



Waverley

We. Make. Sense.

A practical review of horizon scanning approaches, tools and techniques

Report 1 Evaluation of commonly used tools

Prepared for:

The Building Safety Regulator

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The future usually catches us off guard not because there is not enough information available, but because it can be difficult to relate it to today's choices and actions.

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Executive Summary

Introduction

1. This practical review provides the BSR with an understanding of the strengths and weaknesses of different horizon scanning approaches and identifies which are the most suitable tools and techniques for meeting the BSR's requirements of its horizon scanning process.
2. The BSR's definition of horizon scanning is closely aligned with GO-Science's - that "*horizon scanning is one of a range of specific techniques used in the foresight process.*"
3. Horizon scanning is one of a number of tools used to deliver futures thinking. The Government Office of Science's Futures Toolkit (the **GO-Science Futures Toolkit**)¹ describes Futures thinking as "*...a way of thinking about what's possible more deeply, honestly and strategically. It is as much an art as a science. Futures thinkers need to rely on creativity, intuition and insight as well as research and analysis. [Futures thinking] challenges existing assumptions and can at times feel uncomfortable, even controversial.*"
4. This review was conducted through a mix of interviews and desk research. Waverley conducted 15 interviews with Futures leads across government and the public sector. Waverley also conducted desk research to determine the range and nature of futures toolkits available.

The purpose of futures work

5. The research found a clear hierarchy of purpose for doing futures work. The report sets out 6 levels:
 - Level 1: To raise awareness of emerging change
 - Level 2: To help people think strategically
 - Level 3: To provide early warning of systemic change and build resilience to risk
 - Level 4: To inform strategy
 - Level 5: To protect the organisation's reputation
 - Level 6: To drive transformational
6. The report concludes that
 - Not all horizon scanning activity needs to achieve all levels.
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- Progression towards the higher levels comes with experience and requires a degree of process maturity.
- It also requires a mix of skills. The skills required for the lower levels are primarily technical. That is, they are research skills and foresight skills.
- As organisations move towards the higher levels, scanning teams also need strategic skills – such as operational insight, strategic influencing and even (perhaps) leadership.

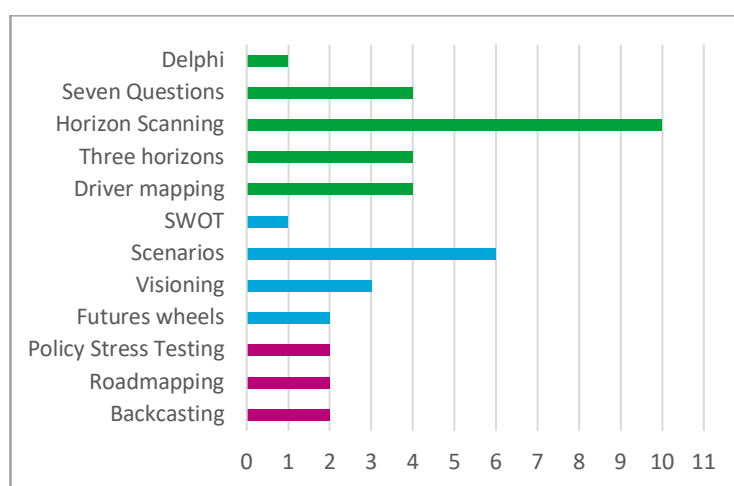
Tools and techniques

7. Most interviewees – particularly those who are new to futures work or who are operating in levels 1-3 of our suggested hierarchy - use the GO-Science Futures Toolkit as their principal source of tools.

8. The GO-Science Futures Toolkit contains three categories of tools:

- What is changing? Tools for looking at what is happening now to identify trends, uncertainties and possibilities
- So what does this mean for our futures? Tools for exploring different potential futures and their implications
- Now what do we do? Tools for deciding how to act within the current policy environment in order to be resilient to a range of possible futures

9. Interviewees told us which tools and techniques they use:



■ What is changing? ■ So what for our futures? ■ Now what do we do?

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10. In general, the most commonly used futures tools are those which are categorised in the GO-Science Futures Toolkit as tools for analysing *What is changing?* – that is, looking at what is happening now to identify trends, uncertainties and possibilities. These are Seven questions, Horizon scanning, Three horizons and Driver mapping.

11. The next most commonly used tools are those in the *So what does this mean for our futures?* category – SWOT, Scenarios, Visioning and Futures Wheels – that are used to explore different potential futures and their implications

12. The least commonly used tools are those in the *Now what do we do?* category – Policy stress testing, Backcasting and Roadmapping – that are used for deciding how to act within the current policy environment in order to be resilient to a range of possible futures

Landing futures

13. Landing futures – securing engagement and influencing policy – is not a given outcome. While some people may be interested in the value of futures thinking, others may need to be convinced.

14. This, combined with the time pressures that most people are under, means that demonstrating the value of futures thinking is key to securing that engagement in the process.

15. One way to strengthen the connection between futures and policy making is to involve as wide a group of policy makers as possible. Not only will this raise awareness of the futures process, it will also help to build a bridge between looking for weak signals of change and formulating policy by *identifying what is changing, describing what this means for our future and determining what we do now*

16. Getting this right means that the ideas and insights emerging from futures work will feed directly into policy development. Scanning teams should not expect to *achieve* this bridge immediately but should keep it firmly in focus as they design and begin to deliver their approach.

17. Finally, of course, scanning teams should make continued effort to sustain the futures bridge. One interview highlighted this with their comment that

We don't just deliver reports. We go around teams selling what we do and working with them to look at their problem and explore the solutions we can offer. We facilitate their discussions – we don't tell them what "the answer" is.

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The role of Artificial Intelligence (AI) in horizon scanning

18. The majority of interviewees have explored using AI in their futures work. There are two principal uses for it: conducting scanning and summarising reports.

19. Interviewees were (almost) unanimous in their view that AI is not yet a mature enough technology to be used in scanning. One representative comment is that

We've found the outputs disappointing. There were issues with the credibility of the data and things being pulled from non-verifiable sources. Ultimately, we found it untrustworthy.

20. We also heard concerns that AI gives a lower quality scanning output:

We've tried AI tools - but the summaries are not nuanced or insightful and we've had to rewrite them.

21. Perhaps most importantly, interviewees believe horizon scanning is both a learning tool and a creative tool – and that deploying AI minimises both these characteristics:

The thing about futures research is it's creative thinking. Current AI tools don't have the capability to be subjective or creative in that way. It's difficult to know how it might go in the future – but it is certainly not going to change soon.

22. Interviewees were more positive about the benefits of using AI to summarise reports and documents:

You can run data from interviews or workshops through [AI] to identify the key themes. It's good at summarising in stats – 40% of interviews want this (for example) – and we use it to analyse and display outputs.

23. The conclusion is that

- AI is not yet good enough to conduct scanning. While the technology may develop sufficiently in the future for it to deliver nuance, trustworthiness and context, human attention and insight are far better – and far more reliable – at present for spotting, analysing and interpreting weak signals of change.
- AI is useful for processing and summarising text, whether from interviews, reports or from workshop discussions.

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Review of horizon scanning toolkits

24. We have reviewed four horizon scanning toolkits to test their suitability for meeting the BSR's requirements:

- The Scottish Environmental Protection Agency's Horizon Scanning Toolkit²
- The European Environment Agency's Practical Guide to Horizon Scanning³
- The UN Global Pulse Horizon Scan User Manual ⁴
- The Australian Government Department of Industry's Practical guide to horizon scanning in the public sector⁵

25. We have assessed each toolkit according to five key technical characteristics:

- The focus on horizon scanning
- The depth and detail of the tools in the toolkit
- The degree of sophistication for ranking of scans
- Whether the toolkit links scanning to policy and action
- The clarity and usability of the toolkit

26. Each characteristic has been assessed on a scale of 1 to 4, where 1 is relatively weak and 4 is relatively strong. The overall score for each toolkit averages these out.

27. The final ranking - from most suitable for the BSR to least suitable - is

- The Scottish Environmental Protection Agency's Toolkit
- The UN Global Pulse Horizon Scan User Manual
- The GO-Science Futures Toolkit
- The European Environment Agency's Practical Guide to Horizon Scanning
- The Australian Government's Practical guide to horizon scanning in the public sector

28. The key reason why the Scottish Environmental Protection Agency's Toolkit achieves the top ranking is because it is designed specifically for regulators and is unique in linking scanning to policy planning and delivery.

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29. Based on this analysis we recommend that the BSR adopt the Scottish Environmental Protection Agency's toolkit and adapt it to its needs.

30. The main adaptations we suggest are:

- Adjusting the focus away from waste crime
- Adding the Seven questions tool
- Providing guidance on process design and delivery¹
 - Including a scanning framework to guide the range of signals to look for
 - Reviewing the approach to storing scans
 - Providing additional workshop for the creating insight stages
- Identifying the linkages to wider futures tools

Review of futures toolkits

31. Futures toolkits provide a wider range of tools than horizon scanning toolkits. We have reviewed four that may support the BSR's ambition to use this wider range of techniques in due course.

32. We have not, however, carried out a comparative analysis of these futures toolkits for two reasons:

- Firstly, that the BSR wishes to focus on horizon scanning rather than wider futures tools at present
- Secondly, that the GO-Science Futures Toolkit is, we believe, the only sensible candidate for widening the BSR's futures work

33. The toolkits we have reviewed are

- The GO-Science Futures Toolkit
- Save the Children's The Future is Ours, a toolkit produced in collaboration with the School of International Futures⁶

¹ Process design and delivery is defined in detail in the Practical Guide. It refers to the structured approach to developing a horizon scanning process that is systematic, goal oriented and scalable.

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- Sitra, the Finnish Innovation Fund's Foresight tools⁷
- Danish Design Center's Living Futures Scenario kit⁸

Conclusions: Insights for implementing futures

34. At the end of each interview, we asked participants to tell us the pieces of advice they would give to a newly formed futures team. Their responses can be aggregated into 'Ten insights for developing horizon scanning'.

1. Have a senior champion who has the ear of decision makers
2. Give the scanning team time and agency
3. Build a really clear picture of where your organisation is at
4. Facilitate conversations
5. Embed scanning in decision-making from the start.
6. Encourage the scanning team to be enthusiastic, curious and brave.
7. Trust your intuition about what matters.
8. Build relationships with colleagues and link scanning to their strategic purpose
9. Let the process evolve
10. Don't overcomplicate things

1 Introduction

1.1 The Building Safety Regulator (the BSR) has a duty to keep under review the safety and standard of buildings. As part of delivering this duty, BSR is seeking to identify emerging risks in the built environment.

1.2 Failing to identify potential risks relating to buildings at an early stage could result in issues that are more serious, costly and difficult to resolve. Failing to identify research needs at an early stage could result in future decisions being made without a full body of evidence.

1.3 The absence of any systematic approach to horizon scanning or to identifying future risks and research needs and opportunities led the BSR to establish a horizon scanning team in autumn 2024. The team's purpose is to develop an in-house horizon scanning process that

- Builds intelligence about emerging signals of change in the market
- Develops insight into the possible impact of changes on the safety and standards of buildings
- Systematically stress tests the work of the BSR to ensure that policy and regulatory development are fit for future purpose

1.4 The aim of this practical review is to provide the BSR with an understanding of the strengths and weaknesses of different horizon scanning approaches and to identify the most suitable tools and techniques for meeting the BSR's requirements.

1.5 This report is focussed on the first of these objectives.

1.6 The report draws on a wide range of sources and there is an extensive list of supporting references. These are set out in full – with links to the source documents and websites – at the end of the report. Each reference is indicated with a superscript number at the appropriate point in the text (*Nesta's Review of top ten toolkits for futures*³, for example) and clicking on that number will take the reader to the full list.

Structure of this report

1.7 This report has 12 main sections.

Introduction	• Section 1 introduces the aims of the practical review, sets out the project deliverables and outlines the structure of this report. • Section 2 defines what the BSR – and consequently this report – mean by the term ‘horizon scanning’ and how it links to operational decision making. • Section 3 sets out the methodology of the review.
Approaches to futures work	• Section 4 describes what futures thinking is and how it should be approached. • Section 5 reports what the research findings show about the purpose of futures work in government. • Section 6 reports on the range of futures tools and techniques used across government and its agencies. • Section 7 reports on how futures lands – and how to ensure it lands in the right place. • Section 8 reports on the application of Artificial Intelligence tools to horizon scanning.
Insights	• Section 9 reviews key lessons and insights from experience of embedding futures thinking in public policy.
Existing toolkits	• Section 10 provides a review of published horizon scanning toolkits and assesses their suitability for the BSR’s horizon scanning process. • Section 11 provides a review of published futures thinking toolkits and assesses their suitability for the BSR’s horizon scanning process.
Conclusions	• Section 12 offers a set of concluding observations.
	• The Annex lists the interviewees. • The List of references provides links to the source documents and websites.

2 Definition matters

Horizon scanning

2.1 ‘Horizon scanning’ is an ambiguous term. Some organisations use it as a generic description of futures thinking, encompassing the full range of futures techniques. Others use it to describe a single technique.

2.2 The UK Government Office of Science (GO-Science) has sought to remove this ambiguity by setting out a clear definition of futures thinking terms:⁹

- **Futures** means systematic approaches to thinking about the future and exploring factors that could give rise to possible and probable future characteristics, events, and behaviours.
- Foresight is the application of specific futures tools and methods to a specific question
- Horizon scanning is one of a range of specific techniques used in the foresight process

2.3 Horizon scanning is one of twelve techniques set out in the GO-Science Futures Toolkit.¹⁰ The toolkit defines it as “the systematic collection of insights on emerging trends and weak signals of change to identify potential threats, risks and opportunities” (Figure 1).

Futures tools at a glance		
WHAT is changing?	SO WHAT for our futures?	NOW WHAT do we do?
Delphi A structured questioning tool, used to gather opinion from a panel of subject matter experts by using multiple rounds of questionnaires.	SWOT Analysis Identifies the relevant Strengths, Weaknesses, Opportunities and Threats of a policy, issue or event.	Policy Stress-testing A method for testing policy, strategy or project options against a set of scenarios, trends or future events to see how well they stand up to a range of possible external conditions.
Seven Questions A structured interview technique for gathering the strategic insights of a range of internal and external stakeholders.	Scenarios Compelling stories about a range of different possible futures that helps people understand what it feels like to live there and what this will mean for you, your stakeholders and your policy or strategy.	Roadmapping Structured representations of the stages leading to a strategic goal or preferred future.
Horizon Scanning The systematic collection of insights on emerging trends and weak signals of change to identify potential threats, risks and opportunities.	Visioning Can be used to create a positive common vision for the future, a set of common aims for a project and to describe what the future would be like if these aims were achieved	Backcasting A tool for determining the steps that need to be taken to deliver a preferred future. It is a way of overcoming “present bias” in the way that we plan.
Three Horizons Helps you explore both the present and its limitations, and different potential futures.	Futures Wheels A structured brainstorming method that helps you identify and map connections, causalities and impacts.	
Driver Mapping Charts the trends and maps what you have found to see which are the most important for you to address.		

Figure 1: Futures tools at a glance
Source: The GO-Science Futures Toolkit

Horizon scanning in the BSR

2.4 The BSR's definition of horizon scanning has evolved over the course of this study.

2.5 In the inception meeting, held on 20 November 2024, the team briefed Waverley that their working definition of horizon scanning at that time was broad – that is, encompassing the full range of futures techniques – and that the review should reflect this.

2.6 As the assignment progressed and the team began to discuss the emerging findings, we found their definition of horizon scanning began to shift and become more closely aligned with the GO-Science definition.

2.7 In particular, the team highlighted that

- The core technique they intend to use will be the horizon scanning technique
- They are open to – and interested in – adapting the technique by borrowing from wider approaches to horizon scanning than the methodology set out in the GO-Science Futures Toolkit
- They intend to build on the outputs from their horizon scanning programme by using other futures and wider strategic techniques to ensure their scanning outputs feed into – and influence – the BSR's policy and strategy development

2.8 This revised definition focusses the team both on (i) the horizon scanning technique and (ii) utilising other techniques – from the GO-Science Futures Toolkit and beyond – to link the team's outputs to the BSR's policy cycle.

3 Methodology

Overview

3.1 This review was conducted through a mix of interviews and desk research. This section outlines the overall process.

Interviews

3.2 Waverley and the BSR project team identified a range of departments, agencies and non-departmental public bodies to interview. In line with GO-Science's policy of protecting futures leads from unsolicited e-mails, GO-Science contacted them to invite them to interview:

GO-Science is assisting the Building Service Regulator (BSR, part of the Health and Safety Executive) to conduct a review of futures thinking tools. The purpose of the review is to inform the design and development of BSR's own approach to futures thinking which will help it identify emerging trends and risks related to building safety and stress test its own work against possible future change.

The review is being conducted by Waverley Management Consultants. BSR has asked Waverley to interview a range of departments to understand their experience of using futures thinking tools and to identify which tools, techniques and approaches offer the greatest strategic insight and organisational impact.

3.3 Futures Leads were invited to reply to Waverley if they were willing to participate. We were able to conduct 15 interviews in total (Annex 1). The interviews consisted of 8 questions.

1. What is the purpose of your futures work?
2. What approaches, tools and techniques do you most commonly use?
3. Do you have any thoughts on how Artificial Intelligence (AI) can be used in futures thinking?
4. Outcomes and impact are notoriously difficult to measure and attribute - but what would you say are the big successes of your futures work?
5. What was it that made these projects/activities successful?
6. ...and to what extent is your futures work being built into strategic thinking and project planning?
7. Are there particular insights or lessons you've learned from work that was less successful than you'd expected?
8. Imagine you were appointed to set up the Building Safety Regulator's futures programme. What are the three key things you would ensure are put in place? Do you have any final pieces of advice for the Building Safety Regulator ?

Desk research

3.4 We conducted desk research to determine the range and nature of futures toolkits available. Our search was informed by three main inputs:

- Nesta's Review of top ten toolkits for futures¹¹
- Our programme of interviews
- The knowledge and experience of our own network of futures practitioners

3.5 We also carried out a wider google search to sweep up anything we might otherwise miss.

3.6 There is not a vast number of future/horizon scanning toolkits available online or in physical format. This is partly historical. Prior to 2017 – when GO-Science published the first edition of the GO-Science Futures Toolkit – there was limited guidance available and few comprehensive methods books in the public domain. Those methods books that were published tended to provide high level descriptions of tools (see, for illustration, the *Future risks and opportunities toolkit*¹² and the Beta version of GO-Science's own toolkit¹³).

3.7 While the number of available toolkits *has* increased in the last 8 years, there are still not that many and - significantly for this study - the range of tools set out in those toolkits is broadly similar.

3.8 We have not therefore reviewed all the toolkits we found. The ones we have reviewed are, we believe, a strong platform upon which the BSR can build its own horizon scanning activity.

4 Approaches to futures thinking

[Futures thinking] is as much an art as a science

A way of thinking about what's possible

4.1 Futures thinking is a way of thinking about what's possible more deeply, honestly and strategically. It is as much an art as a science.¹⁴ Futures thinkers need to rely on creativity, intuition and insight as well as research and analysis.

4.2 Futures thinking involves moving beyond our current perceptions. It challenges existing assumptions and can at times feel uncomfortable, even controversial. It is best used to address questions of what might happen over a longer term.

4.3 Sometimes ideas that emerge from futures thinking may seem beyond the boundary of reasonable assumptions. But futures teams should challenge themselves to consider some extreme outcomes – history shows us that radical shifts are possible. A lot of futures thinking involves addressing various forms of intellectual bias. Futures teams should try hard to avoid groupthink, or of falling into overly utopian or dystopian perspectives. Most potential futures will be a mix of appealing and disturbing features.

4.4 Futures thinking contrasts with forecasting and forecasting models. Most forecasting models look at historical trends and, with various degrees of sophistication, attempt to project them forward. Key assumptions (e.g. about GDP growth) can often be flexed within these models to give a range of high/medium/low outcomes. But fundamentally the models are based on a fixed view of how the overall system operates, so their reliability starts to break down over the longer term as the world changes.

4.5 Futures thinking recognises the possibility – even the likelihood – of fundamental change in the system itself. It steps out of the present, and present constraints, to consider a wide range of possible futures, their consequences and potential responses.

4.6 This concept is illustrated by the “cone of plausibility”. The line through the middle of the cone is what happens if current trends continue, but as one moves away from the present the cone widens and the range of possible futures expands. Foresight methods help us to explore and make sense of this range of future possibilities.

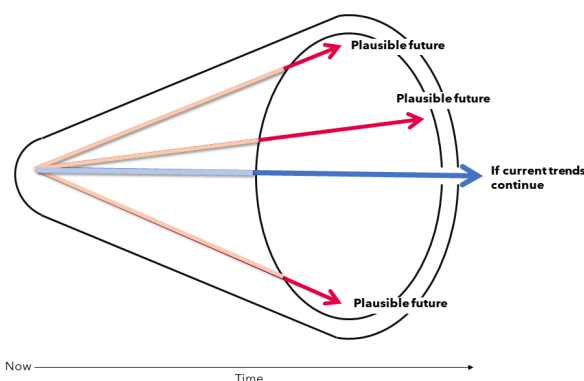


Figure 2: The cone of plausibility
Source: The GO-Science Futures Toolkit

4.7 While approaches to futures thinking can vary in detail or emphasis, most follow the same broad pattern of¹⁵

- **Looking for signals of change.** This includes changes that may be considered highly likely as well as events that may be considered highly unlikely - but that would have significant impact if they occurred
- **Using diverse data sources** such as quantitative trends (eg demographics), qualitative trends (eg social values), online literature reviews (news articles and blogs) and stakeholder insights
- **Engaging with diverse stakeholders.** A diverse stakeholder group can contribute varied experiences to create more robust views about the future and its implications for policy
- **Applying a systems lens** to consider not only the factors immediately relevant to your policy, but also linking to the greater macro factors that may shape the international, domestic and organisational context in the coming years
- **Thinking about unexpected events**, often called wildcards or (in the case of negative events) black swans

Scale

4.8 Futures projects can be large or small. They may be delivered primarily in house or they may involve a wide range of external stakeholders. Participants may be familiar with horizon scanning and futures thinking or they may have little knowledge of it.

4.9 The Intelligent Infrastructure Futures¹⁶ foresight report, for example, engaged nearly 300 people at national, regional and local level and commissioned leading researchers to write 18 state of the art research reviews covering areas as diverse as artificial intelligence, data mining, how information affects our choices and the psychology of travel.

4.10 At the other end of the scale, several policy teams we spoke to for this study operate with around 2.0 FTEs, conducting (for example) horizon scanning, driver mapping and scenario thinking to inform policy colleagues of how weak signals may have an impact on future policy development. One interviewee for this study summed this up perfectly, telling us that

There are four of us in the team for an organisation of 14,000. 50% of our work is web-based scanning for signals of change. The team all have different backgrounds and our basic search criteria are

- *Is this novel?*
- *Is it business related?*
- *Could it become business related in the future?*

We review the outputs as a team every week and signals that seem important go into our central database. We review the database regularly and develop clusters of change.

4.11 There is, then, no optimal scale for futures thinking processes, but processes require some adjustment and project planning if they are to be scaled up – or down – significantly.

Who to involve

4.12 Anyone with any kind of interest in – or influence on – the future of the policy or strategy issue can be invited to participate in a futures project. In particular, anyone who is likely to use the project outputs should be involved in their development if at all possible. If a strategy team is developing scenarios for an executive board, for example, the executive board should be involved in the process and not just be given them at the end of a process. This will ensure the knowledge and insights of the executive board are included in the scenarios. It will also ensure they have ownership of them.

4.13 It is important to involve key stakeholders and senior decisions makers early in the process in order to build ownership and understanding of the futures approach and its outputs. You can invite them to participate in development workshops or to contribute horizon scans; or, if they have limited time, you can interview them to gather their thoughts on what the important issues for the future are.

4.14 Aim to involve as wide a group of stakeholders as possible, such as other departments, businesses, third sector organisations and interest groups. A particular benefit of the futures approach is that stakeholders with differing, even conflicting, objectives can work together to develop and explore future scenarios. Bringing individuals with different opinions into horizon scanning, interview programmes and scenario workshops facilitates development and sharing of new insights and effective responses to future challenges.

4.15 You may also wish to consult subject matter experts (including, perhaps, some from outside the UK) to gather their opinions and insights on what will be important in the policy area in the future. Delphi² - a tool that both highlights the range of issues that experts believe will be important in the future and builds consensus around which will be most important for you to focus on – can be a particularly useful tool to use for this purpose.

² Delphi is one of the tools set out in the GO-Science Futures Toolkit

5 The purpose of futures work

Our purpose in doing horizon scanning is to improve situational awareness and improve flows of information across the organisation.

Introduction

5.1 This section reports the key messages we heard from interviewees about the purpose of their futures work.

5.2 There is a clear hierarchy of purpose and we have recorded interviewees' responses against it.

- Level 1: To raise awareness of emerging change
- Level 2: To help people think strategically
- Level 3: To provide early warning of systemic change and build resilience to risk
- Level 4: To inform strategy
- Level 5: To protect the organisation's reputation
- Level 6: To drive transformational change

5.3 Individual quotes that illustrate this hierarchy are set out in paragraphs 5.4 – 5.20.

The purpose of futures work across government and its agencies

Level 1: To raise awareness of emerging change

5.4 Our purpose is to *raise awareness* of emerging change that could have an impact on operational purpose.

5.5 Reacting to stuff is exhausting. *Anticipating* what's coming is a good way to save energy, time and money.

5.6 Horizon scanning *keeps us on top of things*.

5.7 Our purpose in doing horizon scanning is to *improve situational awareness* and improve flows of information across the organisation.

5.8 We want to build shared understanding of future change and use it to *break down siloed approaches* to problem-solving.

Level 2: To help people think strategically

5.9 The purpose of our futures work is to *help people think strategically* and longer term. We are very target driven and futures supports better decision-making. That's why it's important.

5.10 We're really *trying to help people to think!* The organisation is getting much more open to the idea.

5.11 Our other purpose is to *develop strategic thinking habits* in the Department. We try to model behaviours and take leadership into uncomfortable spaces. That comes from our behaviours.

Level 3: To provide early warning of systemic change and build resilience to risk

5.12 Our work is *an early warning system*. Our current timeframe is up to 10 years.

5.13 We recognise that a lot of our challenges are in the future. It takes 10 to 20 years to develop a new platform which may last 30 to 40 years, so we are always preparing and *always looking* for what technologies we will need.

5.14 We provide a lot of facilitation of - and inputs to - workshops. It's harder than you think and it takes longer than you think, but it shifts people's perspectives. It would be great if we could do this all year round.

5.15 We *look for blind spots and analyse risks* in them.

Level 4: To inform strategy

5.16 We use futures thinking to support direction setting and *to inform our strategy*. Futures gives us diverse perspectives and it helps us to identify new evidence. It makes us more agile in how we respond to what's going on in the outside world.

5.17 To *spot, shape and seize strategic opportunities* for the wider department.

5.18 We're trying to *improve corporate memory*.

Level 5: To protect the organisation's reputation

5.19 We are trying to *protect the Department's reputation* and its *ability to function* by

- spotting change in those areas the Department is responsible for
- understanding how they might develop
- anticipating how we need to respond.

It's all about detection, protection, mitigation and recovery. That is lost in a lot of the futures work that is going on.

Level 6: To drive transformational change

5.20 *The official line is to provide strategic foresight for the Department and to make a specialist contribution to wider government thinking on [policy area] foresight. Our unstated strategic objective is to drive transformational change in the [external] systems and structures that [our department] is responsible for and to prepare to prevent – or, if necessary, recover from – system collapse. If you are establishing a futures team that isn't trying to bring about transformation and prevent system collapse, then you're in the wrong space and I really question the purpose.*

Conclusions

5.21 Not all horizon scanning activity needs to achieve all levels.

5.22 Progression towards the higher levels comes with experience and requires a degree of process maturity.

5.23 It also requires a mix of skills. The skills required for the lower levels are primarily technical. That is, they are research skills and foresight skills.

5.24 As organisations move towards the higher levels, scanning teams also needs strategic skills – such as operational insight, strategic influencing and even (perhaps) leadership.

6 Tools and techniques

Introduction

6.1 This section reports what interviewees told us were the tools and techniques they most commonly use.

6.2 Most interviewees – particularly those who are new to futures work or who are operating in levels 1-3 of the hierarchy - use the GO-Science Futures Toolkit as their *principal* source. One interviewee told us

10 years ago, we were all about horizon scanning and spotting signals of change and presenting it to decision makers. That was it. We still do this, but we also provide support on an individual basis using the wider range of tools in the GO-Science Futures Toolkit. It's a simple and straightforward set of tools.

6.3 The first part of this section therefore provides an overview of the tools in the GO-Science Futures Toolkit and sets out which ones are most commonly used by interviewees.

6.4 Some interviewees - mainly those with several years' experience working in futures - use additional tools and techniques. The third part of this section sets out which ones.

The GO-Science Futures Toolkit

6.5 The GO-Science Futures Toolkit is designed for policy officials and analysts across government. It takes users through 12 different Futures thinking tools, with advice on how to implement them.

6.6 The Toolkit is intended to be accessible to people who have little or no experience using futures tools, as well as being a useful reference for those who are more experienced. It sits alongside other GO-Science Futures resources, including their Brief Guide to Futures Thinking and Foresight¹⁷ and their Trend Deck¹⁸.

6.7 Tools are ordered in three categories:

- **What is changing?** Tools for **looking** at what is happening now to identify trends, uncertainties and possibilities
- **So what does this mean for our futures?** Tools for **exploring** different potential futures and their implications
- **Now what do we do?** Tools for **deciding** how to act within the current policy environment in order to be resilient to a range of possible futures

6.8 The Futures tools at a glance page (Figure 3) provides a short definition of each tool.

Futures tools at a glance		
WHAT is changing?	SO WHAT for our futures?	NOW WHAT do we do?
Delphi A structured questioning tool, used to gather opinion from a panel of subject matter experts by using multiple rounds of questionnaires. Seven Questions A structured interview technique for gathering the strategic insights of a range of internal and external stakeholders. Horizon Scanning The systematic collection of insights on emerging trends and weak signals of change to identify potential threats, risks and opportunities. Three Horizons Helps you explore both the present and its limitations, and different potential futures. Driver Mapping Charts the trends and maps what you have found to see which are the most important for you to address.	SWOT Analysis Identifies the relevant Strengths, Weaknesses, Opportunities and Threats of a policy, issue or event. Scenarios Compelling stories about a range of different possible futures that helps people understand what it feels like to live there and what this will mean for you, your stakeholders and your policy or strategy. Visioning Can be used to create a positive common vision for the future, a set of common aims for a project and to describe what the future would be like if these aims were achieved Futures Wheels A structured brainstorming method that helps you identify and map connections, causalities and impacts.	Policy Stress-testing A method for testing policy, strategy or project options against a set of scenarios, trends or future events to see how well they stand up to a range of possible external conditions. Roadmapping Structured representations of the stages leading to a strategic goal or preferred future. Backcasting A tool for determining the steps that need to be taken to deliver a preferred future. It is a way of overcoming "present bias" in the way that we plan.

Figure 3: Futures tools at a glance
Source: The GO-Science Futures Toolkit

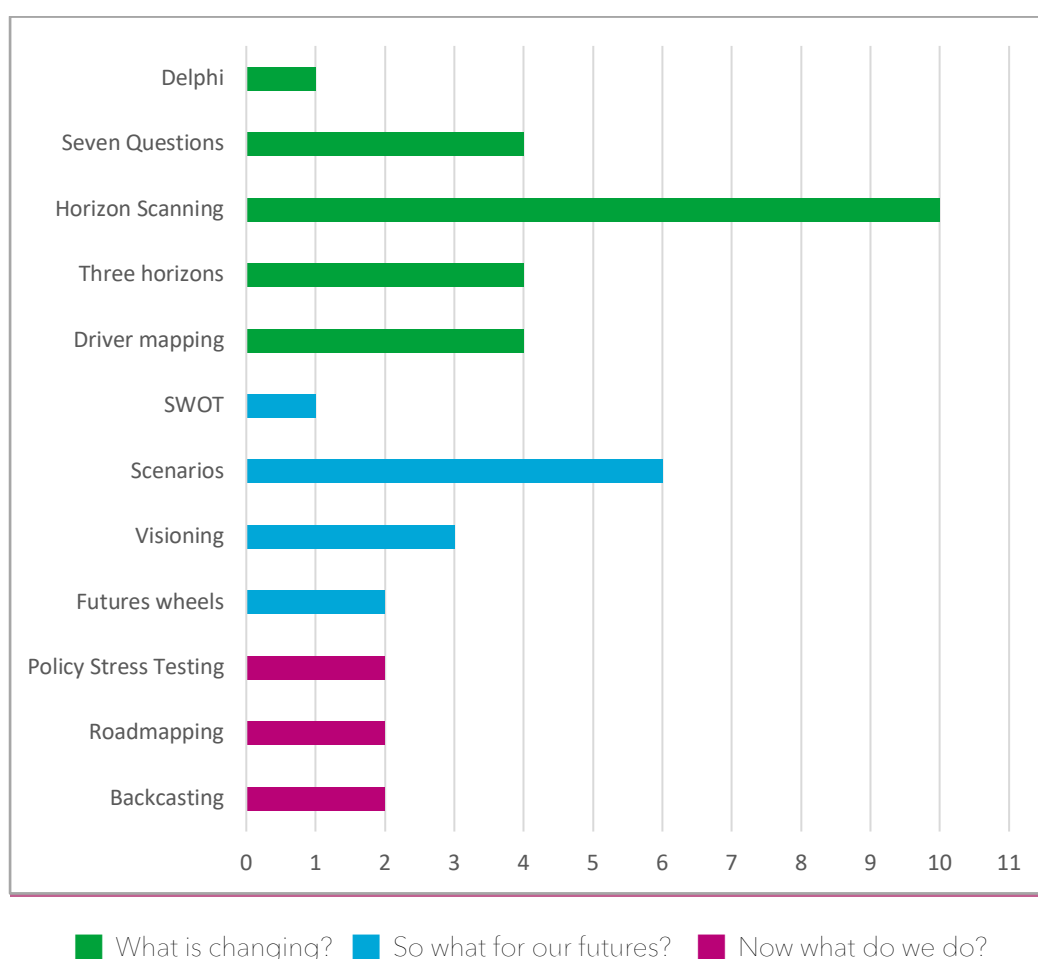
6.9 The Toolkit also contains seven pathways - groupings of tools to meet particular objectives – that are more outcome oriented.



Figure 4: Pathways at a glance
Source: The GO-Science Futures Toolkit

Commonly used tools in the GO-Science Futures Toolkit

6.10 We asked interviewees what approaches, tools and techniques they most commonly use.³ The responses relating to the tools in the GO-Science Futures Toolkit are set out in Figure 5. Individual comments are recorded in paragraph 6.11.



NB These data reflect organisational use: where we have spoken to more than one person from a single organisation and each one has mentioned using a technique, we have only recorded it once

Figure 5: Distribution of survey responses

³ Question 2 in the interview questionnaire (see paragraph 3.3)

6.11 The range of comments we heard are set out below:

Tools for looking at what is happening now

- We've used *Delphi* a bit. It's a great approach to help people get a clear insight into what's going to be important.
- *Seven questions* is a big success. The anonymity and freedom that comes from those questions is really useful to people. We've found the output really good for showing people what everyone thinks. They can find that surprising.
- We use *Seven questions*, both with external and internal staff. It works really well.
- We use the *Seven questions* technique, adapting the questions to make them specific to our policy areas.
- We use *Seven questions* a lot – it's such a workhorse and you can drop a few of the questions in it into 1:1s with senior managers so that they don't even know they're having a futures conversation until you tell them at end.
- We've only used the *Horizon scanning* technique at the moment. Our scanning is mainly focussed on technology. We're planning to broaden it out to include the other PESTLE categories.⁴ We also plan to increase the number of tools – and are planning to use scenarios and policy stress testing in a new study we're beginning.
- We do classic horizon scanning – but based on STEEPLED. The D stands for Demographics, which is going to be a critical issue for our strategic planning in the coming decade.
- *3 horizons* is impactful – but you have to put a bit of work into helping people understand it. But when they get it, it's really useful. People get excited about H2 and H3 and it really opens up issues and questions that we find don't come up in other techniques. I'm focusing more and more on H1 and pushing for discussions on what we are prepared to stop doing if we want to achieve transformation.
- *3 Horizons* is a useful tool as a framing concept.
- Techniques such as *Driver mapping* are great for getting people who are niche and focussed on particular issues to take a wider look at what's going on.
- We use the *Importance and uncertainty* matrix [part of driver mapping].

⁴ PESTLE is Political, Environmental, Societal, Technological, Legislative, Economic

Tools for exploring different potential futures

- We use *Scenarios*. We've had a lot of discussion about how helpful scenarios can be, but people do enjoy the process and like to engage with it.
- We've used *Scenarios* when there have been big disruptions (such as Covid) to help us understand what they might mean; but scenarios is a very labour intensive exercise and we don't use it so often now. It requires a lot of effort to gain enough experience of the tool and to learn the art of doing it well.
- We have used *Scenarios* but *tend to use other people's*. It takes a long time to get people to stop talking about wanting one version of the truth. We've worked a lot with published scenarios to explore things that are important to us. We interpret and adapt published scenarios to our policy area.
- *Scenarios* are good for introducing and exploring uncertainty and for getting people to think about multiple futures.
- *We've borrowed GO Science's Scenarios* in the past and, more recently, used scenarios we've developed ourselves. People like developing scenarios, like the conversations and like getting into the detail – but they struggle to get beyond 3-5 years. It's too challenging.
- One group [we worked with] did a *visioning* and *backcasting* exercise recently.
- We've used the *Futures wheel*. It's really good for getting all the ideas out on the table but it does takes time to turn the outputs into meaningful strategic insights.

Tools for deciding how to act

- We've used Scenarios for Policy Stress Testing.

Reflections on the commonly used tools

6.12 It's important to note that this is a small sample of interviewees and that any analysis of the results needs to take that into account.

6.13 With that caveat, there are some interesting insights to be gained from the responses.

- Horizon scanning is the single most commonly cited tool, followed by Scenarios.
- In general, the most commonly used tools are those for analysing *What is changing?* – that is, looking at what is happening now to identify trends, uncertainties and possibilities. These are Horizon scanning, Seven questions, Three horizons and Driver mapping. Delphi is also in this category but is one of the least commonly used tools.

- Tools for exploring different potential futures and their implications - *So what does this mean for our futures?* – are used a little less. Scenarios can be an enjoyable tool for participants, but are deemed to be technically demanding and labour intensive.
- The use of tools for deciding how to act within the current policy environment in order to be resilient to a range of possible futures - *So what does this mean for our futures?* – is lower still.

6.14 It's notable that, as interviewees move through the range of tools, their perception of how easy they are to use – or, more accurately, how much effort needs to go into them to make them valuable to participants – changes.

6.15 This is perhaps not surprising. The tools in the latter two categories (*So what does this mean for our futures?* and *Now what do we do?*) are certainly more technical to deliver and need to be customised to fit with the strategic context and purpose of the organisation. Often, these tools only come into play once futures teams have moved to Levels 4-6 in the hierarchy of purpose.

6.16 It is also sometimes the case that horizon scanning/futures teams produce futures reports which they pass to operational teams for them to act on – meaning that the futures team intentionally steps back from *Now what do we do?* activities. This is understandable where a futures team has limited resource available and may have to choose between supporting narrowly focussed *Now what do we do?* conversations and carrying out further rounds of wider research into *What is changing?*

6.17 This point was highlighted by one interviewee who commented that

When futures doesn't land - which happens more often than I'd like - it's because we've not done enough to help the decision makers make sense of what we've told them. They ask, "what does this mean for us?" and we say "Well, that's up to you to decide..." We're really working hard to bridge the gap between simply presenting trends and developments and - without being prescriptive - helping audiences make sense of what they mean and using the information to inform what they do.

6.18 We return to this challenge in Section 7.

6.19 One final reflection is that facilitating the tools in the *So what does this mean for our futures?* and *Now what do we do?* categories is, like the tools themselves, more technical. It is consequently likely to require a higher level of facilitation skill. Acquiring these skills can also be challenging when teams have limited time and other resources.

Other tools used by respondents

6.20 Some interviewees - mainly those with several years' experience working in futures - use a wider range of tools and techniques than those in the GO-Science Toolkit.

- We use the *futures triangle*¹⁹ a lot. We can define a positive vision, explore what's pushing us there and what's holding us back. We go into drivers, axes of uncertainty, skeleton scenarios and through to windtunnelling. It happens quickly - we can get a lot done in a 90 minute discussion and it makes sense to people.
- We used *McLuhan's Tetrad*²⁰ to explore new technologies. It's worked very well for technologies we don't really know much about.
- We use *Red teaming*²¹ - but the 2013 guidance, not the latest one.
- *Wargaming*²² was cited by two interviewees.
- *Systems thinking*²³ was cited by two interviewees.
- *Fiction and narrative development*²⁴ was cited by two interviewees.
- One interviewee uses the *Issues radar* to rank issues by importance and certainty.

Conclusions

6.21 In general, the most commonly used futures tools are those which are categorised in the GO-Science Futures Toolkit as tools for analysing *What is changing?* – that is, looking at what is happening now to identify trends, uncertainties and possibilities. These are

- Seven questions
- Horizon scanning
- Three horizons
- Driver mapping

6.22 The tools in the *So what does this mean for our futures?* and *Now what do we do?* categories are more technical to deliver and need to be customised to fit with the strategic context and purpose of the organisation. Facilitating use of these tools is, like the tools themselves, more technical and consequently likely to require a higher level of facilitation skill.

6.23 These tools also require more time and engagement with delivery teams.

6.24 Where horizon scanning/futures teams have limited resources available, they may have to step back from *Now what do we do?* activities and pass futures reports on to operational teams for them to act on directly. This can be challenging for operational teams, so building a strong relationship with them from the start is important. One interviewee highlighted this by noting that

What makes us successful is having a really good relationship with the topic experts in the operational teams. We are connectors and process experts, not technical experts. We facilitate connections. Where things don't work so well is where we don't have a good relationship with the senior people on the teams we are working with.

7 Landing futures

You need a lot of stubbornness and perseverance to land futures. You need to be better at communicating and influencing than at doing futures thinking.

Introduction

7.1 Landing futures – securing engagement and influencing policy – is not a given outcome. One respondent commented that

When futures doesn't land - which happens more often than I'd like - it's because we've not done enough to help the decision makers make sense of what we've told them. They ask, "what does this mean for us?" and we say "Well, that's up to you to decide..." We're really working hard to bridge the gap between simply presenting trends and developments and - without being prescriptive - helping audiences make sense of what they mean and using the information to inform what they do.

7.2 Attitudes to the value of futures thinking can be situational:

People see the value of futures work more clearly when there are huge uncertainties right in front of them. It can, however, be difficult to point to things we [the organisation] have done differently as a result of futures work. The Covid work was brilliant, but once the threat was over everyone wanted to go back to business as usual. That said, the Covid scenarios provided a bit of a platform for our futures work because they gained profile and were successful.

7.3 This is, perhaps, a particularly noteworthy point for the BSR given the background to setting up its horizon scanning function.

7.4 We also heard that persuading colleagues of futures can be a hard sell:

People fall into two camps - interested and disinterested. Some people can say 'Why should I care about this?' That's a hard sell. Others are more enthusiastic. You need to start with the enthusiastic ones if you want traction.

There is some reluctance to accept the word 'futures' so we have to camouflage it.

7.5 But we heard that there can be some easy quick wins.

On balance, 60-70% of [our] people have a positive view of scanning. Three things help with building enthusiasm. The first is getting the support of the senior leadership; the second is being enthusiastic - evangelical even - about it; and the third is going for some easy quick wins - a newsletter, for example.

Securing time for futures

7.6 None of our clients are time rich. This may be anecdotal, but it seems to be universal. We also heard that it is a challenge for interviewees.

It takes time and resource to keep people engaged. That can be challenging when everyone is so busy. People have to see what they're going to get out of it. It can be a hard sell getting them to commit time to futures in a world that wants to see major impacts and outputs now.

Everyone likes the techniques but they keep asking us to do a distilled version. Getting people to commit time to these processes is a challenge.

7.7 One way around this is to make futures interesting, intriguing and indispensable. Some of this is about knowing your audience well and communicating effectively with them:

You do a lot of thinking, present trends and ideas and assume that people are as fascinated as you are. But presenting is only about a third of the task. The other two thirds is presenting it in a way that sets out what it means for the people who need to be thinking about it. You can't get the 'a-ha!' moment without communicating it really well.

Be vocal about the things you've spotted that matter.

You need to be better at communicating and influencing than at doing futures. Be clear about who you want to influence; then speak in their language. I change the language I use depending on who I am talking to.

Using futures jargon is a big mistake. A BIG mistake...

7.8 Another important tactic is to ensure futures thinking outputs are focused and relevant:

When I started out, I got all enthusiastic about futures and forgot to be business related. Cool stuff is great - but futures has to be focussed on customer need.

7.9 Some of this is, of course, about awareness raising. A number of organisations raise awareness through regular informal updates with staff:

Our weekly 'Futures Friday' newsletter to all staff is a short, easy to read email that summarises 6-10 articles from scanning activity and provides links for further reading.

Newsletters get people thinking. They don't necessarily give 'the answer' but they get people asking to hear more about what interests them.

We do a weekly 'cool thing of the week' e-mail. We send it to all staff. It's about comms more than anything. We don't do newsletters – they've had their day.

7.10 Ultimately, we heard, the important thing is to get started....

Waiting for the Director in your chain of command to ask for futures work is not a good idea. You have to get your own processes going. So don't wait for the Director to say, "Hey! We need some horizon scanning." Start before you're asked – but make sure you have the capacity to be able to service the Director's request if it comes.

Build relationships unilaterally and work with anyone who wants to work with you.

Don't be passive and demand led – you'll probably be asked to do less insightful, less futures based analysis.

A big success is simply that we're doing it – changing people's perspectives on what the external environment is like. We get traction because we make the workshop conversations accessible.

7.11 ...but we also heard it's important to take time to learn the craft.

Don't rush at it. You have to walk before you can run. Start with a low risk area and practice the tools.

Connecting futures thinking to the policy cycle

7.12 Futures, whether based on horizon scanning alone or in combination with other foresight techniques, only creates value when it informs changes in policy and practice to mitigate or divert risks. This means, as one interviewee told us,

You have to ensure your futures thinking is connected to – and influences – decision making.

7.13 The connection between futures thinking and decision making cannot, however, be taken for granted and many organisations find it culturally or procedurally difficult to make the link.

It would be good if we could get futures more plugged into corporate planning using techniques such as roadmapping but we've struggled to make this happen.

7.14 In this situation, futures can have less impact than it might otherwise do. Project teams need to be alert to the possibility that their work may not have a guaranteed connection to wider policy and strategy discussions and need to factor that into the project design. This can be tricky when – as we noted in Section 6 – horizon scanning teams may have limited resources available and may consequently have to step back from working directly with operational teams.

7.15 One way to strengthen the connection between futures and decision making is to involve as wide a group of policy makers as possible. Not only will this raise awareness of the futures process, but engaging key stakeholders in scanning will build a bridge between looking for weak signals of change and formulating policy through identifying *What is changing*, *describing what this means for our future* and *determining what we do now* (Figure 6)²⁵.

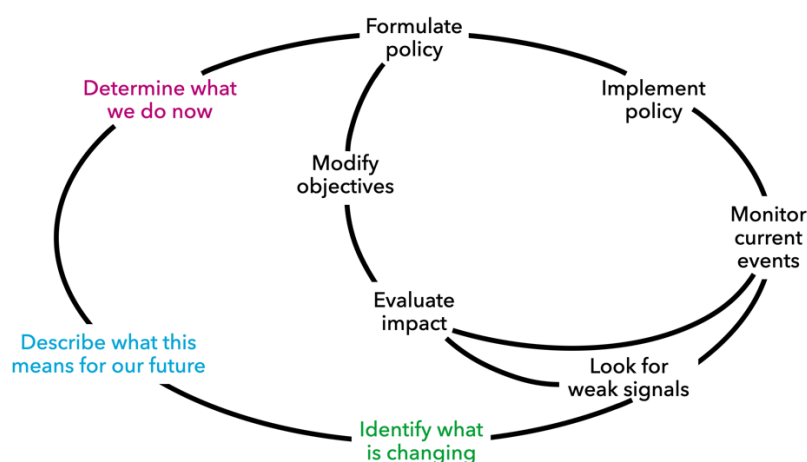


Figure 6: The futures bridge
Source: The GO-Science Futures Toolkit 1st Edition
(adapted to reflect the 2nd Edition)

7.16 Getting this right means that the ideas and insights emerging from futures work can feed directly into policy development. Scanning teams should not expect to *achieve* this bridge immediately but should keep it firmly in focus as they design and begin to deliver their approach.

7.17 GO-Science's more detailed Futures x Policy cycle model²⁶ develops and extends this concept by linking different futures tools to - and mapping the pathways in the GO-Science Futures Toolkit against – the different stages of the policy cycle (Figure 7).

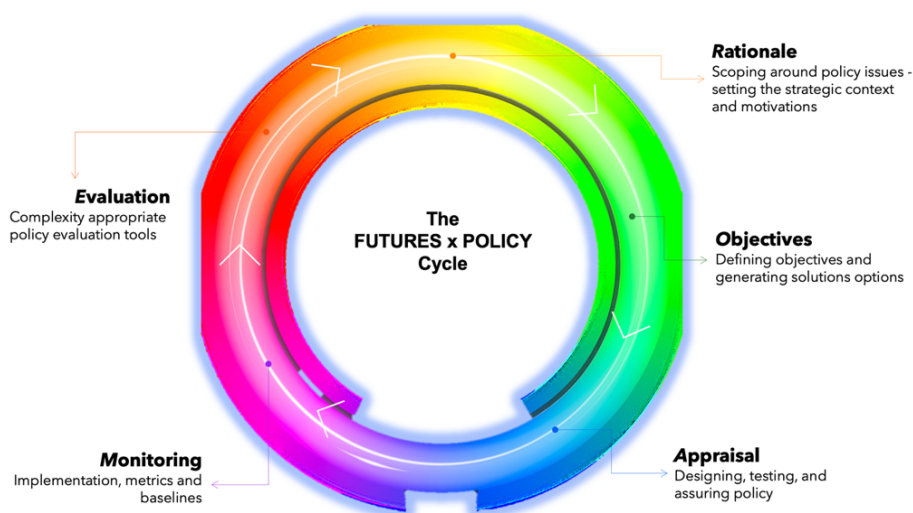


Figure 7: The Futures x Policy Cycle
Source: GO-Science

Conclusions

7.18 Landing futures – securing engagement and influencing policy – is not a given outcome. While some people may be interested in the value of futures thinking, others may need to be convinced.

7.19 This, combined with the time pressures that most people are under, means that demonstrating the value of futures thinking is key to securing engagement in the futures process.

7.20 One way to strengthen the connection between futures and policy making is to involve as wide a group of policy makers as possible. Not only will this raise awareness of futures, it will also help to build the bridge between looking for weak signals of change and formulating policy by *identifying what is changing, describing what this means for our future and determining what we do now*

7.21 Getting this right means that the ideas and insights emerging from futures work will feed directly into policy development and decision making. Scanning teams should not expect to achieve this bridge immediately, but should keep it firmly in focus as they design and begin to deliver their approach.

7.22 Finally, of course, scanning teams should sustain the effort to maintain the futures bridge. One interview highlighted this with their comment that

We don't just deliver reports. We go around teams selling what we do and working with them to look at their problem and explore the solutions we can offer. We facilitate their discussions – we don't tell them what "the answer" is.

8 The role of AI in horizon scanning

The thing about humans is that we can make some crazy connections.

Introduction

8.1 The majority of interviewees have explored using AI in their futures work. There are two principal uses for it: conducting scanning and summarising reports (either from workshops or from published sources).

Conducting scanning

8.2 Interviewees with experience of AI were (almost) unanimous in their view that it is not yet a mature enough technology to be used in scanning.

We've worked with AI experts and found the outputs disappointing. There were issues with the credibility of the data and things being pulled from non-verifiable sources. Ultimately, we found it untrustworthy.

I'm a massive sceptic about what AI tools can do. Sure, they allow you to do lots of low level work very rapidly, but you need to check everything and you can't always understand where things are coming from.

I've tried ChatGPT to test how it does for scanning. It needs a lot of refining using prompt engineering - and if you get this right, it can be insightful. But if you don't know anything about what you're looking for and are doing blue sky research, you have no idea whether what you're finding is good or not. Or whether the data is accurate.

Overall, AI performs well enough as a useful, wider intelligent search engine if you know how to use it, but it's nothing more than that.

8.3 We also heard concerns that AI gives a lower quality scanning output:

We're wary of using AI in scanning for a lot of reasons. Writing scans for the database is time-consuming, so we've tried AI tools - but the summaries are not nuanced or insightful and we've had to rewrite them.

There's too much noise and not enough signal. Overall, the trust's not there yet.

We found that AI churns out lots of generic answers. You need to be skilled at designing prompts.

8.4 Perhaps most importantly, interviewees believe that, as well as being a strategic tool, horizon scanning is also a creative learning tool and that deploying AI minimises that learning and creativity:

The thing about futures research is that it's subjective and nuanced. It's creative thinking. Current AI tools don't have the capability to be subjective or creative in that way. It's difficult to know how it might go in the future - but it is certainly not going to change soon.

If you're trying to monitor what's happening and what that means for change, you have to pay attention.

Much of the impact of futures work comes from its participatory approach, allowing people time to think differently. Fostering and embedding learning in humans is not (yet) something that AI can deliver.

AI struggles with nuanced and accurate analysis. Humans - and particularly their strategic intuition - remain key for analysis and interpretation.

The thing about humans is that we can make some crazy connections.

Summarising reports

8.5 Interviewees were more positive about the benefits of using AI to process and summarise text, whether from interviews, reports or from workshop discussions:

You can run data from interviews or workshops through Copilot to identify the key themes. It's good at summarising in stats - 40% of interviews want this (for example) - and we use it to analyse and display outputs. We use Co-pilot.

AI can be quite useful at clustering issues into themes, even in a workshop.

It is highly effective at identifying relevant sources of information

Its capacity to summarise articles and reports for the newsletter significantly reduces the workload involved in the newsletter's production

8.6 Here, too, however, one interviewee noted that (referring to summarising workshop discussions) *AI picks up the sentiment but you don't always get the nuance.*

Conclusions

8.7 We heard two important messages relating to AI. First, that the technology is not yet good enough to conduct scanning; and second, that even if it was, teams should give careful thought to using it, because it delivers output rather than learning. We were very struck by the quotes about human intuition and crazy connections.

8.8 While AI may develop sufficiently in the future for it to deliver nuance, trustworthiness and context, human attention and insight are far better – and far more reliable – at present.

8.9 For the foreseeable future, then, humans – and particularly their strategic intuition - remain key for spotting, analysing and interpreting weak signals of change.

9 Lessons and insights from practice

Introduction

9.1 In conducting this research we found two sources that offered short and informal but meaningful observations on conducting futures work. These are taken from

- The Department of the Prime Minister and Cabinet, New Zealand²⁷
- A personal perspective on carrying out horizon scanning written by John Carney, Principal Scientist in the Systems Thinking and Consulting Group of the Defence Science and Technology Laboratory (Dstl) and published on GO-Science's Futures, Foresight and Horizon scanning blog in 2018²⁸. His 'ten commandments' are based on his team's experience of scanning and how to achieve impact through it.

9.2 We have summarised these sources in this section.

9.3 This section also summarises the key messages from two reports produced by GO-Science:

- Features of effective systemic foresight in governments around the world produced by the School of International Futures in 2021.²⁹
- Barriers to effective take up of futures thinking in government produced by Waverley in 2008.³⁰

From the Department of the Prime Minister and Cabinet, New Zealand

9.4 The website of the Department of the Prime Minister and Cabinet, New Zealand has a range of resources on it. Many of these are common to other sources, but some of the additional resources and case studies on the site are worth visiting.

9.5 The section entitled **Limitations** offers five lessons on conducting futures work:

- There is a learning curve to doing futures work. It will take time to become familiar with the different futures tools and techniques, as well as the more creative and exploratory way of thinking.
- There is potential for futures work to create tensions if factors are identified that are not being addressed under current settings. If conducting an in-depth futures exercise in a controversial area, seek appropriate authorisation before proceeding.
- There can be a great deal of overlap in futures work in terms of the broad themes. Drivers of change are generally multi-disciplinary and cross-sectoral which means

they are likely to have been covered in some way before. Be careful not to reinvent the wheel and instead build on available results and previous knowledge.

- In areas where there is relative certainty about the direction, nature and speed of change, futures thinking may be of limited value. Futures tools and techniques have been developed to test assumptions and broaden the scope of thinking in relation to critical uncertainties.
- The insights generated in futures work may not be well received if there isn't a willingness to reconsider assumptions and mental models. You're more likely to be successful if you conduct targeted futures exercises with decision-makers in order to open their minds to new possibilities.

From Dstl: The Ten Commandments of Horizon Scanning

9.6 John Carney, Principal Scientist in the Systems Thinking and Consulting Group of the Defence Science and Technology Laboratory (Dstl) offered a personal perspective on carrying out horizon scanning on GO-Science's Futures, Foresight and Horizon scanning blog. His "ten commandments for horizon scanning"³¹ are based on his team's experience of scanning and how to achieve impact through it.

9.7 The ten commandments are

1. Don't think that Horizon Scanning is about predicting the future – this is a common misconception. The value of Horizon Scanning is in using it to change mind-sets, challenge assumptions and provide more options.
2. Don't look for 'what you know or want' – scanning is not the same as searching. This may seem contradictory, but it is one of the hardest commandments to get your mind around as either a practitioner or a client. Horizon Scanning is more about asking the 'unasked questions' or identifying the "unknown unknowns" (after Donald Rumsfeld).
3. Don't negate the need for a champion or dedicated client – the major challenge for a Horizon Scanning analysis is in overcoming cultural resistance. A supportive and influential stakeholder is a great help – but choose wisely (if you can) and manage expectations accordingly.
4. Don't forget to sustain the evidence base – a systematic and comprehensive scanning process provides a degree of (scientific) robustness which is important for credibility.
5. Don't think that there is any consistent understanding of what Horizon Scanning is about – there is a lack of a common understanding within the Horizon Scanning and Futures community and a common language. The various disciplines that have contributed to Horizon Scanning have resulted in a variety of views of what it is. Furthermore, the inconsistency of application means the term Horizon Scanning is widely used and, in many cases, misused. You should define your terms and meanings.

6. Don't be afraid to challenge your own way of doing things – there is no magic (or agreed) recipe for how to do Horizon Scanning but watch out for thinking that the way that you do it is the best and only way. Asking other teams to review your work is a great way to introduce new approaches and views to your Horizon Scanning activities.
7. Don't forget 'the team' – use a dedicated cadre of 'generalists', ideally recruited from very different academic backgrounds (including the arts and the sciences). Consider the wider team too. Externals to your own area or consultants can often present an uncomfortable conclusion more effectively.
8. Don't negate the need for impact – Focus on describing the implications of your analysis (the 'so what') rather than the process or detailed content. Also remember that uncertainty and risk (or opportunity) are not the same thing.
9. Don't expect to be thanked or enjoy it too much – Horizon Scanning is a challenge function and at times you may feel like you are in the front-line of a war zone. The most important contribution a futures project makes is likely to be an invisible one
10. Don't give up the day job – for some, Horizon Scanning may become a full-time or even life-long profession, but for most it can be a useful adjunct to a more mainstream activity. Be wary that Horizon Scanning can at times seem like a cult but treat it not as a single bullet but one tool useful of many in the Futures armoury.

Features of effective systemic foresight in governments around the world

9.8 *Features of effective systemic foresight in governments globally*³² is a report from the School of International Futures (SOIF) which showcases how different governments use foresight and futures techniques. It examines the key features of their programmes and the impact they have on the quality and efficacy of policies and strategies.

9.9 The report contains case studies of how 8 countries integrate foresight in a comprehensive way across policy-making, drawing on a high-level literature review and semi-structured interviews. The countries are Canada, Finland, Malaysia, The Netherlands, New Zealand, Singapore, United Arab Emirates and the United States.

9.10 The report explores how different governments have developed their foresight ecosystems over time and maps the features that support integration of long-term thinking into policy-making at the most strategic level. By doing so, it offers a guiding framework to build and sustain foresight in policy-making in a way that creates long-term impact from futures work.

9.11 The key findings are that

- There is no silver bullet for creating effective sustainable foresight in government. Considering foresight as an "ecosystem" that includes the socio-cultural and political context of that nation is critical to ensure lasting integration into policy.

- Focusing on a unit or department can enhance the value of specific projects or teams. The research suggests that more needs to be done to create sustainable long-standing foresight capability that ensures foresight work makes the strategic contribution that it can.
- There is a common set of features that have helped countries to build future-oriented, resilient and adaptable foresight ecosystems. These features need to be seen as mutually reinforcing and reliant ingredients that together provide the type of ongoing, long-term thinking required of today's policy-making. They include culture and behaviours, systems, processes and people.
- Different countries have experimented with investment across these features to build healthy foresight ecosystems. No one nation has all of these features and none on its own is sufficient for a sustainable foresight ecosystem. The best mix for any particular country will depend on what is already in place, where there is appetite for activity and which aspects of the foresight ecosystem are most in need of development.
- A healthy foresight ecosystem creates demand for futures work, ensures quality supply, and nurtures itself. The research suggests that this requires coordination between all of the actors in a government system; gaps between parts of the foresight ecosystem undermines its strength and sustainability.
- Developing the ecosystem can, and should be, done in phases. Those seeking to develop or enhance foresight capacity do not need to tackle the whole ecosystem at once. Instead, the ecosystems approach allows for policy-makers working across government, or within particular units to make strategic and culturally appropriate choices about where to intervene or invest in what is often a long journey to sustainable, impactful foresight work.

9.12 The research highlights four key features that are required for an effective foresight ecosystem:

Culture and behaviour

- Focus on creating commitment
- Bring policy-makers into foresight
- Meet policy-makers where they are
- Support short-term work with long-term perspective
- Generate shared ownership and buy-in

Structures

- Have central units sitting in or near the heart of government
- Build and foster capacity in departments and agencies
- Work to have courts, elected officials and audit officials involved
- Put in place coordinating and sharing groups

People

- Make sure that there are in-house skills and capacity
- Invest in the development of the next generation
- Have visible consistent champions
- Support and nurture people working in strategic foresight
- Build local and international experts

Processes

- Work across all of government and use all government levers
- Deliver a small number of set piece activities
- Develop their own work
- Draw on diverse methods and disciplines
- Invest in ongoing research and innovation around strategic foresight

Barriers to effective take up of futures

9.13 In 2008, the Foresight Horizon Scanning Centre, the Cabinet Office's Strategy Unit and the National School for Government jointly hosted a meeting of the Futures Analysts Network to explore the role of futures thinking in government strategy and how to improve the connection between the two so that futures work better informs policy and strategy development.

9.14 One of the key activities around the meeting was an online brainstorming exercise to identify and prioritise the barriers.

9.15 Members of both the strategy and futures communities participated in the exercise. They identified 141 barriers to effective take up of futures thinking in strategy development which fell into 7 categories:

- Institutional barriers
- Political barriers
- Cultural barriers
- Reputational barriers
- Processual barriers
- Resourcing barriers
- Leadership barriers

9.16 While there are some issues about how futures thinkers demonstrate the value of what they do, the bulk of perceived barriers relate to systemic difficulties within the strategy process.

9.17 The 5 most significant barriers are:

- Short termism pushes futures thinking to the margin
- Delivery drives activity
- Leaders are not trained, encouraged or rewarded to cultivate long term thinking
- Government's strategy process is opaque
- People prefer to look at the present rather than the future.

9.18 The biggest barrier to the effective take up of futures thinking in strategy development across government is short termism. Not only is it ranked most highly, but 4 of the top five barriers relate to short termism. It is also a recurring themes through the lower ranking barriers and is perceived to be a hard barrier to overcome.

9.19 Reputational and cultural barriers dominate the ranking from 5-15. They are perceived to be relatively easy to remove.

Conclusions

9.20 The lessons set out in this section are valuable because they all continue to hold true. Each one – particularly the insights from New Zealand and from John Carney – continue to be relevant to scanning teams today.

10 Review of Horizon Scanning Toolkits

10.1 We have reviewed four horizon scanning toolkits:

- The Scottish Environmental Protection Agency's **Horizon Scanning Toolkit**³³
- The European Environment Agency's **Practical Guide to Horizon Scanning**³⁴
- The UN Global Pulse Horizon Scan User Manual³⁵
- The Australian Government Department of Industry's Practical guide to horizon scanning in the public sector³⁶

10.2 The reviews are set out in this section. Each one provides

- Background to development of the toolkit
- An overview of the toolkit and its approach
- An overview of the tools and techniques included

10.3 We have evaluated and ranked the suitability of the toolkits for the BSR on the basis of a range of key technical characteristics. These are set out in the tables on pages 50-55. Our recommendation for which toolkit to use is set out on page 56.

10.4 There is one honourable mention – a toolkit that did not make the final cut in our review. It is Policy Horizons Canada's Foresight Training Module 3: Scanning.³⁷ The main reason it is not included is because it is structured as a series of web pages that are not well designed and not easily read. The content is not sufficiently different from the toolkits on our shortlist to knock any of them off it, but it is worth a browse.

10.5 It is also worth mentioning the *Playbook for Strategic Foresight and Innovation*³⁸ published in 2012 by Stanford University. The playbook doesn't include horizon scanning in its methodologies *per se* but does provide plenty of guidance that is relevant to – and can cross over into – horizon scanning.

SEPA's Horizon Scanning Toolkit

Background to development of the toolkit

10.6 The Scottish Environmental Protection Agency's (SEPA's) Horizon Scanning Toolkit was developed to support The LIFE SMART Waste project, a pan-European partnership of bodies involved in the regulation and policing of waste.

10.7 The overall objectives of LIFE SMART waste were to³⁹

- Develop innovative intelligence gathering and analytical approaches to identify and understand current and future waste crime issues associated with "challenging" waste streams, problem waste operators and illegal waste activities
- Target the environmental, social and economic problems created by waste crime
- Analyse and report on the difficulties that enforcement agencies face in identifying, understanding and tackling waste crime
- Develop new and innovative ways of working to ultimately reduce the impacts of waste crime

10.8 The specific objectives for developing a horizon scanning toolkit were to

- Identify how environmental regulators could use horizon scanning processes to build an early warning system for emerging developments in the waste sector to protect the industry from future criminal enterprise
- Make the toolkit easy to use for non-specialists and environmental regulators who have no prior experience or knowledge of futures analysis or horizon scanning⁴⁰

Overview of the toolkit and its approach

10.9 The Horizon Scanning Toolkit provides a suite of tools to help environmental regulators build an early warning system for emerging developments in the waste sector.

10.10 It is a practical guide that regulatory bodies and their partners can use to

- Build intelligence about waste crime by gathering, organising and sharing weak signals of change
- Create insight into changing criminal behaviours and patterns of crime through assessing, ranking and deepening their understanding of the implications of those weak signals
- Work together to research, plan and deliver action to protect consumers and the industry now and in the future

10.11 Through using the toolkit, regulatory bodies learn to spot newly emerging trends quickly and to assess what the emerging opportunities for future waste crime are likely to be. They are then able to act together to minimise the impact of those crimes on the environment, society and business.

10.12 The toolkit is designed to be easy to use and to introduce the range of tools and techniques in a straightforward way that means they can be picked up quickly and easily by staff who are new to horizon scanning.

Overview of the tools and techniques in the toolkit

10.13 The toolkit is based around a nine step approach to horizon scanning (Figure 8):



Figure 8: The nine step model
Source: SEPA

10.14 The model describes three steps for **building intelligence**

- **Gathering intelligence** about how waste and waste crime might develop in the future
- **Organising intelligence** while gathering it
- **Sharing intelligence** by writing scans that draw together and highlight developments which could shape waste and waste crime in the future

10.15 There are three steps for **creating insight** into what the intelligence means for changing criminal behaviours and patterns of crime:

- **Assessing insights to** decide what is new and important
- **Ranking insights to** agree the emerging issues of particular strategic importance or urgency
- **Deepening insights to** determine how partner organisations should respond to the emerging issues

10.16 There are three steps for working together to research, plan and **deliver action** to protect consumers and the industry now and in the future:

- **Researching action** to find out more about priority issues and to determine the scope and locus for action
- **Planning action** by working with a delivery team to make sure the intelligence from your horizon scanning work is informing the institutional response
- **Delivering action** through launching a response to issues identified in the scanning process

10.17 Like the GO-Science Futures Toolkit, each step in the model is described in practical detail. The Toolkit also provides sample scans, worksheets, sample outputs and a scanning project planning flow chart.

The European Environment Agency's Practical Guide to Horizon Scanning

Background to development of the toolkit

10.18 In its 2020 report, *The European Environment — state and outlook*⁴¹ the European Environment Agency (EEA) concluded that the future of Europe's environment and sustainability is influenced by developments of a societal, technological, economic, environmental and geopolitical nature that interact in complex and largely unpredictable ways.

10.19 The EEA noted that developments can have different origins, natures, likelihoods, significances, geographical scales and development timescales. Making sense of them – and developing future-proof policies that ensue short-term actions are consistent with long-term objectives – requires institutions, governments, businesses and civil society to work together to improve policy design. By 2023 – when this toolkit was launched – strategic foresight was already built into the European Commission's Better Regulation Toolbox⁴² to achieve this.

10.20 The practical guide was developed to build futures skills and to foster a culture of anticipation and preparedness by inspiring and supporting practitioners from national environment ministries and agencies to develop horizon scanning capabilities.

Overview of the toolkit and its approach

10.21 The practical guide provides a step-by-step approach for conducting structured horizon scanning. It includes

- A variety of diverse sources for spotting signals
- Different frameworks for signal scanning
- Several options to unpack and analyse the collected signals and patterns of change through creative methods and exercises
- Different and complementary ways of communicating the findings to relevant stakeholders, networks and communities
- A range of tools that can be used to strengthen the scanning process

10.22 The approach has four steps:

- Step 1: Signal spotting
- Step 2: Signal scanning
- Step 3: Sense-making
- Step 4: Communicating the results

10.23 The steps are shown schematically in Figure 9.

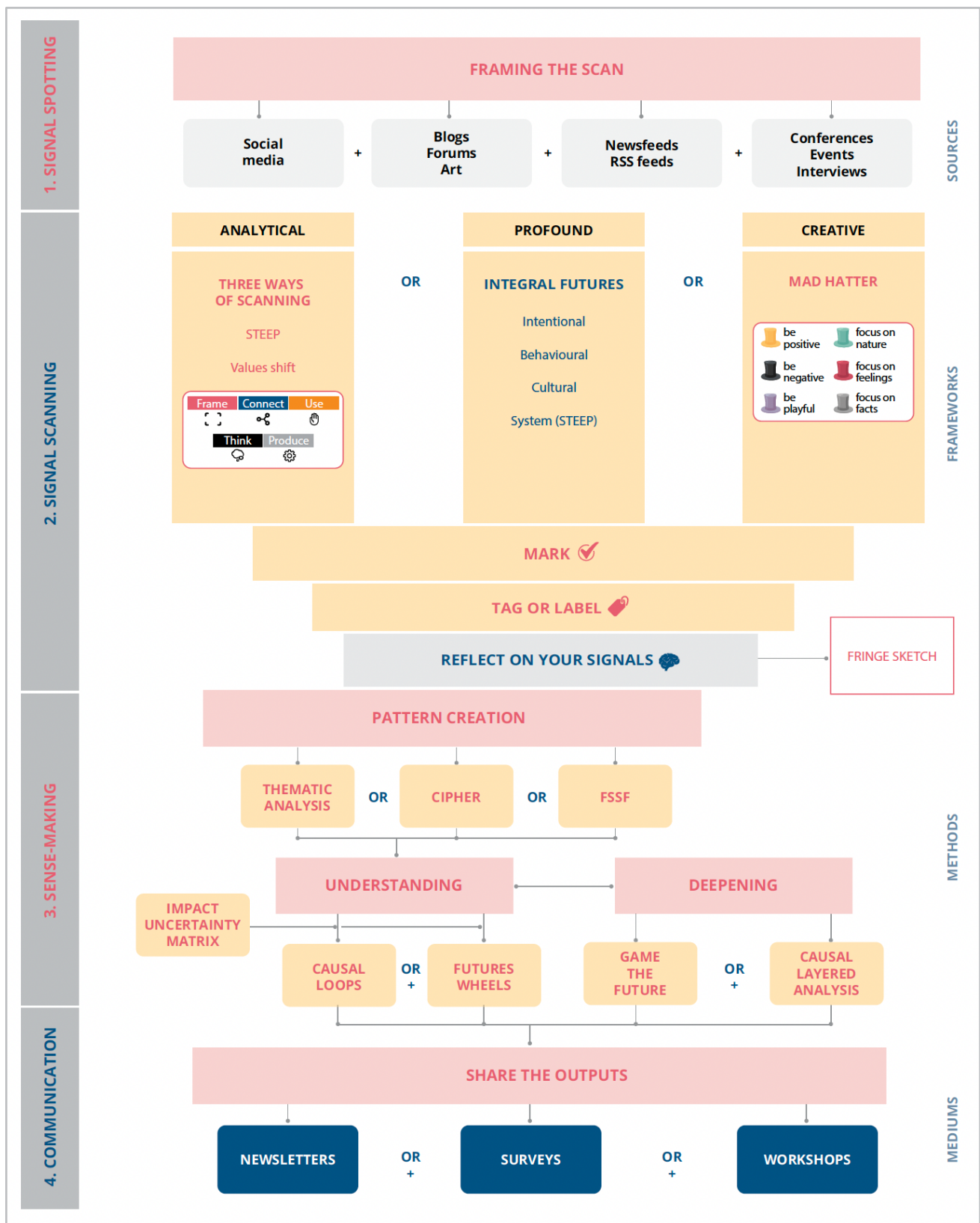


Figure 9: The four step model
Source: EEA

Overview of the tools and techniques in the toolkit

10.24 The model sets out two stages in **signal spotting**:

- **Framing the scan** by establishing a focal issue, an area of interest or a research question
- **Deciding where to scan** by identifying resources online and offline to start the exploration

10.25 There are two stages in **signal scanning**

- **Choosing a framework for scanning** to ensure a robust collection of information and minimise missing of weak but necessary signals. The toolkit sets out three frameworks:
 - Analytical
 - Profound
 - Mad hatter
- **Reflecting on and refining the scans** to assess whether signals are worth keeping or need to be left behind

10.26 There are two stages in **sense making**

- **Pattern creation** using one of three possible approaches:
 - Thematic analysis
 - CIPHER analysis (Contradictions, Inflections, Practices, Hacks, Extremes, Rarities)
 - Future signals sense making
- **Deepening understanding** by expanding scanning through exploring long-term impacts of signals and their significance in the present

10.27 There are three suggested channels for **communication**. These channels can be in play during the overall process, not just at the end of it

- **Newsletters** to communicate results to a broader audience and engage them further
- **Surveys** to include a broader audience in sense-making
- **Workshops** such as 'Gaming the Future' sessions that increase the organisation's creativity and pattern recognition capacities

The UN Global Pulse Horizon Scan User Manual

Background to development of the toolkit

10.28 The UN Global Pulse user manual originates from a horizon scan that was conducted by UN Global Pulse and Bappenas (the Ministry of National Development Planning of the Republic of Indonesia) on the Future of Micro, Small and Medium sized Enterprises (MSMEs) in Indonesia.

10.29 Bappenas found the scanning exercise to be useful because it pushed policy makers to look beyond the immediate issues around MSMEs - access to finance, to markets, to good quality of human resources, for example – and to think more broadly about how changes in the political, economic, social, technological, environmental and legal landscape might impact on the sector.

10.30 Bappenas wanted to consolidate the learning from the project by creating the General Horizon Scan Manual. The manual is designed to make it easy for the broader policy making community beyond the MSME domain to pick up and apply to any policy field or topic.

Overview of the toolkit and its approach

10.31 The manual defines horizon scanning as

- A method for identifying potential early signals of change and their challenges and opportunities
- A structured evidence-gathering process that explores the external strategic environment
- A collective intelligence gathering process that brings together perspectives from different sources
- The foundation of a strategic foresight process that is often found at the beginning of any forward-looking activity

10.32 The manual sets out a five step process:

- Step 1: Getting started
- Step 2: Scanning and collecting data
- Step 3: Interpretation and filtering
- Step 4: Sense making
- Step 5: Reporting

10.33 The steps are shown schematically in Figure 10.

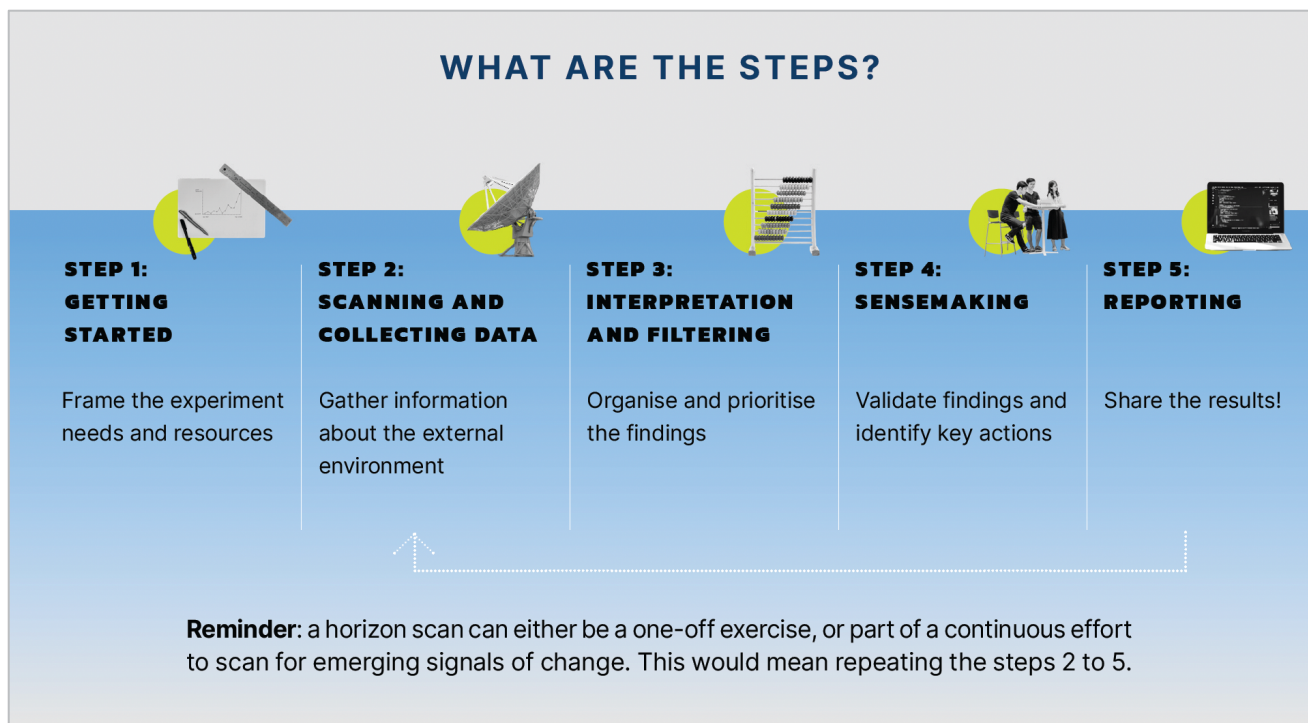


Figure 10: The five step model
Source: UN Global Pulse

Overview of the tools and techniques in the toolkit

10.34 The model sets out five steps for **getting started**:

- **Determine the scanning frame:** determine the key future learning questions that you are dealing with
- **Understand your scanning needs:** consider carefully what you aim to achieve with the scan and which policy or strategy-making process you are trying to influence
- **Establish a diverse horizon scanning team:** the team will likely consist of a core organising team and a group of scanners. Scanners do not need previous experience with foresight or horizon scanning, but should have an open mind and a willingness to learn a new method
- **Organise how participants are collecting the data:** ensure you have the logistics in place before the scanners start their screening efforts
- **Focus on weak signals:** identify weak signals, growing insights, and emerging issues that are likely to have an impact on the future

10.35 There are four steps in **scanning and collecting data**

- **Scan a wide variety of sources:** look for developments that could potentially alter the future landscape
- **Make sure to consult a balanced list of sources and resources:** to avoid biases, start the scanning effort by setting up a source list and have this reviewed by peers
- **Have conversations with** stakeholders to get their perspectives on potential future changes
- **Think outside the box:** look beyond traditional sources and scan beyond your traditional regional, thematic and social perspective

10.36 There are two steps in **interpretation and filtering**

- **Assess the quality of the inputs:** check the scans are forward looking and the level of detail is sufficient
- **Prioritise scans using a suitable framework** such as impact vs probability or novelty vs risk

10.37 There are two options for delivering **sensemaking**

- **Run a validation workshop** to prioritise the scan findings, discuss the potential consequences of scans and consider if any relevant emerging issues are missing
- **Run a policy implications workshop** to identify emerging needs and possible implications for policy making

10.38 There are three options - depending on your organisational needs - for **reporting**

- **Provide a scanning hits report:** regularly produce and disseminate chunks of information
- **Provide a drivers/trends report:** synthesise the scans into strategic categories of drivers or trends
- **Provide a future implications report:** link the insights from the scanning exercise to the policy and strategy-making processes. Inform specific policy teams what policy needs might emerge and what actions they can take to prepare for the changes

A practical guide to horizon scanning in the public sector

Background to development of the toolkit

10.39 This practical guide was developed as one of the Australian Government's tools for innovation in the Australian public sector.⁴³ It was included in the Department for Industry's 2014 web page but was replaced in 2021 by the first edition of The GO-Science Futures Toolkit – presumably because the Government wanted the approach to futures to include a wider perspective and range of tools. It is still available to download from the Australian Government's Analysis and Policy Observatory.⁴⁴

10.40 The toolkit is, perhaps, less user friendly than the others on this shortlist because it provides an exploration of alternative ways to design the process.

10.41 It is also quite academic, referencing a vast range of sources, but it is a great companion read to the other toolkits and quite thought provoking. It includes a variety of worksheets and a comparison of scanning in governments around the world.

Overview of the toolkit and its approach

10.42 The toolkit is strongly influenced by UK government approaches from the 2000s and 2010s. Its definition of horizon scanning quotes the 2014 UK House of Commons Science and Technology Committee's definition of horizon scanning which states that

...[horizon scanning] is an attempt to systematically imagine the future in order to better plan a response. In the absence of a crystal ball, it can help organisations to detect signals, identify trends and think more inventively about what the future might hold, enabling them to capitalise on opportunities and better mitigate threats. It is a crucial activity for any organisation tasked with long-term decision-making.⁴⁵

10.43 The toolkit notes that there is no one size fits all approach to horizon scanning for public sector bodies – but that most processes have a variation of five or six basic steps:

- Step 1: Identify scanning needs
- Step 2: Decide on/invite participants
- Step 3: Collect the relevant information
- Step 4: Analyse the information
- Step 5: Communicate the results
- Step 6: Use the information in decision making

10.44 The steps are set out schematically from right to left in the figure below:

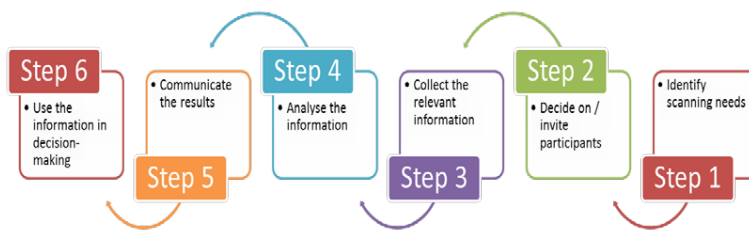


Figure 11: The six step model
Source: Innovation Toolkit

10.45 Step 1 - **Identify scanning needs** - involves identifying

- the overall purpose of the scanning
- participants in the process
- the time and resources available to it.

10.46 The purpose of the horizon scan determines participation and the nature of the potential impact.

10.47 Step 2 – **Participation** – offers the view that public sector scanning be developed by a small, dedicated team representing a wide range of expertise, drawn from different backgrounds in the public sector. It highlights that scanners should be

- Out of the box thinkers, with open minds and a desire to discover new things
- Exposed to many sources, ideas and challenges
- Able to look beyond personal and organisational comfort zones and specialisations

10.48 Step 3 – **Collect** – highlights that scanners should look beyond the normal and the known change drivers, trends, forces and developments which are often well understood and monitored in organisations. It notes that scanners should draw on a wide variety of sources and that they should be aware of – and avoid - *the cultural contradiction that good strategic thinking requires early detection of possible emerging trends and issues and yet when issues are emerging there is little evidence for them.*⁴⁶ [The GO Science toolkit makes a similar point, noting that *horizon scanning...does rely on intuition and insight – which can feel counterintuitive to those who are more practiced in evidence based strategic thinking. The hardest part for many authors is knowing whether something they have read is interesting or different enough to include in the scan. Scanners should always err on the side of being irrelevant.*]

10.49 Step 4 – **Analyse** – highlights that value comes from reading scans, aggregating them to identify meaningful themes and then making sense of what those themes mean for policy and strategy development.

10.50 Step 5 – **Communicate** – notes that one of the tricky aspects of horizon scanning is communicating the outputs effectively to those who need to be aware of them. It also notes that

- Although a few recipients will read a lengthy horizon scanning report, most won't. A good technical writer / communicator is very useful to the horizon scanning team.
- Graphics, images, and videos (if the budget stretches that far) are extremely useful. One page of punchy text with an associated image is far more memorable than dense explanatory text.
- Senior public servants are often time poor – meaning that they might pay disproportionately greater attention to what is known or can be learned / quantified than to what is unknown or outside easy reach. This means that hard-to-gather social and behavioural evidence, as compared to measurable facts about the economy and the natural world, might be relatively disadvantaged in any decision process.

10.51 Step 6 – **Influence decisions** – points out that a critical issue for horizon scanning is access to decision making, both in the early stages of the decision process and the final decisions. Getting management to listen / act is always the most problematic issue for any organisational horizon scanning system.

Also...

10.52 The toolkit contains useful insights on how horizon scanning fits with complex environments.

10.53 In considering **Whento scan**, the toolkit offers the view that

- Timing seems to be a general challenge with horizon scanning. Horizon scans must be timely. Judging the appropriate time to bring up signals or emerging issues could be a crucial factor for their further consideration in the policy-making arena. Make sure – when possible – to align reports / products with Departmental or agency planning / budget / strategy cycles; and, of course, bring them forward rapidly when a crisis emerges.
- Apart from timing, decision-makers may face barriers to taking the results of horizon scans on board as they may be contradicted by vested interests. This may particularly be the case with controversial issues or with issues that require coordination and collaboration across different and segmented policy domains / industry sectors and so on. In cases where conflicts are a distinct possibility, even small investments in examining the issues may be blocked.

Evaluation and merits of the different toolkits

Methodology

10.55 We have assessed each toolkit according to five key technical characteristics:

- **The focus on horizon scanning**

Toolkits that are focussed exclusively on horizon scanning received a full score. Toolkits that include other techniques received a reduced score

- **The depth and detail of the tools in the toolkit**

Toolkits were assessed by the extent to which tools and concepts are set out in detail. This includes detailing

- The type of information to be gathered in scans
- Workshop approaches and methodologies
- Design of task sheets for workshop discussions
- Reporting

- **The degree of sophistication for ranking of scans**

This ranking is more subjective than others and relates to the extent the tools will create strategic insight and set forward agendas

- **Whether the toolkit links scanning to policy and action**

This ranks the extent to which scanning is connected to – and used to inform – policy making and delivery

- **The clarity and usability of the toolkit**

This rates the ease of use and the clarity of the process pathways in each toolkit

10.56 We assessed each of these characteristics on a notional scale of 1 to 4, where 1 is relatively weak and 4 is relatively strong. We then provided an overall score for each toolkit which aggregates the score for each characteristic.

Results

10.57 The table on page 50 sets out the final ranking of the toolkits. They are, in order from most suitable for the BSR to least suitable

- The Scottish Environmental Protection Agency's Horizon Scanning Toolkit
- The UN Global Pulse Horizon Scan User Manual
- The GO-Science Futures Toolkit
- The European Environment Agency's Practical Guide to Horizon Scanning
- The Australian Government's Practical guide to horizon scanning in the public sector

10.58 We have, in addition to this ranking, summarised our analysis of the key strengths and weaknesses of each toolkit. These, together with an overall summary on each toolkit, are set out in the tables on pages 51-55.

10.59 The assessment of key technical characteristics is the main tool for ranking each toolkit. The strengths and weaknesses highlighted in each of the tables on pages 51-55 add detail to that assessment.

10.60 It is worth emphasising that individual strengths and weaknesses do not all carry the same weight in the assessment. Thus, the strength of the European Environment Agency toolkit that it '*...includes a fantastic piece of advice on what to look for: let the clicking take you to strange places*' does not carry the same weight as the strength of the Scottish Environmental Protection Agency's toolkit that *sets out how to link scanning to policy planning and delivery*.

10.61 The overall assessment is therefore a *combination* of the number of strengths and weaknesses and each one's strategic weight.

10.62 We have included the GO-Science Futures Toolkit in this analysis, even although it is not exclusively focussed on horizon scanning. This is primarily because it was mentioned by most interviewees and is widely seen as the Go To toolkit for futures thinking.⁵

⁵ It is worth highlighting here that the GO-Science Futures Toolkit is highly regarded beyond the UK and also beyond the public sector. As the author of the first edition of the Toolkit, we received requests/notifications about translating the Toolkit. We are aware, for example, that it has been translated into Chinese and into Portuguese (for a Brazilian audience). We have conducted a number of futures training sessions in the private sector that draw on the GO-Science Futures Toolkit.

Overall ranking of the Toolkits

Toolkit	Focus on horizon scanning	Depth & detail of the tools	Sophistication of ranking scans	Linking scanning outputs to policy and action	Clarity and usability	Overall score	Ranking
Horizon Scanning Toolkit SEPA							1
Horizon Scan User Manual UN Global Pulse							2
The GO Science Futures Toolkit							3
Practical Guide to Horizon Scanning The European Environment Agency							4
Practical Guide to Horizon Scanning in the Public Sector Australian Government Dept of Industry							5

Key strengths and weaknesses of the toolkits

Horizon Scanning Toolkit Scottish Environmental Protection Agency 			
Steps	Strengths	Weaknesses	In summary
5	- Designed for regulators - The Action stage sets out how to link scanning to policy planning and delivery - Although focussed on a specific topic – waste crime – the toolkit is adaptable to other policy areas - Includes sample scanning formats and simple database structures - Includes suggested workshop structures and processes - Provides sample scans	- The toolkit only includes a single suggested workshop approach to ranking scans - The suggested database structure is behind a paywall - It doesn't include other futures tools such as Seven questions or suggest how to connect to them	- As described by Nesta, this toolkit is <i>dense, but well-structured and peppered with illuminating graphs and diagrams</i>, the toolkit also compiles great examples of horizon scans that [bring] to life how horizon scanning can generate meaningful insights for policymakers and other decision-makers. - The toolkit is designed specifically for regulators and is unique in linking scanning to policy planning and delivery - The focus on regulation makes this the strongest candidate – but it does require some adaptation to meet BSR's needs: - Adding the 7 questions tool - Including a scanning framework to guide the range of things to look for - Reviewing the approach to storing scans - Including additional tools for workshop based discussion - Identifying linkages to wider futures tools

Horizon Scan User Manual

UN Global Pulse



Steps	Strengths	Weaknesses	In summary
• 5 steps • 16 stages	• Designed to be easy to pick up and apply to any policy field or topic • Builds on SOIF's 2021 report <i>Features of effective systemic foresight in governments globally</i> • Outlines 3 specific methodologies: desk research, interviews, consultations • Includes sample scanning formats and simple database structures • Includes suggested workshop structures and processes • Includes links to Miro boards⁶ • Includes sample scans	• Doesn't connect scanning directly to policy development and delivery. The outputs are scanning/ trends/ implications reports that only <i>highlight</i> issues and possible responses	• A really good toolkit that would be even better if it connected scanning to policy delivery

⁶ Miro is an online collaborative whiteboard tool. Miro boards are whiteboards customized to a specific type of workshop conversation; in this case, the validation and implications workshops.

The GO-Science Futures Toolkit



Steps	Strengths	Weaknesses	In summary
• 5	• Sets horizon scanning in strategic context • Provides a simple description of the process • Places horizon scanning in a number of the pathways for addressing specific objectives • Highlights next steps for linking scanning to further futures tools and policy tools • Links to the resource bank and case studies • Offers alternative approaches to scanning	• Doesn't provide quite as much detail on engaging scanners and the scanning infrastructure as other toolkits	• The GO-Science Futures Toolkit remains the Go To guide for all futures - but its focus on the full breadth of tools means it necessarily contains less detail of the horizon scanning process than other toolkits

Practical Guide to Horizon Scanning

European Environment Agency



Steps	Strengths	Weaknesses	In summary
• 4 steps • 9 stages	• Introduces futures literacy as a foundation for building the futures mindset for horizon scanning • Includes a comprehensive range of tools and approaches • Includes a fantastic piece of advice on what to look for: <i>'let the clicking take you to strange places'</i>	• The various routes through the process can feel complex and confusing – particularly at the sense making stage • Doesn't connect scanning directly into the policy cycle; the outputs are newsletters, surveys or workshops	• The EEA Toolkit is perhaps too comprehensive • The visualization tools support navigation but a set of alternative pathways – as suggested in the GO-Science Futures Toolkit - would help new practitioners • The toolkit doesn't connect scanning to policy development and delivery

A practical guide to horizon scanning in the public sector

Australian Government Department of Industry



Steps	Strengths	Weaknesses	In summary
• 6	• Includes a wide variety of tools • Includes a horizon scanning check list for each stage of the process • Includes a list of horizon scanning dos and don'ts for each stage • Includes a comparison of the characteristics of scanning as an individual, a team and an organisation • Compares and contrasts how different organisations have conducted different stages of the scanning process • Contains a nice section entitled 'Lessons for scanners'	• Published in 2014 and does feel dated. Case studies are over a decade old • Is less user friendly • Leaves it to the reader to decide on the right approach	• Reads like an academic analysis of horizon scanning - which gets in the way of being a practical guide

Conclusion

10.63 Based on this analysis our recommendation is that the BSR adopt the Scottish Environmental Protection Agency's toolkit and adapt it to its needs.

10.64 The main adaptations we propose are:

- Adjusting the focus away from waste crime
- Adding the 7 questions tool
- Providing guidance on process design and delivery⁷
 - Including a scanning framework to guide the range of signals to look for
 - Reviewing the approach to storing scans
 - Providing additional workshop methodologies for the creating insight stages
- Identifying linkages to wider futures tools

10.65 These will be built into the BSR's Practical Guide.

⁷ Process design and delivery is defined in detail in the Practical Guide. It refers to the structured approach to developing a horizon scanning process that is systematic, goal oriented and scalable.

11 Review of Futures Toolkits

Introduction

11.1 We noted in Section 2 that the core technique the team intend to use will be horizon scanning – but that they also plan to build on the outputs from their horizon scanning programme by using other futures and wider strategic techniques to ensure their scanning outputs feed into – and influence - the BSR’s policy and strategy development.

11.2 We have therefore reviewed four futures toolkits:

- The **GO-Science Futures Toolkit**
- Save the Children’s **The Future is Ours**, a toolkit produced in collaboration with the School of International Futures⁴⁷
- Sitra, the Finnish Innovation Fund’s **Foresight tools**⁴⁸
- Danish Design Center’s **Living Futures Scenario kit**⁴⁹

11.3 Each review provides

- Background to development of the toolkit
- An overview of the toolkit and its approach
- An overview of the tools and techniques included

11.4 The implications for the BSR regarding these toolkits are set out on page 69.

11.5 There is one honourable mention that failed to make this shortlist: OECD’s *Strategic Foresight Toolkit for resilient public policy*.⁵⁰ The toolkit is designed to support countries and organisations to use strategic foresight to design and prepare public policies for a range of possible futures. The toolkit provides (i) a practical methodology to bolster the resilience of policy strategies, (ii) background research on possible disruptions to the global policy landscape, and (iii) facilitation guides to assist foresight practitioners in using the toolkit.

The GO-Science Futures Toolkit

11.7 The GO-Science Futures Toolkit provides a set of tools to help embed long-term strategic thinking within the policy process and explains how to ensure they have real impact. It is intended for policy officials and analysts across government. It takes users through 12 different Futures thinking tools, with advice on how to implement them. It also pulls the tools together into a number of pathways to meet specific objectives.

11.8 The toolkit is intended to be accessible to people who have little or no experience using these tools, as well as a useful reference for those who are more experienced and a guide for those commissioning Futures projects. It is really nicely organized. The second edition, produced by SAMI, sets the benchmark for toolkit design.

11.9 The **Futures tools at a glance** page provides a short definition of each tool and what it does, giving users an overview that helps them decide which tools to use. Tools are ordered in three categories

- What is changing?
- So what for our futures? (and)
- Now what do we do?

Futures tools at a glance		
WHAT is changing?	SO WHAT for our futures?	NOW WHAT do we do?
Delphi A structured questioning tool, used to gather opinion from a panel of subject matter experts by using multiple rounds of questionnaires.	SWOT Analysis Identifies the relevant Strengths, Weaknesses, Opportunities and Threats of a policy, issue or event.	Policy Stress-testing A method for testing policy, strategy or project options against a set of scenarios, trends or future events to see how well they stand up to a range of possible external conditions.
Seven Questions A structured interview technique for gathering the strategic insights of a range of internal and external stakeholders.	Scenarios Compelling stories about a range of different possible futures that helps people understand what it feels like to live there and what this will mean for you, your stakeholders and your policy or strategy.	Roadmapping Structured representations of the stages leading to a strategic goal or preferred future.
Horizon Scanning The systematic collection of insights on emerging trends and weak signals of change to identify potential threats, risks and opportunities.	Visioning Can be used to create a positive common vision for the future, a set of common aims for a project and to describe what the future would be like if these aims were achieved	Backcasting A tool for determining the steps that need to be taken to deliver a preferred future. It is a way of overcoming "present bias" in the way that we plan.
Three Horizons Helps you explore both the present and its limitations, and different potential futures.	Futures Wheels A structured brainstorming method that helps you identify and map connections, causalities and impacts.	
Driver Mapping Charts the trends and maps what you have found to see which are the most important for you to address.		

Figure 12: Futures tools at a glance
Source: The GO-Science Futures Toolkit

11.10 The toolkit also sets out a number of pathways - groupings of tools to meet particular objectives – to help new users think about which tools might be relevant to their needs

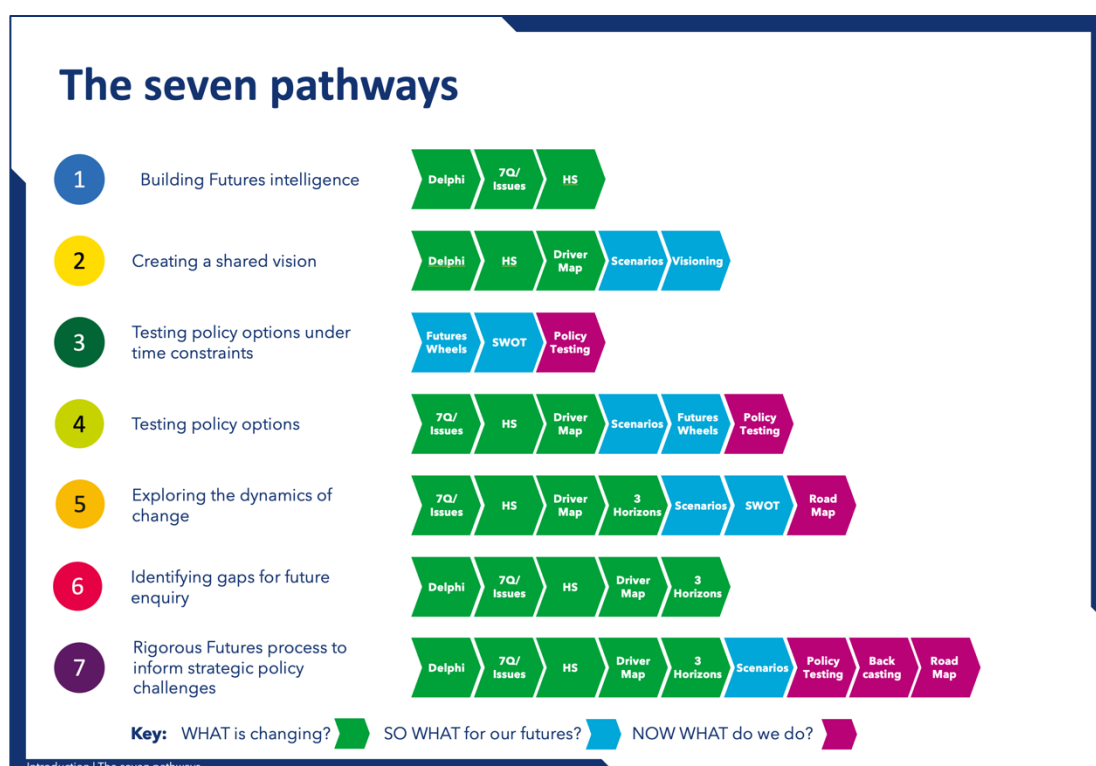


Figure 13: The GO-Science Futures Toolkit Pathways
Source: The GO-Science Futures Toolkit

11.11 Each tool contains an overview of what it is used for and sets out detailed instructions on how to use it:

The collage displays several pages from the Horizon Scanning Tool. The top-left page is the 'Horizon Scanning' overview, featuring a navigation bar with numbered tabs (1-7) and a 'CONTENTS' button. It defines horizon scanning as the systematic collection of insights on emerging trends and weak signals of change to identify potential threats, risks, and opportunities. The top-right page details 'Use this to...', 'What to watch out for...', 'Who to involve', 'Number of participants', and 'Time it takes'. The middle-left page, 'How to include more perspectives', lists ways to widen the network of contributors and broaden participation. The middle-right page, 'The Approach', explains how horizon scanning can be conducted over a defined period or as a continuous function. The bottom-left page shows 'Step 1: Recruit the scanning group' and 'Step 2: Identify sources', including a diagram of a hexagon representing the scanning process. The bottom-middle page shows 'Step 3: Gather the scanning data and store in an organised structure', 'Step 4: Analyse the scans', and 'Step 5: Write up the results'. The bottom-right page includes 'Need to save time?' and 'Case Study', with a table of risk levels (Medium to low risks, High risk, Low risk, Medium to low risks) and a 'Resources for this tool' box.

Figure 14: Pages from the Horizon Scanning Tool
Source: The GO-Science Futures Toolkit

11.12 There is a resource bank that contains worksheets, examples and workshop facilitation templates. There is a case studies bank with examples of how each tool has been used in practice.

11.13 These resources are all available on gov.uk⁵¹

Save the Children's The Future is Ours toolkit

11.14 The Future is Ours toolkit was developed as part of the strategic foresight programme at Save the Children UK. The background research and first draft for each of the 12 foresight tools was undertaken by the School of International Futures.

11.15 There are 12 tools, adjusted and refined to tailor them to the needs of Save the Children and partner organisations. The toolkit is engaging and easy to navigate and the tools can be easily adapted for others' needs.

11.16 There is a very high overlap with the GO-Science Futures Toolkit, making this is a complementary resource that offers a slightly different perspective on the tools.

STRATEGIC FORESIGHT TOOLS IN A NUTSHELL			
	Tool	Description	Time; participants
EXPLORE	 Driver Mapping	Explore the drivers, emerging issues and wildcards that are the building blocks of the future.	3 hours + 5–8 people
	 Verge	Explore change through a human or cultural lens.	1 hour 10 mins + 3 people +
	 Futures Wheel	Visually explore and understand the direct and indirect impacts and implications of a driver, issue or scenario.	1 hour 15 mins + 3 people +
	 SWOT	Explore the strengths and weaknesses of an idea, strategy, organisation or team, the opportunities open to it and the threats it faces, and understand how to respond.	1.5 hours + 1 person +
CREATE ALTERNATIVE FUTURES	 2x2 Scenarios	Create four contrasting scenarios based on two high-impact, high-uncertainty drivers of change.	4 hours + 5–8 people
	 Archetypes	Create different alternative futures by exploring patterns of change.	4 hours + 4 people + per group (16 people for 4 scenarios)
	 Branch Analysis	Create future scenarios by considering key questions and the impact of different events.	3.5 hours + 5–8 people
	 Visioning	Create your preferred future and understand the tactics, strategies or policies needed to bring that future about.	2.5 hours + 5–8 people
UNDERSTAND IMPLICATIONS	 Backcasting	Understand what needs to happen for a particular scenario or desired future to emerge.	2 hours + 5 people +
	 Wind Tunnelling	Understand which strategies are most resilient, and what to prepare for in the event of a particular scenario.	2.25 hours + 5–10 people
	 Three Horizons	Understand how the dynamics of a scenario change over time, and explore the transition.	2.5 hours + 3 people +
	 Roadmap	Generate a plan that defines the major steps or milestones needed to move towards your vision or preferred future.	1.5 hours + 5 people +

Figure 15: The Futures is Ours tools
Source: Save the Children

11.17 Each tool provides

- A detailed summary of what it is, how it works, when to use it, what output you get from it and next steps
- Step-by-step instructions on how to facilitate a workshop
- A set of sample templates to run the workshop

Verge

Explore change through a human or cultural lens

1 hour 10 minutes + 3 participants +

Requires Inputs and time horizon

What is it?
A useful framework for exploring drivers of change through a human or cultural lens or to use to deepen understanding of future scenarios.

Uses include:

- Explore the implications of a driver or issue
- Inform scenario impact and policy development process
- Inform scenario development

How does it work?
A systematic approach to explore drivers of change, issues or scenarios through an ethnographic lens – by taking a human-focused or cultural perspective.

When to use it?
Consider change through a human or cultural lens, to identify drivers or implications or explore scenarios, which can be particularly helpful to generate new and interesting perspectives.

What do you get?
A list of the social and human impacts of a given scenario.
Participants get an experiential notion of how the future 'feels and tastes'.

What next?
Use the outputs in combination with the following tools to generate further insights:
Scenario development: Create deeper insight into cultural aspects of scenarios
Driver Mapping: Identify and prioritise key drivers impacting a focal issue
Three Horizons: Think about what needs to change to move to a particular future in the short, medium and long term

Related tools
Futures Wheel: Explore the indirect and direct impact and implications of a particular scenario, driver or trend



VERGE TOOL

THE FUTURE IS OURS

Verge

Facilitation Guide

1 hour 10 minutes + 3 participants +

WHAT YOU NEED

Verge can be done rapidly alone or as part of a larger, group-based project. These instructions assume three people with one hour and one specific scenario. It is possible to adapt this guide for use with multiple groups, each working on a separate scenario.

REQUIRES

Note: This guideline assumes using a scenario. A driver or trend can be used as well.

Inputs A selected scenario to deepen or explore its implications

Time horizon How far out do you want to look? e.g. 2030/2040 or beyond

Materials

- Whiteboard, wall- or flipcharts (at least one flipchart per group)
- Sticky notes
- Pens and markers

Room No specific requirements. Find a quiet space with room to get up and move around.

Templates provided

- Template #1: Verge Template
- Template #2: Verge: Definitions and examples



VERGE TOOL

THE FUTURE IS OURS

Figure 16: Pages from the Verge Tool
Source: Save the Children

INSTRUCTIONS

The Verge tool has four steps. Please review all steps before beginning the exercise and ensure all materials have been prepared.

- Step 1** Introduce the Verge tool 10 mins
Step 2 Exploration with Verge 20 mins
Step 3 Share and finalise 30 mins
Step 4 Next steps 10 mins

1. Introduce the Verge tool and scenario (10 mins)

Introduce the scenario, the time horizon, and the Verge tool. It may be helpful to print and share the Background section (page 13) and an example of how the tool has been applied in the past.^a Also print and share Template #2: Verge: Definitions and examples.

You will need additional time here if participants are not already familiar with the scenario

2. Exploration with Verge (20 mins)

Before starting: If everyone is working on the same scenario, assign specific categories to each person or persons. If using the tool to assess more than one scenario, then explore all Verge categories within each scenario together.

- a. Start the process by having the group read their scenario and imagine what the world looks like – remember, they are exploring the world at a future date, depending on the time horizon you have set.

Ask them to consider:

- What does the world look like in this scenario and time horizon?
- What elements of the scenario seem strange or interesting?

- b. Next, have participants look at their Verge categories, and read the description.

Have the participants think about the scenario through the lens of the category they have been assigned. For instance, if they thinking about 'Create', they should consider how the concepts, ideas and paradigms used to define the world around us are different in the future? What are social attitudes like? What is the role of religion?

Remind participants not to hesitate over any idea. Good ideas are found by generating lots of ideas.

Get the participants to consider the issue from different perspectives, eg. citizens, companies, governments, students, pensioners.

Write the ideas into the template. *Make sure there are at least three items per category.*

^a A supporting document 'Verge in Action' with examples of how the tool has been applied by Save the Children or other organisations is available upon request.

VERGE TOOL

THE FUTURE IS OURS

3. Share and finalise (30 mins)

- a. As a group, share the completed template and ask the participants to share and compare insights. What does their world feel like? What has happened?
 Discuss as a group whether any items should be removed, decide via consensus or a simple vote (show of hands).

- b. After sharing for 15–20 minutes, work together to identify which of the Verge categories have the most uncertainties, opportunities, and risks.

Write them down in the space given in the template.

4. Next steps

Close the session by explaining how the scenarios will be used next. The page Using the Outputs of Verge may be helpful here.



Venezuelan migrants at the Colombia border. The humanitarian consequences of the economic collapse in Venezuela were not completely unforeseen but it was difficult to convey the level of the potential crisis. Envisioning what a potential scenario will look and feel like can help decision-makers to activate their imagination and make better decisions.

VERGE TOOL

THE FUTURE IS OURS

18 VERGE TOOL

TEMPLATE #1

Verge Template

Scenario: _____

Time Horizon: _____

Define:	Relate:
Connect:	Create:
Consume:	Destroy:
Uncertainties	Opportunities Risks

Figure 17: Pages from the Verge Tool
 Source: Save the Children

Foresight tools, Sitra

11.18 Sitra, the Finnish Innovation Fund, is an independent public foundation which operates directly under the supervision of the Finnish Parliament. Its objectives are to promote

- Stable and balanced development in Finland
- Qualitative and quantitative economic growth and international competitiveness and cooperation
- Projects that
 - Increase the efficiency of the economy
 - Improve levels of education and research
 - Study future development scenarios

11.19 Sitra's **vision** is to create a fair, sustainable, and inspiring future that ensures people's well-being within the limits of the earth's carrying capacity. It produces long-term foresight data to support its vision and aims to support Finish society – decision makers, companies, communities and individuals - to engage with those data and prepare for the future.

Content development

11.20 Sitra is engaged in both futures content creation and in providing tools to support discussion of the future. The website⁵² highlights its four broad areas of content development:

- Foresight
- Megatrends
- Power to define futures
- Weak signals

11.21 The **Foresight page** sets out a range of studies and other information that anticipate future trends and that are designed to strengthen people's thinking about the future and their ability to influence it.

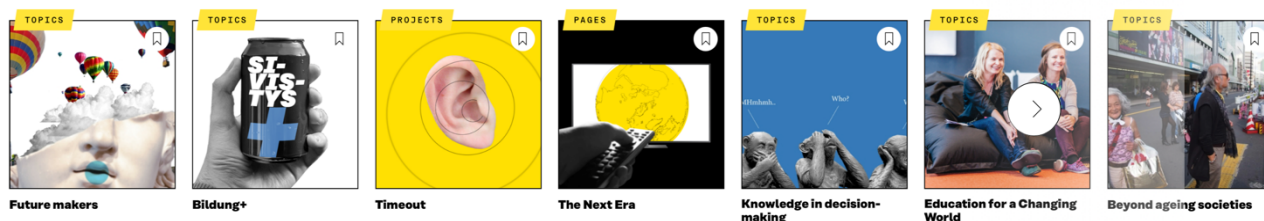


Figure 18: Topics considered by Sitra
Source: Sitra

11.22 The **megatrends** review gives an overview of the trends affecting the future to facilitate different ways of thinking about, discussing and influencing it. **Megatrends 2023**,⁵³ the latest edition, focusses on five themes - nature, people, power, technology and the economy - and examines their future development from the perspective of Finland. The report also outlines different possible future scenarios.

11.23 The megatrend report is accompanied by a set of megatrend cards⁵⁴ that summarise key trends and drivers to support workshop conversations.

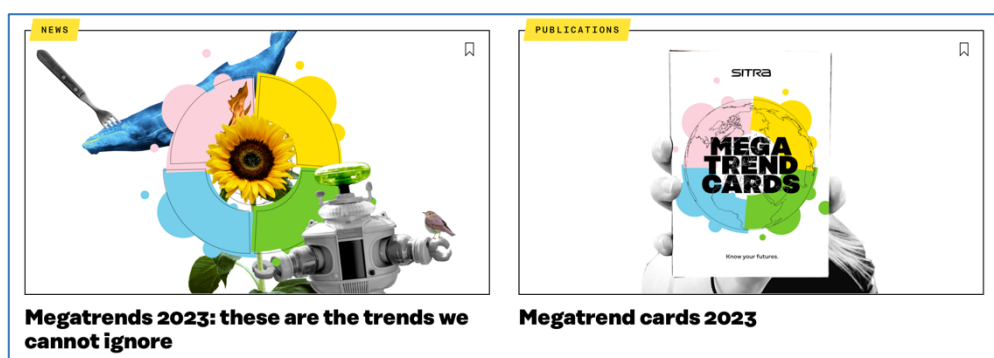


Figure 19: Megatrends 2023
Source: Sitra

11.24 **Power to define futures** is probably of limited interest to the BSR. It is a vaguely described programme – not because it is vaguely perceived but because it is in development. Its focus is on engaging a wide range of people across society in futures thinking.

11.25 Sitra defines **Weak signals** – horizon scanning in the language of this report – as tools to

- Identify and challenge assumptions about the future while broadening our view of what is possible
- Gain insight into unexpected developments and rethink matters from the varied perspectives of our own lives, work or society
- Identify new opportunities, ways of making a difference and new developments that we need to amplify to build better futures together

11.26 The **Weak Signals 2022** report⁵⁵ presents a selection of weak signals and, for each topic area, describes scenarios and different futures narratives on how they might develop. The report explores 6 themes:

- At home
- At work
- In nature
- In the city

- Making decisions
- In the metaverse

11.27 The report's appendix sets out the research methodology. The section entitled *How to take control of signals* offers some interesting processes for making sense of the signals and building them into decision making.

Tools to support discussion of the future

11.28 Sitra's website also contains a growing – and largely hidden away – number of interesting and well-presented tools to support futures thinking.

11.29 One product is the futuremakers toolbox⁵⁶. This sets out a range of tools for working with the megatrend cards:

- Weak signals explorer
- Getting to grips with a trend – a tool for using the megatrend cards
- First symptoms of change
- The insight and foresight Zoo – a tool for taking a deep dive beneath the surface of individuals trends
- Speculate on the future – what if some weak signals were mainstream?

11.30 These tools do not rely on the Sitra megatrends – they can be applied to any set of trends or drivers.

11.31 Sitra has also published 'Futures Frequency', a workshop method for building a vision of success⁵⁷. The method seeks the same outcome as more commonly used visioning exercises but involves a much stronger use of creative thinking tools such as

- Short audio drama pieces that represent exaggerated versions of prevailing views of the future and offer stimulus
- Writing headlines for News of the Future
- Building a backwards timeline as well as a forward one

Danish Design Center's Living Futures Toolkit

11.32 The Danish Design Center (DDC) is Denmark's national centre for design. It was established in 1978 as a non-profit foundation under the Danish Ministry of Business, Industry and Financial Affairs. Its role is to promote the use of design in business and industry, help professionalise the design industry, and document, promote and brand Danish design in Denmark and abroad.

11.33 DDC's **Living Futures: Scenario Kit**⁵⁸ is a design tool for understanding, discussing and shaping the future. It consists of four alternative scenarios for 2050, explored through

- narrated stories from future citizens
- themed analyses
- a set of tools that help users explore the narratives

11.34 The kit is designed to be used to future proof business models, develop new strategies and understand and discuss important trends and developments in the present.

11.35 The scenarios are framed around two dimensions of uncertainty

- Distributed vs centralised holders of power
- Societal vs market driven values and structure

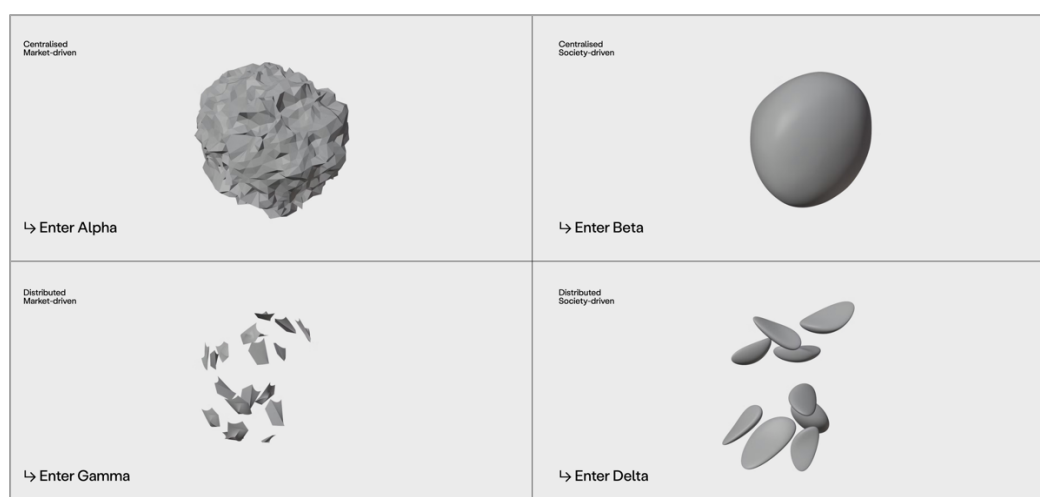


Figure 20: Four scenarios
Source: DDC

11.36 The scenarios are presented in two forms: high level narratives and more detailed stories about 10 characters, ranging from Dominic (who works in manufacturing) through Hitomi (who leads production of welfare) to Rita (who lives with her family in a small community and works remotely as a surveyor). Their stories and experiences vary according to the different scenarios.

11.37 The website offers three pathways for using the scenarios in different situations. Each pathway gives users instructions for what to do before, during, and after visiting the futures. Users can download methodologies and worksheets that guide them through discussion of

- Identifying new opportunities in the future
- Testing current plans and strategies in a future windtunnel (the same technique as policy stress testing)
- Discussing diverse perspectives on what future success could look like

Implications for the BSR

11.38 We have not carried out a comparative analysis of the futures toolkits for two reasons:

- Firstly, that the BSR wishes to focus on horizon scanning rather than wider futures tools at present
- Secondly, that the GO-Science Futures Toolkit is, we believe, the only sensible candidate for widening the BSR's futures work

11.39 This belief is based on several factors

- The Futures Toolkit is used by nearly every interviewee
- GO-Science run an extensive training programme across government and the public sector that is based on the Futures Toolkit. It is, consequently, the main 'lingua franca' for futures thinking in the UK
- Having reviewed a number of futures toolkits, it is the most clearly set out and the most well resourced toolkit that is available
- Its popularity in the public sector is not solely due to how easy it is to use and how well resourced it is; it is also due to the design focus of the toolkit – which is to support futures thinking in the public sector to inform public policy development. The other toolkits we have reviewed here are technically interesting but do not have this specific focus and are therefore less well suited for a newly formed horizon scanning team
- As we highlighted in footnote 2 on page 49, the GO-Science Futures Toolkit is highly regarded beyond the UK and by the private sector

11.40 Our **recommendation**, therefore, is that the BSR utilise the GO-Science Futures Toolkit alongside its own customised horizon scanning Practical Guide.

12 Conclusions

Introduction

12.1 The aim of this practical review is to provide the BSR with an understanding of the strengths and weaknesses of different horizon scanning approaches and to identify the most suitable tools and techniques for meeting the BSR's requirements.

12.2 This report provides a review of the horizon scanning approaches, tools and techniques that are in common use and an evaluation of their merits and challenges in the context of the BSR.

12.3 The principal conclusion of this report is that the BSR adopt the Scottish Environmental Protection Agency's toolkit and adapt it to its needs.

12.4 There is a full set of recommendations for implementing horizon scanning in the BSR in the accompanying report.

12.5 The rest of this section addresses two remaining findings:

- The role of data in horizon scanning
- Insights for implementing futures

The role of data in horizon scanning

12.6 Data gathered in horizon scanning is largely qualitative. By definition, horizon scanning looks for weak signals of change rather than identifiable trends. These weak signals tend to be isolated events that are off most observers' radar and are early indicators of how the future *might* develop.

12.7 Futures looks forward and recognises the possibility – even the likelihood – of fundamental change in the system itself. It steps out of the present, and present constraints, to consider a wide range of possible futures, their consequences and potential responses.

12.8 This is in contrast with forecasting and forecasting models which look at historical trends and, with various degrees of sophistication, attempt to project them forward. Key assumptions (e.g. about GDP growth) can often be flexed within these models to give a range of high/medium/low outcomes. But fundamentally the models are based on a fixed view of how the overall system operates, so their reliability starts to break down over the longer term as the world changes.

12.9 The purpose of the initial stages in scanning, therefore, is to look for these early signals of change. Once a scanning team has determined what might be important, they can begin to examine it more closely, identify connections with other signals and – if possible and worthwhile – track quantitative metrics that suggest how these signals might develop.

12.10 While this analysis may include quantitative trends such as demographics, it is important to remember that, as one interviewee noted

...evidence based futures is a problem. We're projecting forwards from historic data so the range of future possibility is subjective. Models are approximations based on historic trends, not on future possibilities, discontinuities or systemic change.

12.11 The role of horizon scanning is to look for these possible discontinuities and to provide early warning of that systemic change – which is why qualitative data analysis is central to the activity.

Insights for implementing futures

12.12 At the end of each interview, we asked participants to tell us the pieces of advice they would give to a newly formed future team. Their responses can be aggregated into 'Ten insights for developing horizon scanning'.

1. Have a senior champion who has the ear of decision makers

Have a senior champion who has the ear of decision makers, who understands futures and who is willing to stand up for the horizon scanning function.

Start by getting the senior leaders on board. Get a champion who will speak on your behalf.

Strong senior champions are necessary. And they must be heard.

2. Give the scanning team time and agency

Give the scanning team time and space [agency] to build their knowledge and insight.

Don't rush at it. You have to walk before you can run. Start with a low risk area and practice the tools.

Remember that you're in a medium to long term game. Be in it for the long haul.

Have a dedicated resource if at all possible.

3. Build a really clear picture of where your organisation is at

Build a really clear picture of where your organisation is at. Find out how much people are talking about the future. If they're talking a lot about it, find out why. If they're not talking a lot about it, find out why.

Develop a forward look programme to identify the upcoming regulations and requirements so you're not blindsided by anything new.

4. Facilitate conversations

Don't tell your colleagues about future trends and developments – facilitate conversations to help them discover for themselves.

Don't try and be the topic expert; know when to share things with the technical experts but don't necessarily share everything.

5. Embed scanning in decision-making from the start.

Embed scanning in decision-making from the start.

Focus on internal processes and connect futures to day-to-day operational planning. Make it seem to be part of the organisation's mission, not separate to it.

Linking futures to the strategic issues of the here and now is very important.

Give people case studies of successful futures work.

6. Encourage the scanning team to be enthusiastic, curious and brave.

Encourage the scanning team to be enthusiastic, curious and brave.

Build a team who willing to learn and are enthusiastic and keen to try something new.

7. Trust your intuition about what matters.

Trust your intuition about what matters. Avoid having a mathematical score or RAG rating for scans. The future is quite an uncomfortable place to be – but you have to stay uncomfortable. Using numbers to rank scans gives people the illusion of certainty and they tend to rank uncomfortable scans as low certainty – which they may not be.

Avoid the trap of always talking about bad stuff that will happen in the future. Look for positive things.

8. Build relationships with colleagues and link scanning to their strategic purpose

Don't just do futures with future thinkers. Bring together diverse groups of people and diverse skills.

Have as many people as possible across the organisation understanding futures tools and how they can be used. Also, make sure they understand what they can't be used for.

Build a community of practice around your stakeholders and those who are interested in futures thinking.

Make sure people understand that this is not about predicting the future but picking up signals of change.

Make sure everyone understands why they're at your workshops and why they're doing futures.

Consider some kind of incentivisation to keep futures thinking ticking over.

9. Let the process evolve

Don't stress. Just give it a go. Let the process evolve.

Don't be afraid to do futures. Don't worry that colleagues are going to be sceptical about its value. People always enjoy futures conversations.

Talk to other people who are doing futures. Get into the government futures network.

Do not be dragged into conversations about the here and now.

10. Don't overcomplicate things.

Don't overcomplicate things. We are very evidence based and don't feel very comfortable with the absence of evidence. Be aware of this.

You don't need a whole lot of a software. You only need to learn how to use Google effectively.

Annex 1: Interviewees

Andrew Staines

Ofwat

Carina Palin

The Met Office

Daniel Vandenburg

Office for Product Safety and Standards

Eleftheria Maravelaki

Scottish Government

Emma Connett

The Met Office

Jason Dinsdale

Environment Agency

Ewan Mearns

Scottish Enterprise

Jessica Bode

Department for Transport

Jim Maltby

Dstl

Martin McDermott

Scottish Government

Merlin Kemp

Scottish Government

Nicola Edwards

Office for Environmental Protection

Nicola Stacey

Health and Safety Executive

Phil Tovey

Defra

Samuel Bradbrook

Health and Safety Executive

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