the average petrol car."

Impartiality

Key principles:

- Show balance
- Attribute and reference
- No opinions
- Be clear about uncertainty

"The majority of studies show X, but some research indicates Y."

"There is insufficient evidence that consumer technology can distinguish between different phases of sleep, or that 'smart alarms' work."

"Academics suggest that sea level could rise 0.26-0.77m by $2100''_{9/16/2025}$



Communicating Uncertainty



Recent research project with PAF Dr Jonathan Kerr and Sarah Bunn investigated 'Communicating Uncertainty in research for Parliament'

Key findings and identified processes to improve included:

- Clearer and more precise explanations of numeric uncertainty in research evidence. i.e. citing margins of error, and by describing data using both numbers and words.
- Including enough context for a non-specialist reader to interpret the significance of studies.
- Providing clear descriptions of research quality.
- Being clearer about citing research that has not yet been peer reviewed.
- Considering how additional information about uncertainty and research quality can be provided

Recap — what makes a good briefing?



Content: Does it cover the main issues and identify the key impacts, stakeholders and timeframes?

Structure: Do the sections make sense and are they in the right order? Does it have an easy to digest summary

Accessibility: Is it easy to read and concise?

Impartiality: Is it politically and scientifically impartial? Are all statements balanced and objective?

Exercise



In pairs:

- Identify a relevant political or controversial scientific topic
- Explain Why it is important?
- How you would approach this in an impartial way?
- Who are the key stakeholders you'd invite to contribute?

Restricted: Management



Select committees at UK Parliament



Noorjehan Piperdy (Noori)

BA Politics and International Relations

Committee Specialist – Home Affairs and Justice Unit

Select Committees



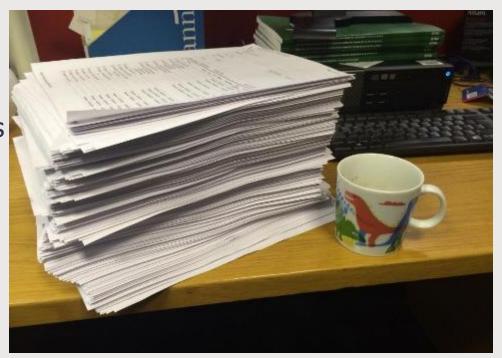
- Both Houses establish Select Committees to conduct inquiries and to produce reports on a range of matters, from the conduct of Government to specialist subject areas
- Invite evidence from witnesses
- Employ subject specialists as special advisers for particular inquiries or on a more permanent basis
- How do House of Commons Select Committees work? YouTube



How Select Committees work



- Choose inquiry
- Announce Terms of Reference
- Collect written evidence
- Commission research from experts or institutions
- Site visits
- Take oral evidence
- Discuss conclusions
- Draft and agree report
- Publish report





Submitting research as evidence to a Select Committee

- Use the terms of reference for that specific inquiry (the topic, scope and questions that the inquiry is considering): you need to tailor your research to this
- Answer the questions posed in the Call for Evidence but you do not have to answer all of them
- Write for an intelligent non-specialist: be relevant and concise
- Use a clear structure including sub-headings and bullet points
- Start with a summary of your main points

23/05/2024 41

Select Committees: getting involved



- Follow Committees on Twitter and Instagram, or sign up for email alerts via www.parliament.uk
- Look out for relevant Select Committee inquiries and submit written evidence this may lead to an invite to give oral evidence.
- Committees sometimes appoint a specialist adviser when expertise is needed to inform oral evidence sessions or shape a report. Advisers are usually academics/expert practitioners.
- Offer to host a visit for a Select Committee, or give a private briefing.
- Suggest a subject for a Select Committee inquiry to the Clerk/staff or to Members of that Committee.

23/05/2024 42



Getting involved: some tips

- Subscribe to the Knowledge Exchange Unit's weekly email round-up to find opportunities
- Look out for relevant select committee inquiries and submit evidence
- Offer to host a visit or briefing for a select committee
- Offer your expertise to the Commons/Lords Libraries
- Work with POST on briefings for Members
- Suggest a topic for a POSTnote to POST
- Apply for relevant Fellowship opportunities from POST
- Develop relationships with individual Members

More resources and support

Online resources and 'how to' guides:

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Careers



- House of Commons Jobs in the Library and Select Committees
- Internships
- Careers Open Days

Thank you!

Questions?

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