



Government
Office for Science

A brief guide to Futures thinking and foresight

Tips, advice, and guidance to help civil servants embed long-term thinking and external insight into policy making.

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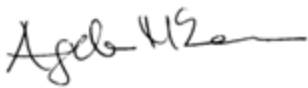
Foreword

Citizens rightly expect government policy that creates long-term benefits for society that stand the test of time. To create such policies, we need to consider what is changing as well as the present context. The future is inherently uncertain. The past few years have shown us just how quickly the world can change.

Futures thinking and foresight tools provide us with a structured and robust approach to thinking about different possible scenarios. They help us monitor emerging trends, issues, possibilities and uncertainties to understand what is changing and explore what this might mean for our futures. Having this information is key to knowing what we need to do now to be resilient to a range of possible futures, and to make the most of opportunities. This guide will introduce you to resources for all these areas.

I hope you find this guide to Futures thinking and foresight tools useful. It includes tips, advice, and links to other resources to help you get started and build your skills. There are already networks and communities across government which you can draw upon. Please use this guide to connect with them, find support, and start conversations with your colleagues about thinking ahead and bringing future ideas into policy making.

By regularly thinking about how the future may unfold, and using those insights in our planning and decision-making, we can deliver more effective and resilient policy and better long-term outcomes.



Professor Dame Angela McLean

Government Chief Scientific Adviser



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Government Office for Science

The Government Office for Science's (GOS) mission is to put excellent science advice at the heart of decision making. We advise the Prime Minister and members of Cabinet to ensure that government policies are informed by the best scientific evidence and long-term thinking.

Within GOS, the Technology Insights, Futures and Foresight (TIFF) team works to promote and embed strategic long-term thinking across government. We do this by providing resources, support, and advice. Our ambition is that all Civil Servants routinely consider future change and uncertainty in the decisions they make, the advice they provide and the investments they propose.

We know that the future can be a difficult topic to navigate and incorporate in your work, so we have created this guide to provide a brief introduction with links to a range of resources where you can learn more.



Click on a topic for the link to a resource. Some resources are internal to the UK government so if a topic does not have a hyperlink, please email

Futures@go-science.gov.uk

Why think about the future?

Policies based on how the world is today can limit our choices and put us in a position of constantly responding to change, rather than creating the conditions to achieve the future we want. By considering alternative plausible future worlds, based on trends, drivers, and external insight, we can develop more resilient policies with a better chance of delivering the outcomes we are seeking, whatever the future holds.

Everyone in the Civil Service has a responsibility to think about the future in the work they do. Decisions made today have long-term consequences. However, the future in which these decisions will play out is uncertain; foresight methods can help us navigate this uncertainty and make policies that stand the test of time.

“Creating futures is about imagining what we want and don't want - and then doing something about it”

*Marge Piercy
(author and poet)*

Futures Terms



Futures: refers to systematic approaches to thinking about the future and exploring factors that could give rise to possible and probable future characteristics, events, and behaviours.



Foresight: refers to the application of specific tools/methods for conducting Futures work, for example, horizon scanning (gathering intelligence about the future) and scenarios (describing what the future might be like).



‘Foresight’ is also the brand the Government Office for Science uses for our long-running series of projects looking at the evidence around big cross-cutting issues and exploring future possibilities.



Horizon scanning: is a systematic examination of information to identify potential threats, risks, emerging issues and opportunities, beyond the Parliamentary term, allowing for better preparedness and the incorporation of mitigation and exploitation into the policy making process - [Sir Jon Day review definition](#). This 2013 review made a number of influential recommendations for how horizon scanning should be conducted across government.

What is Futures thinking?

In this guide we use 'Futures thinking' to cover any activity that helps us understand and make sense of possible future change or uncertainty about what might happen.

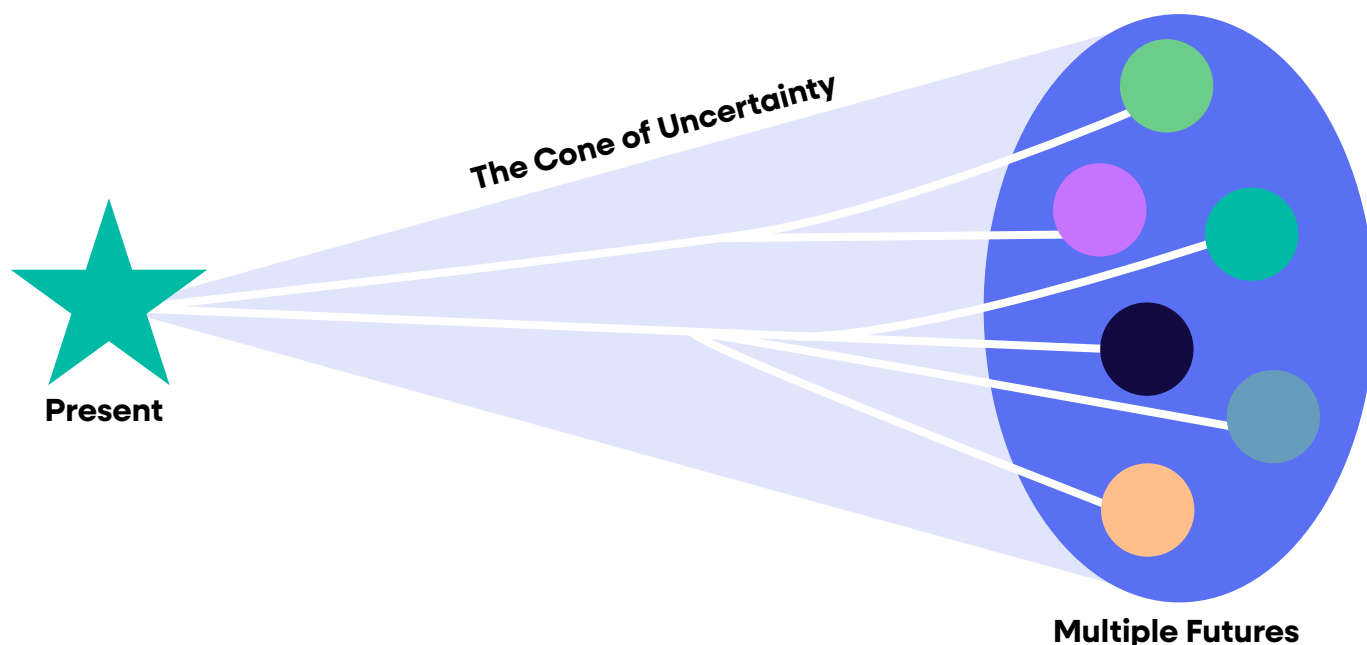
Futures work helps us:

- Spot patterns of change, emerging trends, surprises, and disruptors earlier, giving us more time to respond.
- Focus on the external context within which we deliver policy, taking account of the 'big picture.'
- Bring in alternative points of view, as Futures is a collaborative process.
- Create a narrative of the future, based on structured frameworks and evidence.
- Explore multiple versions of the future. The cone of uncertainty below is used to show how there is no one version of the future but multiple possibilities. Futures and foresight methods help us to explore and make sense of this range of future possibilities.

Don't we think about the future already?

Yes, we do. Many policies and strategies have long-term ambitions and targets. For example, the [2030 UN Sustainable Development Goals](#) and [2050 net zero emissions target](#).

A lot of government analysis relies on projecting the impact of different policies into the future. However, there are many examples where plans are derailed by an unanticipated event. Trends we relied on go into reverse, or the future which was envisaged when policies were set does not pan out exactly as hoped. Futures thinking provides a structure for thinking how the world could change, and the implications of that for our plans.



Benefits of Futures work

“We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten. Don’t let yourself be lulled into inaction.”

Bill Gates, Microsoft Co-Founder

In government, Futures approaches can be used to:

- Deepen our understanding of the driving forces affecting a policy or strategy area.
 - Identify gaps in knowledge and suggest areas of new research required to better understand drivers of change.
 - Build consensus amongst a range of stakeholders.
 - Identify, and make explicit, difficult policy choices and trade-offs in the future.
 - Create a new strategy that is resilient because it is adaptable to changing external conditions.
 - Mobilise stakeholders to action.
 - Support investment decisions since policy that takes a long-term view is likely to provide greater value for money.
- (See HM Treasury’s Green Book: central government guidance on appraisal and evaluation).**

Futures and systems thinking

Systems thinking is a holistic approach to analysis that focuses on the way that a system’s constituent parts interrelate and work over time. A systems thinking approach is increasingly promoted across the Civil Service to address complex, interconnected issues. This approach, combined with foresight methods, has been used in Foresight reports such as Engineering Biology Aspirations that explores engineering biology’s transformative potential across sectors and its diverse applications; Future of the Subsurface that examines the future role, uses and planning of the subsurface; and Net Zero: Scenarios and Pathways aiming to help policy makers test the UK’s net zero strategy against scenarios for how society could look in future.

“Because the future cannot be predicted with confidence, governments need foresight tools to factor such flux into governance strategies.”

Joan Moh, Former Head, Centre for Strategic Futures, Singapore

Futures - where to start

The Civil Service – success profiles

For senior leaders, seeing the big picture is about anticipating the long-term impact on the Department of economic, political, environmental, social, and technological developments, at both national and international levels and creating joined up strategies that put into practice and support the Government's vision for the future. [Success Profiles – Civil Service behaviours, January 2025](#)

[See the behaviours in the Policy Officer Apprenticeship standard](#), The Civil Service [Policy profession standards](#) and [learn more about the Analysis Function in Government](#).



Explore what we already know

There are plenty of existing Futures resources with trends, data, scenarios, and information that you can use, adapt or expand. Existing resources are a good starting point but it's important to remember they are often designed to answer a specific question about the future. Policymakers may also need to conduct their own research, gather expert opinion, and undertake further analysis to challenge organisational biases and work with information that is robust, current, and relevant to a policy area. (See [Find Out More](#) for links to existing resources).



Explore what we don't know

Uncertainty is inevitable and while this makes it impossible to know exactly what the future might hold, foresight methods can help us navigate that uncertainty and identify threats and opportunities. The future is open to change; it can be shaped to achieve better outcomes.

Horizon scanning looks for weak signals of change which start off as background noise, or are new and surprising, but may become part of a significant pattern if connected with other information or viewed through a different lens. Identifying weak signals can help us respond to emerging issues faster. It also allows us to prepare for possible disruptive events.

Pathways

The [GOS Futures Toolkit](#) sets out 7 pathways designed to meet the most common needs of policymakers and describes the combinations of tools used in each pathway.

The pathways are:

1. Building Futures intelligence when scoping a future challenge
2. Creating a shared vision of future success
3. Testing policy options with Futures scenarios under time constraints
4. Testing policy options with Futures scenarios
5. Exploring dynamics of change to understand alternative ways that policy might develop
6. Identifying gaps in your knowledge about what will be important in the future, in order to prioritise areas for further enquiry
7. Rigorous Futures process to inform strategic policy challenges

Going further - foresight tools and methods

There are well-developed methods for thinking about the future in a structured way. The methods vary in terms of the knowledge, skills and resources required. Some are straightforward, like a simple horizon scanning exercise, others require in-depth Futures knowledge like [GOS Foresight projects](#) and other work featured in this cross-government [Futures resources collection page](#). The approach you take should be based on a clear understanding of the question you want to explore and how far ahead you want to look. The [GOS Futures Toolkit](#) will support you in using foresight methods. It provides information on what the core tools and techniques are and how and when to use them.

The toolkit features:



Tools

An introduction to various tools you can use from gathering intelligence to testing your ideas and policy recommendations.



Pathways

How tools can combine to meet project needs and answer your Futures question.



Supporting Material

Practical resources to use in Futures exercises, including facilitator templates, worksheets and exemplar material.



Case Studies

So you can learn how others have used Futures thinking to address their policy challenges and develop future-focused responses.



Inspiration

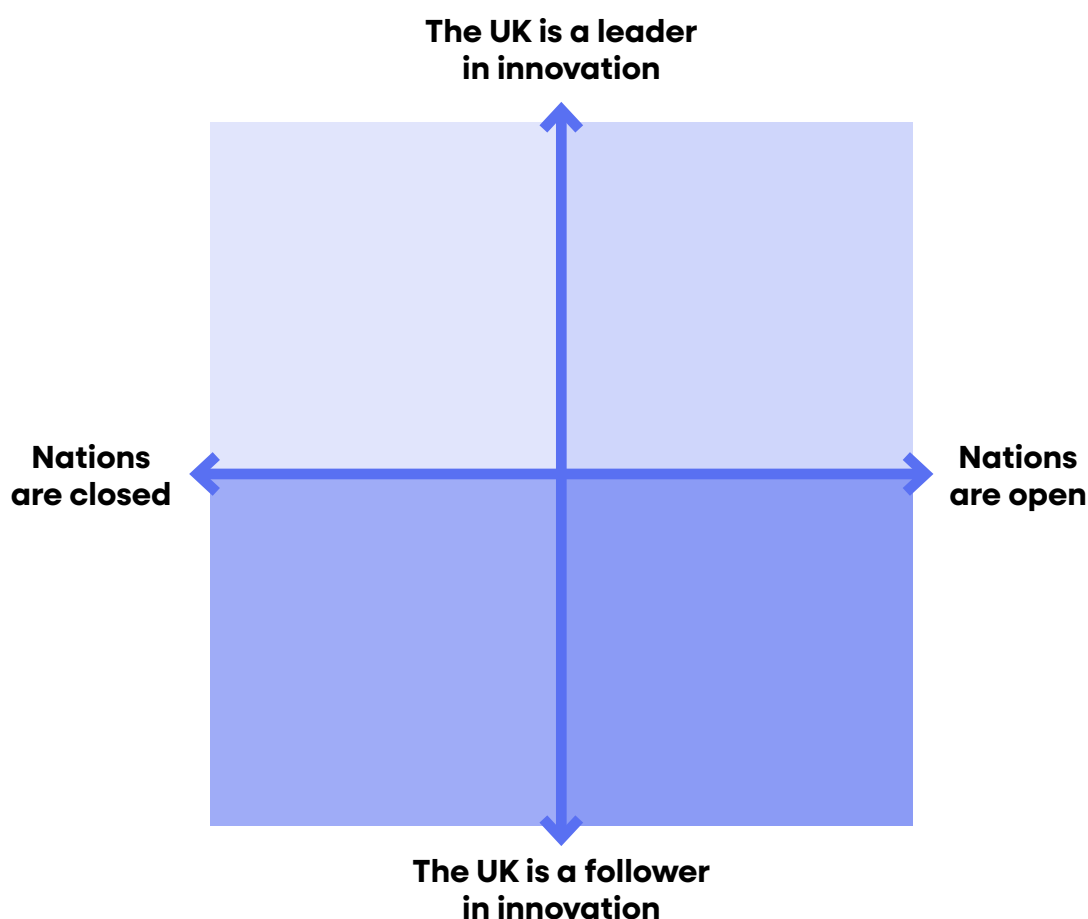
On how you can incorporate experiential Futures techniques to your projects and include a wide range of perspectives.

If what you need is beyond your capacity to deliver, or particularly complex, you can commission the services of commercial providers via the [Futures Procurement Framework](#). This consists of 35 suppliers capable of supporting a range of government departments and public bodies to help them think about the future.

Example of a Futures tool: exploratory scenarios

- Exploratory scenarios describe plausible future worlds.
- Scenarios should be developed collaboratively and incorporate knowledge about current and future trends.
- A scenario matrix (see below) is created with two axes of uncertainty which act as the framework. More axes can be used for more nuanced scenarios.
- Understanding how policies or strategies fare under different scenarios can help make them more robust to future change.

A scenario matrix created from two key axes of uncertainty



Find out more

What follows is not an exhaustive list of Futures resources nor should it be taken as an endorsement of any particular approach or organisation. This section aims to provide you with information to get you started.

a) Trends, scenarios, and narratives

- [GOS Trend Deck](#)
- Civil Servants can access, via the [Government Futures Network](#), Futures resources such as trend analysis and 'What if ...?' cards
- [Global Trade Outlook 2025](#)
- [Weak Signals and Trend Analysis - BD5015](#)
- [Global Strategic Trends: Out to 2055](#)
- [Global Strategic Trends Programme](#)
- [GOS Foresight Projects](#)
- [Cabinet Office & GOS Chronic Risks analysis](#)
- [Policy Horizons Canada](#)
- [Long term strategic thinking and planning: Futures thinking resources for government officials](#)
- [The UK's Office for National Statistics website](#)
- [Welsh Government Future Trends Report Wales](#)
- [The US Director of National Intelligence Global Trends 2040 report.](#)
- [UNDP Signals Spotlight 2023: Insights from UNDP's Futures Network](#)
- [UNDP Signals Spotlight 2024: Hope for all generations](#)
- [Singapore's Centre for Strategic Futures Driving Forces Cards 2040.](#)
- [Ipsos Global Trends 2023: A New World Disorder?](#)
- [Ipsos Global Trends 2024](#)
- [Sitra Megatrends 2023](#)

b) Uncertainty, discontinuity, and disruption

- [The cross government Uncertainty Toolkit for Analysts in Government](#)
- [EY What if disruption isn't the challenge, but the chance?](#)
- [RAND Discontinuities and distractions – rethinking security for the year 2040](#)
- [Sitra Weak signals 2022](#)
- [Sitra Weak signals from the future 2025](#)

c) Methodology, tools, and techniques

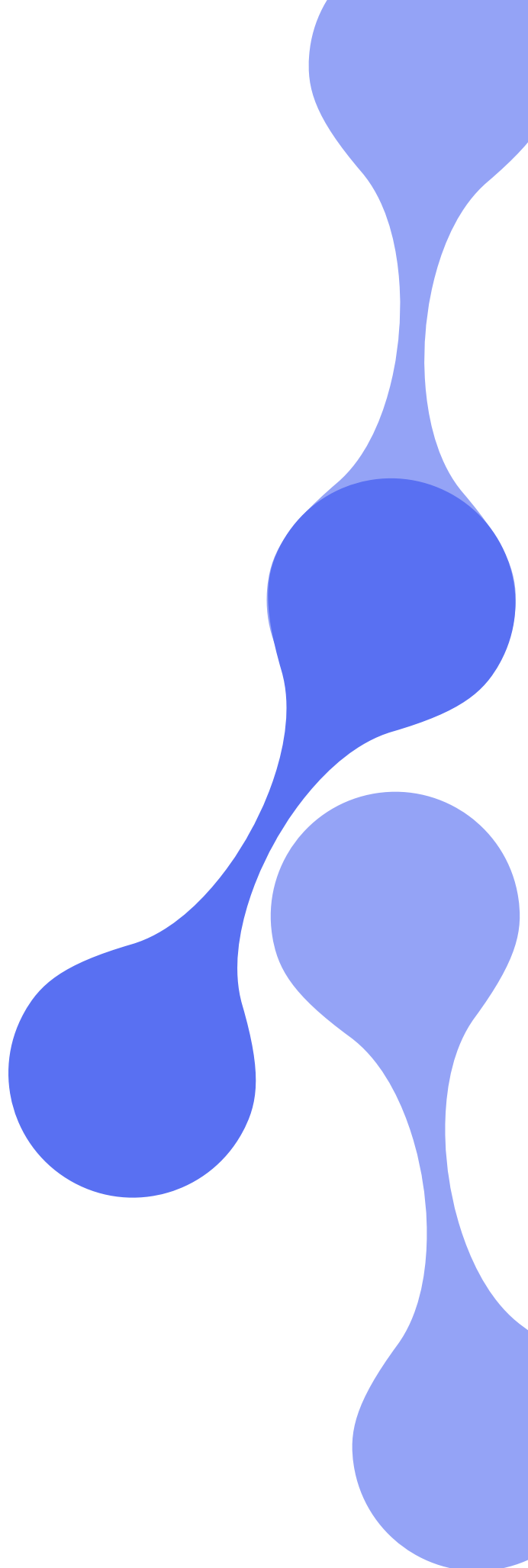
- GOS [Futures toolkit](#), accompanying [template resources](#), and [case studies](#).
- [European Commission Strategic Foresight Primer](#)
- [School of International Futures report: Features of systemic foresight in governments around the world \(see help and support below\)](#)
- [EU Foresight Platform.](#)
- [OECD Strategic Foresight Toolkit for Resilient Public Policy \(EN\)](#)
- [UN Development Programme Foresight Manual](#)
- [Scottish Environment Protection Agency Horizon Scanning toolkit](#)
- [NHS England Horizon scanning tool](#)
- [Public Health Wales Three Horizons toolkit](#)
- [Future Motions Introduction to Strategic Foresight \(e-book\)](#)
- [Toolbox: a curated list of toolboxes.](#)
- [Save the Children The Future is Ours: strategic foresight toolkit](#)

d) Topic specific reports and reviews

- Civil Servants can access, GOS [Foresight reports](#) and [Rapid Technology Assessments](#)
- [UK Parliament POST](#).
- [World Economic Forum](#) research and related [DAVOS](#) YouTube content.
- [Finnish Innovation Fund SITRA reports](#)
- [Defence Science and Technology Laboratory \(Dstl\) Unfogging the Future A Dstl Biscuit Book](#)

e) Networks and collaboration

- [Government Futures Network](#) (see help and support text box, [page 8](#))
- [Emerging Technology Community of Interest](#) (see help and support text box, [page 8](#))
- [University of Cambridge Centre for Science and Policy](#)
- [OECD Government Foresight Community Singapore \(GFC\)](#)
- Collaboration and citizen participation:
 - [UK Research and Innovation Sciencewise programme.](#)
 - [Centre for Strategic Futures participatory foresight](#)
 - [Nesta Collective Intelligence Design Playbook](#)



Engagement and developing capability

Stakeholder engagement

Foresight methods are, by their nature, collaborative, bringing external insights and different views into policy making. Collaboration could be across departments and policy teams or with stakeholder groups to gather horizon scanning insights or develop scenarios or visions. The thought processes, discussion and debate that go into creating foresight outputs are often as important as the outputs themselves.

Participatory Futures techniques

These techniques can be used to engage a wider and more diverse audience, including members of the public, developing collective images of the future so that we can make better, more informed decisions. They are a way of democratising the future, moving beyond traditional engagement techniques.

See our [blog](#), participatory futures section in the [Futures Toolkit](#), [GOS Foresight Net Zero Society](#) project, and the [Nesta report Our Futures: By the people, for the people](#).

Developing Futures Capability

GOS offers a capability programme that supports UK civil servants to develop Futures skills and apply them to their work. This includes:

- Live monthly Introduction to Futures sessions
- A one-hour online Introduction to Futures course for beginners
- Quarterly facilitated group training on how to use our Futures toolkit
- An online self-paced Futures masterclass – c.2 hours/week for 3 weeks. Learn about Futures in depth and apply lessons to your own project. We support various cohorts to enable discussion with peers.
- The chance to join our cross-government Futures community of practice (Government Futures Network) with its own online platform and associated EmTech Community of Interest. Government Futures Network also runs regular seminars with external futures experts.

If you are a UK civil/public servant, for more information please email futures@go-science.gov.uk.

Help and support

- Email the GOS Futures Team on: futures@go-science.gov.uk
- Email the GOS EmTech Team on: emtech@go-science.gov.uk
- Email the GOS Foresight Team on: foresight@go-science.gov.uk
- Explore futures capability within your department (through your [Chief Scientific Adviser](#) and their office, your central analysis, insight, or horizon scanning teams).

Futures newsletters/websites

There are a number of future focused newsletters and websites which publish future research and innovations. These include:

- Futurity - www.futurity.org
- Futurism - futurism.com
- The association of professional futurists - www.apf.org

