Government
Office for Science

The Futures Toolkit

A set of tools to help you develop policies and strategies that are robust
in the face of an uncertain future.

Produced in collaboration with

SAMI Consulting
robust decisions in uncertain times

2024 version

About the Toolkit

The Futures Toolkit takes you through 12 different Futures thinking tools, with advice on how to implement them. It also pulls these together into a number of pathways to meet specific objectives.

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 sits alongside other GO-Science Futures resources, including our Brief Guide to Futures Thinking and Foresight, and our Trend Deck.

We focus on how these tools can apply to policy or strategy, but they can be used in many other areas – including more operational or delivery focused contexts.

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What is Futures Thinking?

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. You will need to rely on creativity, intuition and insight, as well as research and analysis. The tools in this toolkit provide a structure you can use to work through the implications of trends and changes that may disrupt the accepted current model of the world. The term 'Foresight' is often used to refer to the application of specific tools or methods for conducting Futures work.

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

Sometimes ideas that emerge from Futures thinking may seem beyond the boundary of reasonable assumptions. But you should challenge yourself to consider some extreme outcomes – history shows us that radical shifts are possible. Much Futures thinking involves addressing various forms of intellectual bias.

You 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.

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.

Futures thinking recognises the possibility – even 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.

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.
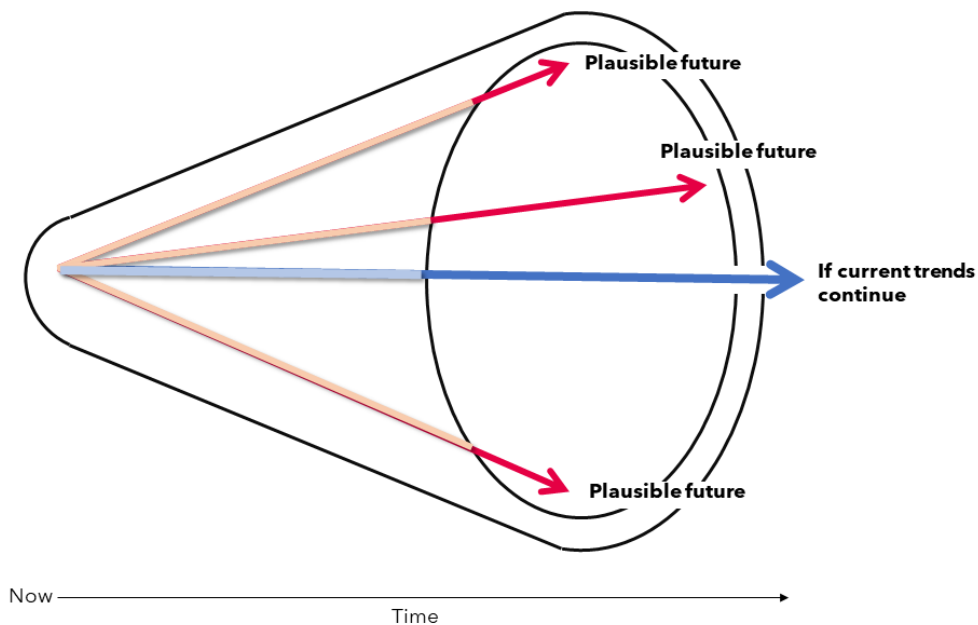
Futures and policy

Typical futures projects involve looking at:

- WHAT is changing? Looking at what is happening now: identifying trends, uncertainties and possibilities
- SO WHAT does this mean for our futures? Exploring different potential futures and their implications
- NOW WHAT do we do? Deciding how to act within the current policy environment in order to be resilient to a range of possible futures

Ideally, Futures thinking should fit within a broader cycle of strategic decision-making, both informing and responding to new directions and prospects. GO-Science's Futures x Policy cycle based on a "ROAMEF" model is one example of how this might be done.

The Scoping Question

At the start of any Futures project, the first thing you need to do is to examine carefully what the project objectives are - the "Scoping Question" - and get agreement on it.

There are many factors to this, all of which involve trade-offs and compromises:

▪ Breadth: what are the boundaries of the project? The scope needs to be wide enough to engage with new ideas, but sufficiently well-defined to be manageable. For example, are you looking at the future of the car, the future of transport or the future of mobility? If you limit yourself to the first, you are likely to miss wider changes in society around other modes and models of mobility, as well as shifts in patterns of mobility.

▪ Timeframe: look beyond the next policy cycle, beyond the next election, to 10 years, 20 years, or more

▪ Extent: are you providing an input to a wider process or trying to cover the whole subject? The pathways section will help you here.

Generally, Futures projects aim to move debate beyond the current issues, so you should try to define the scope quite widely. But how far you aim to move is a decision you have to make.

You will have practical considerations: how much time and budget do you have? How contentious or critical an issue are you addressing?

> **Once decided upon, you should use the Scoping Question to frame every one of the exercises you undertake.**

Including diverse perspectives

Diversity of opinion and perspective will bring a more robust outcome so in any Futures exercise you should aim involve as diverse a group as possible. As well as drawing upon policy, academic and industry experts, think about who your work will impact (both now and in the future) and how their perspective might be represented in your work. Also think about what might be impacted – for example, biodiversity, global security, or air quality.

Where possible, you may also wish to make the application of the tool more participative. You will find more on this in the Widening Participation section.

Each tool in the Toolkit has some specific suggestions on how to include more perspectives.

Ensuring impact

Futures thinking is about change. Wherever there is change, there are likely to be some people resistant to it, and others in favour. Identifying these dynamics will support better decision making and better communication.

Impact from a Futures project will often be in new ideas, bad ideas avoided, assumptions that are gently surfaced and resolved. Proving after the event that these impacts were a result of the Futures work will be hard, but they come from having decision makers involved in the process – rather than simply being presented with a final report. Think about how you can involve key decision makers early and throughout the process. You could start by using Seven Questions to interview them.

Facilitation for Futures

General facilitation advice is available from many sources, but there are some specific issues related to facilitating Futures workshops.

Get people into a Futures frame of mind

Most people are used to working within the current policy environment, with its prevailing assumptions. They may at first find it difficult to step outside the current constraints to imagine alternative futures with different assumptions. You may find one of the following helpful to develop a Futures mindset at the start of a session:

- Pick 2-3 trends from the Trend Deck and discuss how they could develop and interact over time
- Describe what your life might be like in thirty years' time
- Explore developments over recent years that have led to the present day
- Do a short presentation on trends or drivers of change

Embrace a range of outcomes

A common challenge with Futures thinking workshops is focusing on overly utopian or dystopian perspectives.

The world in the future will most likely be a mix of appealing and disagreeable things – as it is today. If the discussion seems to be heading to either extreme, then asking "what is the upside/downside of this situation" is a way of changing the dynamic.

Recognise different perspectives

People may view the same situation in different ways, welcoming or fearing different things. For example, "cutting red tape" may be seen by some as liberating and efficient, but by others as removing valuable safeguards. You should try to capture all these perspectives and resist allowing one particular value set to dominate.

Be challenging

You need people to step outside the prevailing mindset. A brainstorming approach – where nothing is rejected as too extreme – is often a good starting point. You could, as in Horizon One of a Three Horizons exercise, get people to make explicit their assumptions about today's world and then ask what might happen if they no longer remain true. Do not limit yourself to what seems likely or acceptable.

Finding your way around the Toolkit

"Futures thinking" is not a formulaic process. For each particular policy question you need to consider which of the tools are useful and how they fit together. There is no one "right" approach.

From the CONTENTS page you can access any of the sections of the Toolkit.

On the TOOLS AT A GLANCE page you will find a short definition of each tool and what it does, so you can quickly decide which one you need. Tools are ordered in the "WHAT is changing?", "SO WHAT for our futures?", and "NOW WHAT do we do?" groupings. You do not have to work through them one by one.

To help you think which tools might be relevant to your needs, there are a number of PATHWAYS. These are some groupings of tools to meet particular objectives – they are more outcome oriented. You can choose one that suits your needs from The Seven Pathways page.

If you want to develop your Futures practice further, there are sections on experiential Futures techniques, widening participation in Futures, and other ways to develop scenarios.

There is a RESOURCE BANK that contains worksheets, examples, and workshop facilitation templates. There is also a CASE STUDIES BANK with examples of how each tool has been used in practice. The Resource Bank will be regularly updated.

GO-Science would like to keep the Futures Toolkit under review. Please leave your feedback on our blog here.

Futures tools at a glance

WHAT is changing?

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.

SO WHAT for our futures?

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.

NOW WHAT do we do?

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.

Pathways at a glance

The seven pathways give suggested ways to combine the tools for different purposes, though they are not proscriptive.
They are:

1 Building Futures intelligence when scoping a future challenge

2 Creating a shared vision of future success

3 Testing policy options with Futures scenarios under time constraints

4 Testing policy options with Futures scenarios

5 Exploring dynamics of change to understand alternative ways that policy might develop
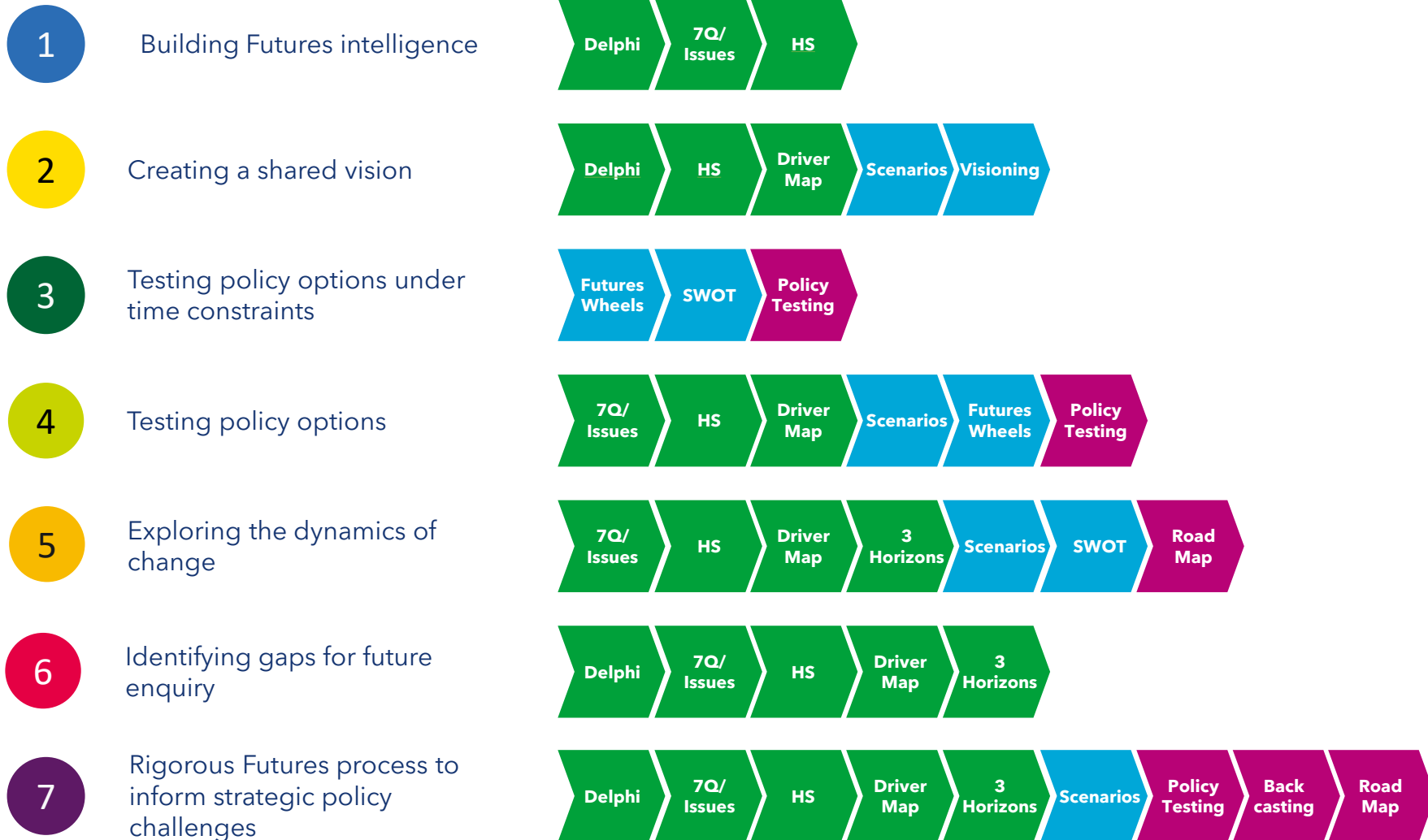
6 Identifying gaps in your knowledge about what will be important in the future, in order to prioritise areas for further enquiry

7 Rigorous Futures process to inform strategic policy challenges

The tools that make up each pathway are set out on the following page.

The seven pathways

1 Building Futures intelligence

| Delphi | 7Q/Issues | HS |

2 Creating a shared vision

| Delphi | HS | Driver Map | Scenarios | Visioning |

3 Testing policy options under time constraints

| Futures Wheels | SWOT | Policy Testing |

4 Testing policy options

| 7Q/Issues | HS | Driver Map | Scenarios | Futures Wheels | Policy Testing |

5 Exploring the dynamics of change

| 7Q/Issues | HS | Driver Map | 3 Horizons | Scenarios | SWOT | Road Map |

6 Identifying gaps for future enquiry

| Delphi | 7Q/Issues | HS | Driver Map | 3 Horizons |

7 Rigorous Futures process to inform strategic policy challenges

| Delphi | 7Q/Issues | HS | Driver Map | 3 Horizons | Scenarios | Policy Testing | Back casting | Road Map |

Key: WHAT is changing? — SO WHAT for our futures? — NOW WHAT do we do?

1 PATHWAY 1 – Building Futures intelligence when scoping a future challenge

Delphi › **7Q/ Issues** › **HS**

Use this to...

- Develop a deep understanding of the underlying issues and emerging forces for change in the wider environment that will shape the policy area in the near, mid and long term

Primary activities

Desk research and interviews followed by a workshop to analyse the findings.

Who to involve

Internal stakeholders, external stakeholders and subject experts.

Number of participants

No limit.

Time it takes

Varied: can be run across a six-week period.

The approach

This pathway is about gathering intelligence from the environment around you. It can be repeated at regular intervals to see what has changed.

The steps are:

- Gather opinions. Produce an Issues Paper from either or both of:
  - o a Delphi exercise
  - o a series of Seven Questions interviews
- Horizon Scanning. This may be done in parallel with the other tools, which feed into it. Best practice is that this is an ongoing exercise.
- Summarise your findings so that you can communicate them with your team, highlighting implications

2 PATHWAY 2 – Creating a shared vision of future success

Delphi ⟩ **HS** ⟩ **Driver Map** ⟩ **Scenarios** ⟩ **Visioning**

Use this to...

▪ Build a shared vision of preferred future(s)

Primary activities

Desk research leading to a workshop or workshops to determine vision(s) of preferred future(s).

Who to involve

Members of the policy team. People who need to implement the policies. Potentially, people affected by the policies.

Number of participants

6-20, or a larger number if using this tool with people affected by policy decisions.

Time it takes

Likely to take several months for the full process, which can be reduced if using existing scenarios.

The approach

This pathway is about creating a shared ambition developing a preferred future or set of futures.

The steps are:

▪ You can start with Delphi. This is optional.
▪ You can build upon Horizon Scanning if you have already used the tool. If you have not, you will need to run a Horizon Scanning exercise.
▪ Run a Driver Mapping workshop
▪ Run a Scenarios exercise. The output will be a set of 4 scenarios to consider
▪ To save time, you could use pre-existing scenarios
▪ Run the Visioning exercise
▪ Produce a summary which captures all the thinking, and which will aid in communication to your team and potentially to those outside

3 PATHWAY 3 – Testing policy options with futures scenarios under time constraints

Futures Wheels → **SWOT** → **Policy Testing**

Use this to...

- Quickly test policy options against a range of future conditions
- Rapidly determine whether – and how – policy options should be modified to meet policy objectives

Primary activities

Workshops with your team.

Who to involve

People with responsibility for the policy or strategy area. Participants will work with the outputs of scenarios or visioning but don't need to have developed them.

Number of participants

4-16

Time it takes

You can complete this pathway in one full day/two half days of workshops. You will need time to prepare and to summarise findings.

The approach

This pathway is for rapidly testing policy options. The scenarios/vision used may have been developed as part of a project in this policy area or you could choose a generic set of scenarios as context for your workshop.

The steps are:

- Introduce the scenarios/vision
- Use Futures Wheels to explore the impacts of the policy/strategy
- Use SWOT to explore where there are opportunities and threats for the policy or strategy
- Use Policy Stress-testing to see how resilient your policy or strategy is in each scenario or vision
- Summarise to share the conclusions from the workshop and share with participants

④ PATHWAY 4 – Testing policy options with Futures scenarios

7Q/ Issues	HS	Driver Map	Scenarios	Futures Wheels	Policy Testing
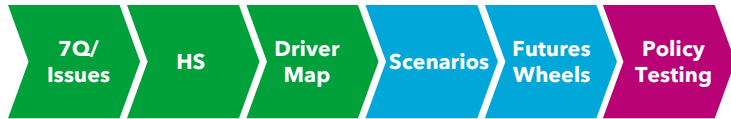
Use this to...

- Test policy options against a range of future conditions
- Test policy option impacts
- Identify which aspects of policy options are robust across a range of futures and which will need to be modified to ensure that the policy is resilient

Primary activities

Desk research, workshops.

Who to involve

People with responsibility for developing and implementing the policy or strategy. Some external experts will add value.

Number of participants

10-20

Time it takes

Several weeks, depending on the intensity you work at.

The approach

This pathway is about developing a new set of scenarios that reflects the changing dynamics of the policy area, and using these to test policy options.

The steps are:

- You can start with Seven Questions - this is optional
- Run the Driver Mapping tool in a workshop
- Create four scenarios using the Scenario tool
- Run the SWOT tool to explore the opportunities and threats in each of the scenarios
- Use Policy Stress-testing to test your policy or strategy objectives against all the scenarios
- You can run the Futures Wheels tool to explore the impacts of your policy in each scenario
- Document your process, the scenarios and the outcomes of the Policy Stress-testing with suggestions for modification of policy options

PATHWAY 5 – Exploring dynamics of change to understand alternative ways that policy might develop

5

| 7Q/ Issues | HS | Driver Map | 3 Horizons | Scenarios | SWOT | Road Map |

Use this to...

- Grow your understanding of what is driving change
- Deepen your understanding of the complexities surrounding your policy area
- Explore the impact of change on policy areas

Primary activities

Desk research, possibly interviews, workshops.

Who to involve

Internal stakeholders: senior decision makers, those with responsibility for managing a specific policy area. External stakeholders and subject experts.

Number of participants

We suggest a small team manages the project and then invites the relevant people when they are needed.

Time it takes

Variable depending on your approach and the way you allocate tasks.

The approach

This pathway can be customised easily. You can use it as a large-scale learning exercise to build understanding and discussion around the dynamics of change, or work with a small group and then communicate your conclusions.

The steps are:

- Use Seven Questions and/or Horizon Scanning to understand what is changing
- Use Driver Mapping to identify key drivers of change, then explore these further with the Three Horizons tool
- Create your own scenarios using the Scenarios tool, or use pre-existing scenarios if they are appropriate
- Use the SWOT tool to identify opportunities and threats
- Run the Roadmapping tool to identify the policy areas you may need to address going forward
- Summarise your findings so that you can communicate them more widely

6 PATHWAY 6 – Identifying gaps in your knowledge about what will be important in the future, in order to prioritise areas for further enquiry

Delphi → 7Q/Issues → HS → Driver Map → 3 Horizons

Use this to...

- Identify gaps in your knowledge about what will be important in the future
- Develop hypotheses about future issues
- Shape the future research agenda

Primary activities

Desk research, interviews, workshops.

Who to involve

Internal and external experts, senior decision makers, policy and strategy team.

Number of participants

It is best if a small team manages the project and then invites the relevant people when they are needed.

Time it takes

Project can run over several weeks to several months.

The approach

This pathway focuses on the Three Horizons framework which helps you to uncover emerging events based on weak signals. It will highlight trends and developments to track over time.

The steps are:

- You start with Delphi and the Seven Questions tool and develop an Issues Paper to feed into the Horizon Scanning, which may be run concurrently if time is short
- Run the Driver Mapping tool in a workshop.
- Bring all of your findings to a Three Horizons workshop. It will help you to explore further what is driving change and the relative speed with which it will emerge
- Summarise your findings, identifying gaps and where further work may be needed

7 PATHWAY 7 – Rigorous futures process to inform strategic policy challenges

Delphi › 7Q/Issues › HS › Driver Map › 3 Horizons › Scenarios › Policy Testing › Back casting › Road Map

Use this to...

- Develop a robust, comprehensive approach to future strategic policy challenges
- Explore and identify future opportunities and threats
- Prioritise areas for action

Primary activities

Desk research, workshops.

Who to involve

People with responsibility for developing and implementing the policy or strategy; senior decision makers. External: external stakeholders and subject matter experts.

Number of participants

No real limit. The aim here is to engage the people who will be most useful to the process – your team, externals, and those affected, will all bring valuable perspectives.

Time it takes

This is a very comprehensive process. Depending on the resources you can allocate, the project can run over several weeks to a number of months.

The approach

This pathway develops a robust, comprehensive approach to future strategic policy challenges. It might be appropriate for scoping a new policy area, or where there is scope for substantial policy or strategic change.

The steps are:

- You start with Delphi and the Seven Questions tool and develop an Issues Paper
- Run a Horizon Scanning exercise or draw insights from ongoing horizon scanning
- Run the Driver Mapping tool and the Three Horizons tool to lead into your Scenarios exercise
- Run the Scenarios tool
- Use Policy Stress-testing to test your policy or strategy objectives against all the scenarios
- Use what you have learned for the Backcasting tool to identify some of the steps you will need to take to get to the preferred futures
- Run the Roadmapping tool to develop more detail for the policy areas you may need to address going forward
- Summarise your findings so that you can communicate them more widely

Delphi

The Delphi method is a structured questioning tool, used to gather opinion from a panel of subject matter experts by using multiple rounds of questionnaires. It is a systematic and qualitative method that relies on experts to highlight the future issues they think could be important. It can be used to gain consensus as well as to measure diversity of views.

Use this to...

- Gather insights at the start of a Futures process
- Identify views you will need to take into account, and areas of agreement or disagreement
- Allow experts to give their opinions freely, without any judgements, as the process is anonymised
- Refine the scope and priorities of a project
- Achieve a level of consensus around the most important issues for you to focus on

You end up with...

- A summary of your findings, including a set of priority issues around the question you are seeking to answer, as well as insight into the range of issues you will face and where there is agreement and disagreement

What to watch out for...

- A narrow range of experts or views will risk groupthink
- You will need to stay in touch with your panel members and monitor your response rates carefully

Who to involve

- One or two people to recruit the panel and organise the rounds of questions
- A panel of people with in-depth experience of the policy area, often external subject-matter experts

Number of participants

Delphi involves multiple rounds of questions, and it will work best if you have a varied, but relatively small group of about 12-16. You can do it with larger groups.

Time it takes

Ideally allow 3-6 months to enable several rounds of questions but this can be shorter, especially if your experts are willing to respond promptly.

How to include more perspectives

Bring in experts from across different disciplines.

The Approach

The Delphi method uses multiple rounds of questionnaires sent to a panel of experts to gain, refine, and structure their responses to a <u>Scoping Question</u>. It is particularly good when exploring issues around which there is debate or a lack of clarity.

Responses to a Delphi questionnaire are always kept anonymous, to reduce bias. Whilst rounds are usually conducted by email, there is specialist software which automates both the process and the output. Software is particularly useful when you have a large number of people you want to canvass, though it may take longer.

There are five steps:

Step 1 — Define the scoping question

Step 2 — Select your expert panel

Step 3 — Ask rounds of questions

Step 4 — Analyse the responses

Step 5 — Write up and, potentially, run a workshop

Step 1: What do you want to know?

Define the <u>Scoping Question</u>. Keep it open, and quite general. You want to give your experts space to explore the issue.

Step 2: Select your expert panel

To keep the exercise manageable, you need around 12 to 16 experts. (An "expert" for this purpose is someone whose experience and opinion is valuable to your question. They may not define themselves as an "expert"). Aim for a mix of people with relevant expertise, drawn from different sectors if possible.

Step 3: Ask rounds of questions

There are multiple rounds of questions.

Round 1: ask the panel members to respond to the scoping question. For example, by identifying relevant emerging issues. You want around ten ideas or thoughts from each. Give people a clear idea when you would like their responses and follow up – the more responses you get the better your result.

Create a list of all the responses. Cluster similar responses.

Round 2: circulate your new list to your panel. Ask them to identify their top ten most important issues for the policy area/project. They don't need to rank them.

You can now prioritise the responses. Which issues appear in the top ten most frequently? Score the ideas by the number of times they occur.

Round 3: take the top issues (perhaps around 40%) and send them back to the panel. This time, ask them to rank the issues out of ten in order of importance. To add nuance, you may wish to add a second column, such as "urgency of policy response" or "quality of available data". An example is below.

Response	Importance for the scoping question	Urgency of policy response
Issue 1	10	7
Issue 2	8	6
Issue 3	3	8

You will get back a series of ranked responses. Provided the panel is varied enough, there should be a range of views about what is most important, and what is most urgent – or you might find there is near consensus.

Step 4: Analyse the responses

There are a number of ways of showing the results of the ranked responses. The simplest method is by analysing the responses to each issue, and calculating the mean ranking from across the respondents. Sort highest to lowest, to show a ranked table of priorities.

You could plot the responses on a chart. This will give a visual representation of how the issues cluster. Alternatively, various forms of statistical analysis are used for Delphi projects and you may wish to investigate these options further if you have the resources.

Step 5: Write up and, potentially, workshop

Write up the exercise. Take care not to limit yourself only to the highest scoring issues – the issues with the lower scores may require further research, or they may point to areas of future controversy.

If your panel are willing to waive their anonymity, it can be useful to run a workshop to explore the factors underlying any significant differences of opinion.

Next steps

Delphi is the starting point for four of our pathways and is a useful standalone exercise. It can be helpful to repeat the exercise periodically to track how responses change over time.

Case study

The Food Standards Agency (FSA) wanted to identify what might be the key changes in the UK food system over the next 10 years. As the UK food system is complex and involves a broad range of expertise, a Delphi methodology was used. 300 participants from academia, government, industry and third sector were invited. They used an online platform for the rounds of questions and the material was coded in Excel for their analysis. This exercise resulted in a single overarching assessment highlighting key changes, opportunities and challenges to the FSA and focused their ongoing research programme for the next two years.

Resources for this tool can be found in the
Resource Bank
Case studies can be found in the
Case Study Bank

Seven Questions and the Issues Paper

Seven Questions is a structured interview technique for gathering the strategic insights of a range of internal and external stakeholders. The Issues Paper summarises the key conclusions.

Use this to…

- Identify strategic issues that need to be addressed in the Futures work programme
- Stimulate individuals' thinking in advance of a Futures workshop (or to involve people who cannot take part)
- Identify conflicting views of the future
- Gather views about the future from external experts and others with a different or novel perspective
- Give internal stakeholders and other decision makers an opportunity to engage with the Futures project, and to raise issues and concerns which will need to be addressed if the project is to succeed

You end up with…

- A set of written up interviews detailing different perspectives of what the future might be like, what success in the future could be like, and what needs to be done to achieve it
- An Issues Paper summarising key themes from the interviews, highlighting insights and information from external experts or stakeholders with a different perspective

What to watch out for…

- Missing out important or insightful stakeholders

Who to involve

Anyone you want to involve in Futures work. They can come from inside or outside the organization.

Number of participants

Two interviewers per interview if possible. The number of interviews will depend on the time and resources you have available.

Time it takes

- Interviews last approximately 60 minutes
- You will need time for preparation and for writing up the interview notes
- The interview programme is best run at the start of a Futures process, but can continue throughout

How to include more perspectives

Look at areas of debate to find interviewees with different perspectives, rather than just those supporting the prevailing orthodoxy.

The Approach

The Seven Questions technique was pioneered by Shell in its scenario planning process. It is a powerful tool for gathering opinion from diverse stakeholders on the strategic issues that need to be addressed in a given policy area and for highlighting areas of agreement or conflict about the way forward. Interviews are conducted under the *Chatham House rule* – interviewees can be quoted but the quotes must be anonymous.

Typically, most of the strategic issues for the future are uncovered in the first 12 to 15 internal interviews. Further interviews are done to uncover the remaining issues and to include people in the process. Use external stakeholder interviews to get a different perspective on the issue or potential policy response.

The Seven Questions approach is very flexible. Step 1 below gives suggested wordings for each question but you can make amendments to suit your style (see case studies for examples of how people have done this). Use them more as a prompt for discussion, rather than a definitive script.

How you word the questions should be informed by the Scoping Question. This defines the timescales of the Futures project, and its scope.

We suggest three steps:

Step 1 → The Seven Questions interviews

Step 2 → Writing up the interviews

Step 3 → The Seven Questions Issues Paper
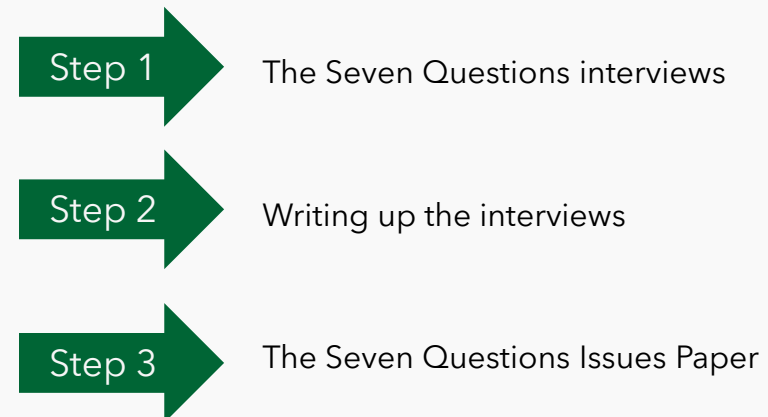
60 minutes

Step 1: The Seven Questions interviews

If possible, take two people to the interviews. One should lead the questions; both should capture the responses. It's a useful safety net in case one of you misses something that is said.

The questions are open ended: interviewees speak as much or as little as they want, without prompting from the interviewer. That's not always easy (for either side) but it's important to let the interviewee follow their train of thought without interruption. Silence often means interviewees are thinking about issues prompted by the question.

First, explain the Scoping Question to the interviewee.

Then invite them to talk about what they see as "important for the future of the policy or strategy area"

Step 2: Writing up the interviews

You may want to send a write up of the interview to the interviewee for them to review – and it is helpful to write them up for your own records.

The Seven Questions:

Over the time horizon of the <u>Scoping Question</u> …

Time-traveller → If you could spend some time with someone who knew the outcome, a time-traveller if such existed, what would you want to know? What would you identify as the critical issue for the future?

An optimistic outcome → If things went well, what would be the signs? What is your vision for success?

A pessimistic outcome → How could the environment change to make things more difficult? How could the initiative itself go wrong? What are the dangers of not achieving your vision? What would you worry about?

The internal situation → From your knowledge of the culture, organisation, systems, resources, people, how would these have to be changed to achieve the optimistic outcome?

Looking back → How did we get to where we are today? What are the successes we can build on? What can we learn from things that didn't go so well?

Looking forward → What decisions need to be made in the near term to achieve the desired long-term outcome? What needs to be done now?

The Epitaph → If you had a mandate, without constraints, what more would you need to do? What else would you wish to include?

Step 3:

Seven Questions Issues Paper

Drawing out conclusions from the Seven Questions interviews can be done as the interviews progress. Once each interview is complete, highlight quotes that seem to be most important in each interview.

Spot them by:

- using your knowledge of the subject, coupled with a little intuition
- noticing where issues come up repeatedly
- paying attention to comments like – "this one is really key…"
- identifying comments that run counter to the accepted view

For the first few interviews, simply list the quotes as bullet points. Think about lightly editing the quotes to remove any references that might cause the interviewee to be identified. As the interviews proceed, keep selecting key quotes and add them to the draft paper.

After four or five interviews, you will notice some themes appearing and you can begin to group quotes accordingly. Let the themes evolve – they will almost certainly change as you draw in more interviews.

Group quotes together within each theme according to correlation (or opposition) of viewpoints. Try to identify links and causality between themes. The grouping of the quotes will create its own narrative. Note that you are reporting the issues raised by the interviewees, rather than commenting on them. If the views are challenging or uncomfortable, then they will be even more worthy of consideration in later parts of the Futures project.

Next steps

You can use the findings from the Seven Questions interviews to suggest priority areas for Horizon Scanning. Alternatively, you may wish to run the two activities in parallel. The output can also be used to inform Visioning, SWOT Analysis or Policy Stress-testing.

Need to save time?

- Careful selection of your interviewees will save time: for instance, you could have only one interviewee from each sector.
- You could shorten the interview time, and/or select only questions you consider most important. If you do either of these, be sure to note it when you write up your methodology for the interviews.

Case study

The Chair of a Professional Services Association was interviewed about its future. The interviewee commented on their vision of the Association, the consequences of it not being delivered and the changes needed. This was used to inform the next strategic plan.

There is a sample write up from a Seven Questions interview in the Resource Bank

Horizon Scanning

Horizon Scanning is the systematic collection of insights on emerging trends and weak signals of change to identify potential threats, risks and opportunities.

Use this to…

- Gather information about emerging trends and developments that could have an impact on a policy or strategy area in the future
- Inform thinking about consequent impact on strategies or policy options
- Increase the knowledge and insight of people in your organisation about the changing policy environment
- Build a solid evidence base to highlight areas where change to strategies and policies may be needed

You end up with…

- A report that highlights trends and possible developments that will affect the future operating environment of the organisation or an area of policy
- A better understanding of relevant changes occurring in the external world
- An understanding of how strategy or policies might need to change in response

What to watch out for…

- Missing out important changes if you have not scanned widely enough
- Issues raised may have sensitive consequences that need to be handled carefully

Who to involve

Your scanning group should ideally be from a range of backgrounds, and could include people from outside your organisation, but this is flexible to your resources.

Number of participants

Around 2-3 people in the project team to organise the scan (though it can be done by an individual), with any number of other scanners.

Time it takes

The scanning can be run over several weeks or as a continuous activity. To produce the report, we suggest a half-day workshop followed by time to write up.

How to include more perspectives

- Widen the network of contributors ("scanners") to include more people who might bring different perspectives
- Broaden the participation in the scanning workshop and circulate emerging themes early and widely to elicit comment
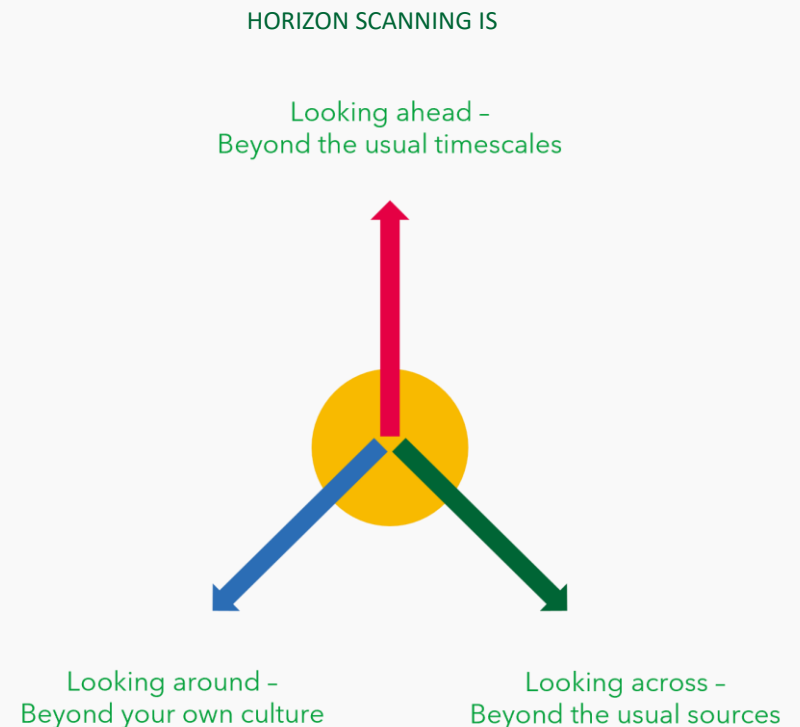
The Approach

Horizon scanning can be conducted over a defined period of time to inform a specific project, or can be a continuous function to inform an organisation's strategy and priorities for further work. This need not require a dedicated team; instead it could be part of people's jobs to input interesting developments into the database as and when, or on a frequent basis.

There are many different approaches you can take, and the one below can be adapted according to the time and resources you have available. We suggest ways to create actionable recommendations from the scanning (Step 5 and Next Steps), but you may want to do this another way. The key is planning in advance how you will use the insights you gather to inform a

wider policy or strategy area, to ensure the scanning process has impact.

You should have a clearly defined Scoping Question when beginning Horizon Scanning – it is an immersive, engaging exercise, and it is easy to get diverted and dash off down rabbit holes!

HORIZON SCANNING IS

Looking ahead –
Beyond the usual timescales

Looking around –
Beyond your own culture

Looking across –
Beyond the usual sources

A full Horizon Scanning exercise can be arranged in five steps:

Step 1 → Recruit the scanning group

Step 2 → Identify sources

Step 3 → Gather the scanning data and store in an organised structure

Step 4 → Analyse the scans

Step 5 → Write up the results

Individuals or small teams tasked with horizon scanning should focus on steps 2, 3 and 5, omitting the workshop.

Step 1: Recruit the scanning group

You can involve as many people as you want. Start with no more than 10 people - you can expand the network later if time allows. You should aim for a sufficient diversity of scanners to get different perspectives.

Step 2: Identify sources

Ask the team to identify sources which are likely to be good places to look for signals of emerging change.

You are looking for information beyond the normal parameters of the organisation. One of the aims is to identify areas where you need to know more.

Where you need to know more

The totality of the outside world

YOU

How much of the outside world you can see
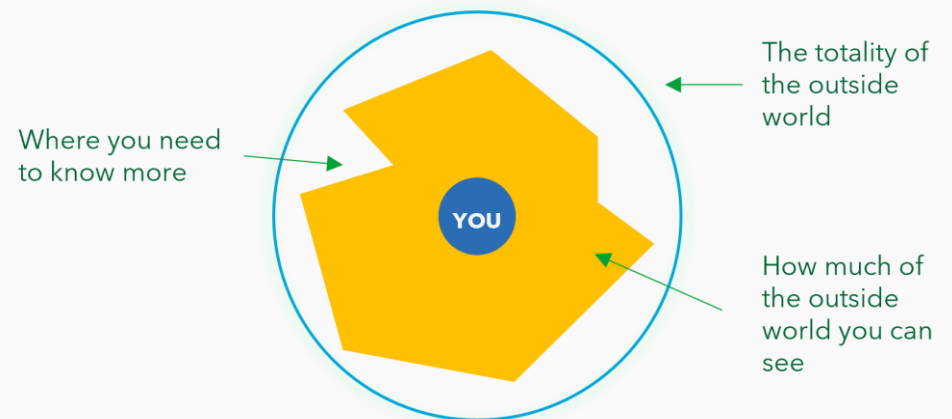
Possible sources include:

- The results of other published scans ("scan of scans") or collections of trends, including those from within government (e.g. the <u>GO Science Trend Deck</u>)
- Directed research on the web or in academic literature (e.g. web search on the subject of the Futures study and "2040")
- Consulting and interviewing subject experts and others with an external perspective, perhaps with the <u>Seven Questions</u> method
- Relevant professional and industry journals
- Headlines from newspapers, magazines and journals around the world
- Blogs and social media postings of leading commentators and researchers

It may also be helpful to look at social media for emerging issues which have not yet reached the mainstream.

Where possible, you should also try to access sources other than those in English. Several foreign language newspapers have English language social media accounts. Following scientists from other countries on social media can help you capture non-English literature as they will frequently summarise their commentary in English to broaden their reach.

Step 3: Gather the scanning data and store in an organised structure

If you have a team of scanners, you need to provide them with some guidance so that their scans take a common approach and produce scans in a consistent format. (There are examples in the <u>Resource Bank</u>). This will include "meta-data" that you think are important, such as date, author, source link, PESTLE category, an initial assessment of timescales and importance.

Ask each scanner to produce one short (usually single page) article (or 'scan') per week that describes:

- what the scan is about
- how it relates to the policy or strategy area
- why the reader thinks it is important and what thoughts the scan stimulated

This is a productive and stimulating process: 10 authors each producing one scan per week will produce 60 scans (or more) over 6 weeks, covering a wide range of novel and exciting developments and insights. The project team will be responsible for gathering and organising the scans.

Whether you are using Horizon Scanning to inform a specific project or as an ongoing activity with regular updates, you will need to analyse your scans to draw out insights. We suggest doing this in a workshop (drawing on some of the other tools in this toolkit), but this is optional – the key is that you use a rigorous approach to draw out your key findings.

Workshop: What is changing?

Bring the scanning team together, perhaps with others, to review the scans to date.

- Identify signals of change: established trends, expected developments, newly emerging issues, new risks and opportunities, and possible future events
- Position each of these on an importance/ impact matrix

Tips

- Look at original source material to avoid possibly biased interpretations of research
- Include links to the original source material and any other relevant or interesting articles that you find
- Track how many scans are in each PESTLE category to ensure you are not focusing too much on one aspect, such as technology
- Increasingly, new tools such as AI systems are being developed that can assist with horizon scanning by gathering the basic information which can then be structured

Horizon Scanning is relatively straightforward but does rely on some intuition and insight. Scanners should err on the side of including ideas even if they may seem irrelevant at first.

Scans can be organised using the PESTLE framework (see Driver Mapping) but it is often more interesting to group them by themes that emerge from the scans themselves (known as a "Natural Agenda").

Medium to low risks	**High risk**
▪ High reputation risk from high impact event with low probability	▪ Vital for planning
Low risk	**Medium to low risks**
▪ No priority for planning	▪ These should be managed events

Impact (1 to 5)

Likelihood (1 to 5)

▪ You could do a <u>Futures Wheel</u> exercise, to explore what the full impacts of a change might be.

▪ Characterise each emerging driver of change for its newness to the organisation. Is it already well understood? By everyone? Do the current strategies or policies already take full account of this emerging trend?

▪ Select perhaps four to eight drivers for inclusion in the Horizon Scanning Report. Those in the high risk quadrant are most important to include – but you will also want to cover low probability/high impact drivers.

If you are running Horizon Scanning as an on-going process, you can use the output from this workshop to refine and focus your scanning.

Step 5: Write up the results

Bring the conclusions of your analysis of the scanning and the workshops into a single, clear summary.

The Horizon Scanning summary could include:

▪ A summary of the main trends, impacts identified and any recommendations for action

▪ The new drivers of change that will impact the organisation or area of policy and warranting action from your department or organisation

▪ Changes that have potential to have a high impact, but need further research

▪ Established trends - even if not new, these could be included for completeness. If the paper is part of an ongoing scanning process, then any new developments in previously-raised issues could be documented here

Next steps

The output can be used to inform <u>Driver mapping</u>; <u>Visioning,</u> <u>SWOT Analysis</u> or <u>Policy Stress-testing</u>

Need to save time?

A "scan of scans" alone will provide you with good input, but it will inevitably be out of date. Adding more people to your team, dividing responsibilities clearly, will shorten the process.

Alternative Approaches

- A single dedicated scanner or a small team can assemble a horizon scanning database. To avoid the risk of a narrow perspective, they would need to take particular care to consult widely and to include a broad spectrum of issues.
- Rather than one-page articles, the scanning database elements can be structured records like the example shown in the Resource Bank.
- You can use a database system to collate and store the scans. Software is available to assemble links, webpages, articles and structured records into a horizon scanning database.
- You may find a Delphi exercise a useful short-cut to gathering insights from a range of people quickly.
- For a more in-depth approach you could consider the idea that different 'layers of civilisation' move at a different speed ('Pace Layers') – in this model, as well as categorising the change, you evaluate the depth and nature of its impact.

Case study

The International Civil Service Centre (ICSC), a UN body, launched the 'Scanning the Horizon' community. This collaborative Horizon Scanning and emerging-trend-analysis platform includes international and national civil society organisations, futurists and strategists. It shares insights, explores key trends and develops relevant strategies on a continuous basis.

The community provides a safe space for collaborative and ongoing horizon scanning, mutual support, and shared learning. The platform has enabled mutual learning and peer support across members of ICSC. Its regular newsletter pools useful resources together for sharing.

Resources for this tool can be found in the
Resource Bank
Case studies can be found in the
Case Study Bank

Three Horizons

The Three Horizons tool provides a framework to think about the future which recognises the deep uncertainty and discomfort that people may experience when considering an unknown future. The tool helps to frame a constructive conversation where both the present and its limitations, and different potential futures, can be examined and linked. The tool lets people co-create the bridge from today to a preferred tomorrow.

Use this to…

- Connect what is happening today with preferable, possible futures
- Encourage discussion about how trends may unfold
- Understand how different issues could emerge in the three different time horizons
- Identify some of the opportunities and challenges that may emerge in the longer-term future; understand what might be needed to mitigate and adapt to risks

You end up with…

- A populated Three Horizons diagram

What to watch out for…

- The key facilitation challenge is getting people to understand that they are working with three different time horizons
- If you are not familiar with this tool, you may want to consider bringing in a facilitator with experience of using it

Who to involve

The Three Horizons tool is best developed with as diverse a team as possible: cross-disciplinary, cross-functional and cross-stakeholder.

Number of participants

You will need a minimum of 10 people to bring richness to the analysis. You can split into breakout groups if needed. You will need one facilitator per breakout group.

Time it takes

Minimum for the workshop: 3.5 hours if face to face, 4 hours if virtual or hybrid. You will also need time to prepare beforehand and write up your findings afterwards.

How to include more perspectives

Share the Three Horizons board with other groups and get their input.
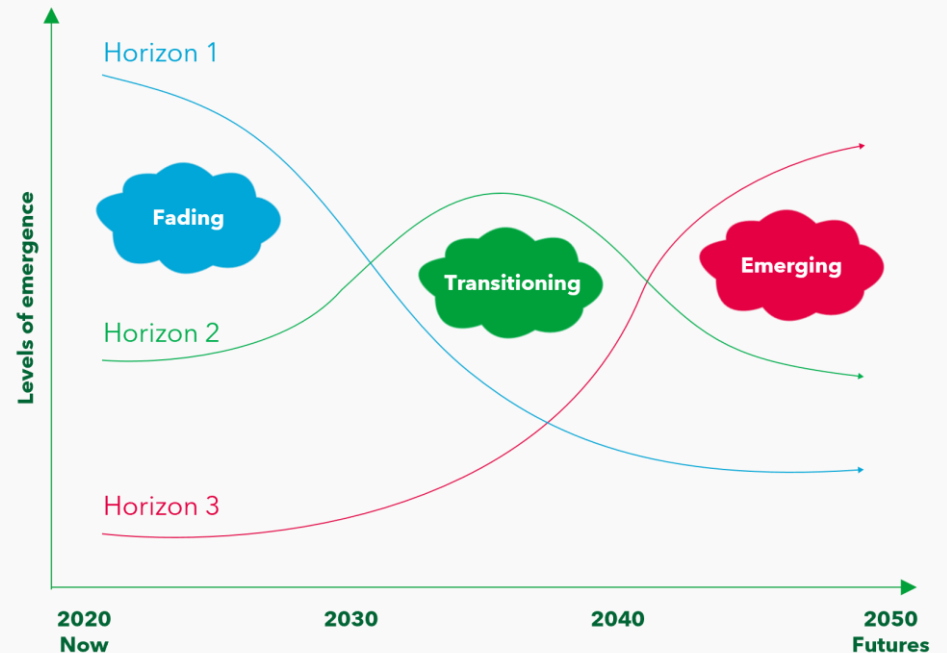
The Approach

The Three Horizons tool allows you to stand in today and cast your thinking into the future. It helps frame a constructive conversation where both the present and its limitations, and different potential futures, can be explored. You can then co-create a way to bridge from preferred futures to today.

The framework maps a shift from the assumptions and status quo of today, which is the first horizon, to the emergence of new patterns – pockets of the future happening today - in the third, via the transition activity of the second. On the board (see below), you will see that today (Horizon 1) lessens over time. Horizon 3 shows the emergence of new patterns from being barely visible today to being important in the future. Horizon 2 is the transition phase between today and the future; where tomorrow becomes more apparent as today fades.

A basic approach to Three Horizons is described below. A more comprehensive version of the Three Horizons exercise can be found in Public Health Wales and the Wales Future Generations Commission's toolkit. This version includes refinements on Horizon 2, but requires more experienced facilitation.

There are four steps:

Step 1 → Horizon 1

Step 2 → Horizon 3

Step 3 → Horizon 2

Step 4 → Write up findings

Step 1: Horizon One

Horizon One explores our shared assumptions of what is here today. Some will still be here in 30 years, some will not. This is the top curve, the Horizon of fading trends starting at the top left of the diagram.

- Introduce the project and introduce the Three Horizons tool
- Ask people to consider: what do you take for granted, knowing that it is there and that it works in a particular way?
  - Operating models
  - Supply chain
  - Policies
  - Organisational processes
  - Stakeholders
  - Regulations
  - Budgets
  - What else?

- Provide an example. For instance, a Horizon 1 assumption of how things work is that there is electricity 24/7 – yet this is not the case everywhere in the world. What else do we almost not notice that exists today?
- Populate the Horizon One timeline (blue in the graphic above). Think about where the particular assumption or trend or idea will start to lose its fit and place it there.

Example Three Horizons Board
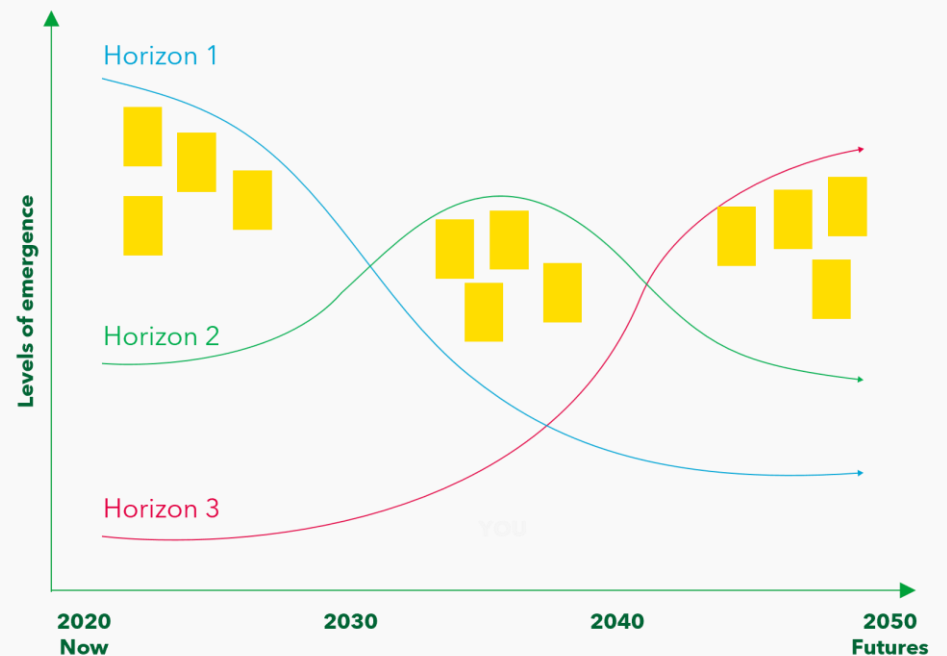
Step 2: Horizon Three

Horizon Three describes the future. We explore it next so that we can set up the bridge (Horizon Two) between your visions of what the future could be and today. This horizon is about what is emerging today which will become common in the future. This can be called the visionary or aspirational mindset.

It may help your participants if you give a short presentation of emerging trends, weak signals and disruptors. A horizon scanning exercise will have identified some of these.

- In breakout groups put up as many ideas as you can onto the Horizon Three timeline, (red in the graphic above). Plot on the timeline when you think they will become mainstream
- Ask people to consider:
  - What are the emerging issues and novel changes transforming the world in general?
  - What are the most transformational changes you see emerging?

Step 3: Horizon Two

Horizon Two links Horizon Three back to Horizon One. In this part of the tool, you explore which features of Horizon One are challenged by an emerging change from Horizon Three. You could also look for emerging changes in Horizon Three which offer opportunities.

- Look at the features of Horizon One:
  - Which features are the most vulnerable?
  - Which will you need to abandon?
  - Which are strengthened and will still be around in the long term?
- Pick one Horizon One feature that is being challenged
- Pair it with the Horizon Three emerging change that is challenging it
- Brainstorm ideas of what can be done to mitigate or adapt to the challenge and cluster these on the Horizon Two timeline (green in the graphic above).

- Put them where you think the adaptation will occur
- Groups may also choose a pair that present opportunities and brainstorm some new futures with them
- Repeat the exercise for several features

Step 4: Write up the findings

Save a high-resolution copy or photograph of the board. It is important also to capture the creative thinking that has occurred in each Horizon. This can be fed into further strategy and policy thinking.

Next Steps

This exercise can be a good lead-in to the Scenarios tool by providing greater insight into the uncertainties facing the world today.

Need to save time?

Three Horizons can be complex for participants to engage with. You can help them by preparing some thoughts for Horizons 1 and 3. Horizon 1 is today's assumptions, and you could draw these from current media. For Horizon 3, you can draw these from trend decks (such as GO-Science Trend Deck), Horizon Scanning and Driver Mapping. If participants have these thoughts in advance, you will get a richer discussion – and you also could save a little time in each of steps 1-3. On the other hand, there is a risk of constraining discussion to issues you have already considered.

Case study

An international charity wanted to explore how four thematic areas would develop in the future. After a horizon scanning exercise that identified many potential developments, they held a workshop using the Three Horizons technique to explore potential futures. Common Horizon 2 opportunities included technology (localised, AI, Blockchain), education and social organisation (e.g. universal basic income). The outputs helped with a re-think of their strategic direction.

References

The first published version of the framework was in a management book, "The Alchemy of Growth" by Baghai, Coley and White (1999). It was then adapted significantly by Bill Sharpe and Anthony Hodgson while they were working on a UK Government Foresight project. The latest reference is Sharpe, Bill (2020) "Three Horizons: The Patterning of Hope" Triarchy Press.

**Resources for this tool can be found in the
Resource Bank
Case studies can be found in the
Case Study Bank**

Driver Mapping

Driver mapping takes the forces for change that you have collected in Horizon Scanning and charts them across a classification such as PESTLE, so that you are sure you have captured drivers in the relevant areas. Then you map what you have found to see which are the most important for you to address.

Use this to...

- Ensure you have not missed important drivers of change
- See which drivers will be most important for the Scoping Question
- Explore which drivers are more or less certain
- Develop the key input for the "axes of uncertainty", which you will use to develop a set of future scenarios

You end up with...

- A list of drivers divided into categories
- A list of drivers that should be prioritised, acted upon and tracked
- A list of drivers that are important for your policy area, but are highly uncertain in their outcome and could be fed into a scenarios exercise

What to watch out for...

Your group of participants may not have been exposed to a wide enough range of drivers. You can mitigate this by using outside experts and/or including a pre-researched list of drivers to begin with.

Who to involve

- Those with an interest in the policy area
- You get the best results if you have a diverse group of participants
- You may consider having outside experts and/or external stakeholders to provide richer insights and to challenge assumptions

Number of participants

From a minimum of 6 to a larger group.

Time it takes

The workshop takes approximately two hours (allow slightly longer if virtual or hybrid).
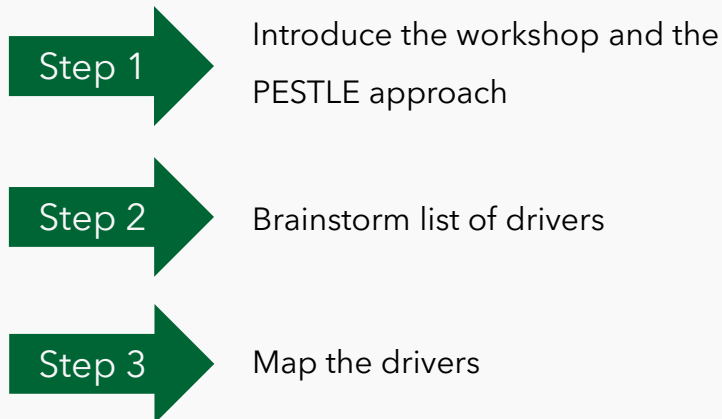
How to include more perspectives

- Expand your participant group to include people from outside your policy area
- Survey people from outside your area beforehand, adding their thoughts to your pre-researched list
- Run several sessions with different groups

The Approach

There are three steps:

Step 1 → Introduce the workshop and the PESTLE approach

Step 2 → Brainstorm list of drivers

Step 3 → Map the drivers

Step 1:   Introduction and PESTLE approach

Introduce the aims of the project for external participants, recap if only internal. Explain how this workshop fits in with any wider futures process.

> There are different acronyms used to categorise drivers – PESTLE, STEEP, STEEPV – are all versions of the same approach.
>
> PESTLE, for instance, contains the six categories of Political, Economic, Social, Technological, Legal and Regulatory, and Environmental drivers.
>
> STEEPV excludes Legal, but includes Values.
>
> There may be one which your organisation prefers.

Step 2: Brainstorm Drivers

- Ask participants to identify what is driving change, encouraging them to think across the global context. You could ask them to concentrate on one or two PESTLE categories each

- Use short, descriptive phrases to make the drivers very clear. Include the nature of the change, such as "increasing", "stable" ("Sustained economic growth in China" is clearer than "The Economy", for instance). Encourage as many drivers as people can find. You can divide these into drivers acting on the short term, medium term and longer term, if useful

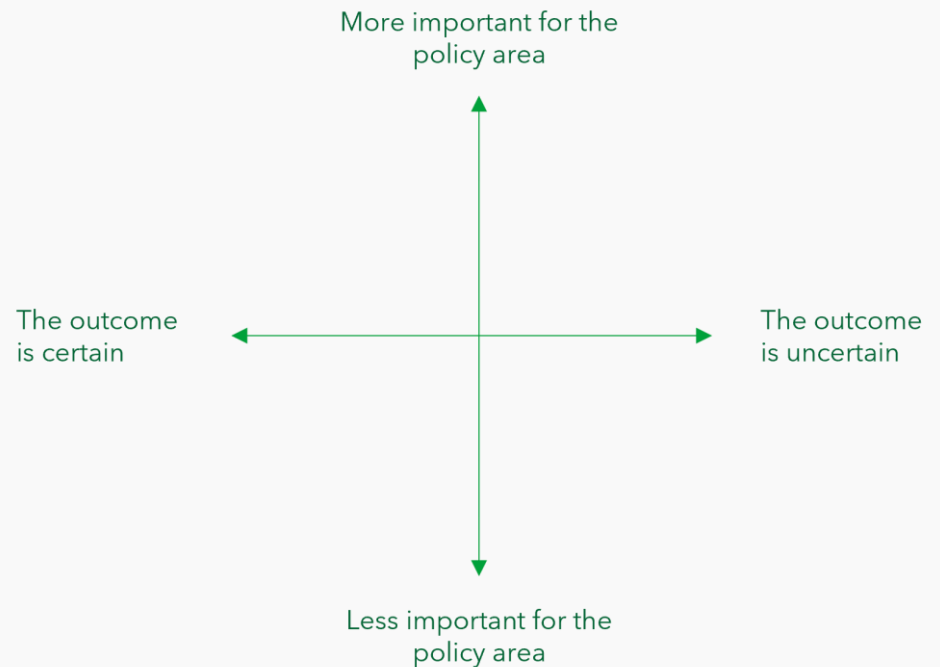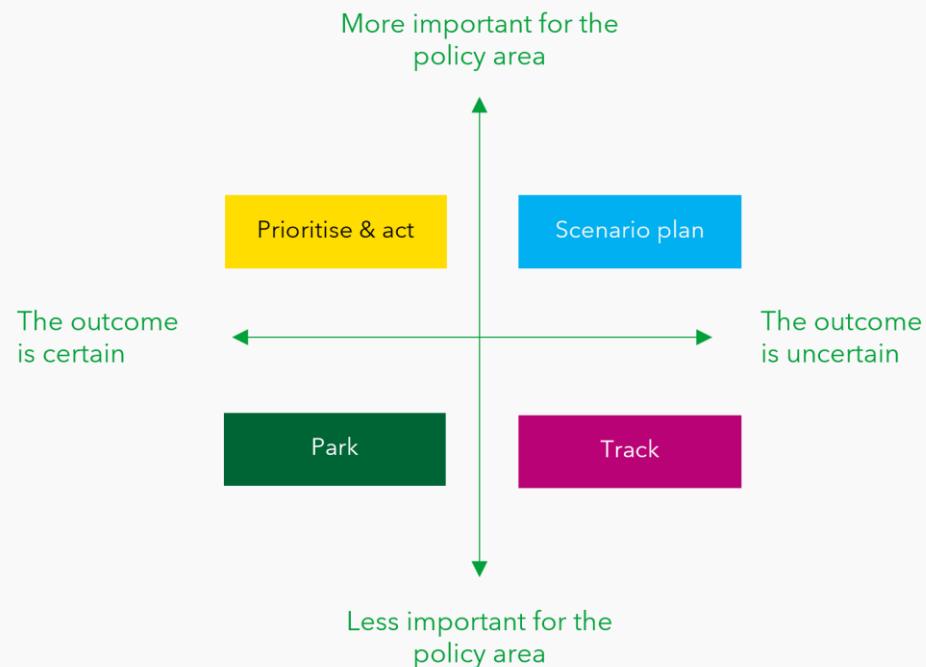## Step 3: Map the Drivers

Map the drivers on an importance vs certainty matrix:

More important for the
policy area

The outcome
is certain   The outcome
                              is uncertain

Less important for the
policy area

- Cluster related drivers as you map them onto the quadrants
- Focusing on the top left (more important/more certain) and top right (more important/more uncertain) quadrants, identify 3-5 drivers which are the most important for the policy area
- If you have been working in more than one group, then compare the driver maps. Discuss differences and any additional ideas that arise
- Each quadrant has different implications for the drivers contained within it and will help you determine appropriate next steps for each. For instance:
  - More important/more certain drivers are the ones to prioritise and act upon now
  - More important/more uncertain could be the subject of further research or used in a scenarios process
  - More uncertain/less important could be tracked as they may become more significant over time
  - More certain/ less important can be safely parked for the moment

More important for the policy area

| Prioritise & act | Scenario plan |

The outcome is certain ←→ The outcome is uncertain

| Park | Track |

Less important for the policy area

Next Steps

This will depend on where this workshop is in your overall futures process.

- This is the first part of a Scenarios exercise – for instance, like in Pathway 4. In this case you can focus on the top right-hand quadrant where you have placed drivers that are highly uncertain and strategically important to your policy area

Drivers in this quadrant are called critical uncertainties. You will use these drivers to as input to the first stage of the Scenarios exercise where you choose your "axes of uncertainty". These help you build a set of scenarios of different futures to explore alternative ways the policy area might need to develop

- This is the first part of a visioning workshop, as in Pathway 2. Here, focus on the top left quadrant where you have placed drivers that are strategically important to your policy area and have a certain outcome. These are drivers which should already be changing the policy environment in ways that are clear and predictable. You can use Visioning to describe positive outcomes for addressing these drivers.

Need to save time?

If you are short on time, you can use an existing list of drivers (e.g. drawing on Trend Deck, Global Strategic Trends or other lists of drivers online). This could save you around 30 minutes in Step 2.

Case study

The GO-Science Net Zero Society Foresight report aimed to answer how society might plausibly change by 2050 and the potential drivers of this change. Informed by previous horizon scanning that identified drivers of potential future societal change, participants mapped these drivers according to their importance on UK greenhouse gas emission and energy consumption and uncertainty of direction of outcome. Driver mapping helped to identify critical uncertainties, (drivers assessed as both highly important and highly uncertain). These critical uncertainties were then taken forward and used in scenario-development workshops.

Resources for this tool can be found in the
Resource Bank
Case studies can be found in the
Case Study Bank

SWOT

SWOT Analysis identifies the relevant Strengths, Weaknesses, Opportunities and Threats of a policy, issue or event. Strengths and Weaknesses are internal factors that give a realistic view of current capabilities. Opportunities and Threats are external factors that need to be responded to.

Use this to...

- Identify priorities for the policy or strategy areas
- Identify challenges that may emerge in the longer-term future and opportunities that may become open to you
- Open people's thinking to how to bridge between the longer-term future and today – what might be needed to mitigate and adapt to risks, and where opportunities may be found
- Gain a clearer insight into current uncertainties; these can be fed into a Scenarios exercise or help build a strategic plan

You end up with...

- A set of your organisation's strengths and weaknesses in relation to delivering the policy or strategy
- A set of external threats and opportunities related to the policy or strategy

What to watch out for...

- Overly focussing on one area over the others – typically threats
- People being overly confident about strengths

Who to involve

Primarily a workshop/group discussion tool, but can simply be conducted as desk research, circulated for comment. Involve both those with insights into internal capabilities and those with awareness of the external environment. It is valuable to involve those engaged in developing the policy or strategy.

Number of participants

Up to 12. You can involve more and split into sub-groups, but you will probably find this is not necessary.

Time it takes

2 hours for the exercise, plus some preparation and pre-reading time.

How to include more perspectives

- Run several sessions with different groups
- Share with other relevant groups, such as those in related policy areas, and get their input
- Combine with Delphi or interviews to gather more views

The Approach

SWOT Analysis is a practical technique for mapping out the issues that have an impact on successful delivery of a policy or strategy. You are looking to populate the SWOT matrix with relevant issues and ideas, so that they can be brought together to build a realistic plan.

Strengths	Weaknesses
Opportunities	Threats

There are four steps:

Step 1 — Pre-workshop briefing

Step 2 — Workshop: internal factors

Step 3 — Workshop: external factors

Step 4 — Identifying inter-relationships

Step 1: Pre-workshop briefing

Ensure that those attending the workshop are familiar with the reports from any previous Seven Questions and Horizon Scanning work, and have given some thought to the environment you are working in.

Internal factors

Refer back to the <u>Scoping Question</u> – it is in the context of this that you are considering each factor.

In a workshop, brainstorm Strengths and Weaknesses of the policies or strategies in question. You should try to do more than simply characterising one as the opposite of the other. You may need several SWOT tables if you are considering a range of policy options.

Prompt the group to consider all the resources available to deliver the policy or strategy including:

- People: availability; skills/knowledge; openness to change; key limitations
- Budget available (and limits)
- Technology situation
- Geographical issues

Also explore:

- Legal context
- Partners and their goals/objectives
- Strengths of relationships – can you work with other people?

It is important that you make realistic assessments rather than being over-optimistic. You may find that people are uncomfortable about admitting weaknesses, so you may need to prompt or challenge them to do that.

EXTERNAL

INTERNAL
Strengths
Weaknesses

Opportunities

Threats

Step 3: External factors

Opportunities and Threats are external changes that you will have noticed in your Horizon Scanning. You should not at this stage restrict them to those you believe it is possible for you to deal with.

Look at how opportunities and threats could emerge from, for instance:

- Changing economic situation
- New technologies
- Changing demographics and social attitudes
- Environmental change
- Political environment (for instance, changing resource availability)

You should avoid overly focusing on Threats – make sure you spend enough time on Opportunities too.

Step 4: Identify inter-relationships

Look for:

- Strengths that can help you take opportunities
- Strengths you can use to mitigate threats
- Weaknesses that may limit which opportunities are open to you
- Weaknesses that make threats even more challenging, or unique to you

Next Steps

These can then form the core of a potential strategic plan, or alternatively feed into a scenario exercise.

Case study

A University department used SWOT analysis to identify improvement strategies. The output included:

Strengths	Weaknesses
Reputation of faculty for being agile and customer focused Underpinning of [subject] portfolio by research activity	Perceived reputation of University Staff structure required to deliver broad portfolio
Opportunities	**Threats**
Changes to policy may offer opportunities to expand provision Expansion of the market	Changes to policy may result in provision moving to competitors Public spending cuts reducing the amount available for CPD

Alternative approach: do the external factors first, and assess the internal ones in that context

Need to save time?

You can run this as a single person conducting a desk exercise without the workshop, but you will then likely have fewer creative ideas.

You could start SWOT without having done Seven Questions or Horizon Scanning work, but you risk missing key emerging changes.

Resources for this tool can be found in the Resource Bank
Case studies can be found in the Case Study Bank

Scenarios

Scenarios are compelling stories about a range of different possible futures. They describe future worlds so that people can understand what it feels like to live there and what this will mean for them. You can use scenarios to explore the implications of many different futures for you, your stakeholders and your project or policy.

Use this to…

- Explore the ways that a particular policy area may need to develop for different possible futures
- Consider how the key actors (government, business, citizens) might behave in different conditions
- Work through and identify the key requirements of policies in different possible futures
- Build a shared understanding of the dynamics of change
- Rehearse future decisions and trade-offs
- Gain insight into the differing opportunities and threats in different futures

You end up with…

- Narratives of a range of different possible futures
- A visual representation of the range of possible futures that can be explained easily to others

What to watch out for…

- Scenario building allows people to explore different possible futures. They are very likely to challenge the status quo, so facilitating them needs to be done with care
- Prior experience facilitating futures exercises is particularly useful for this tool
- There are always more scenarios than you can reasonably include in an exercise – choosing some that are sufficiently different and interesting is as much art as science
- Think carefully about communication – scenarios should be portrayed as a number of possible futures, rather than a plan. Scenarios are not plans or predictions of the future; elements of your scenarios will happen; some will not

Who to involve

- People with an interest in the policy area
- People with an interest in exploring potential futures

Number of participants

Scenario building requires a minimum of 8-12 people. Bigger, more diverse groups are best to ensure scenarios are both rich and robust. Larger groups will require several facilitators.

Time it takes

At least 4-5 hours for the workshop, possibly split into multiple sessions. If you are doing the workshops virtually, it will be a minimum of 6 hours and will need to be split into more than one session. Time needed to write up or illustrate your scenarios will depend on the approach you take.

How to include more perspectives

- Scenarios are among the most engaging of Futures tools and done well can work with a wide range of participant groups, including in public engagement exercises.
- Use underline experiential techniques to bring your scenarios to life and help groups outside your organisation to engage with them. Their responses could inform your wider Futures process.

The Approach

People tend to think of uncertainty as a negative factor which reduces their ability to 'see' into the future. Scenarios use uncertainties in a positive way to create multiple possible futures.

Scenarios are not predictions; they are neither good nor bad, wrong nor right. They offer interesting, often challenging, sometimes controversial, images of the future. They provide a safe space to explore alternative ways that a policy area might develop, and therefore the choices that various stakeholders might make under different possible futures.

No single future scenario will come true, but it is likely that parts of different futures will. Working through your scenarios will help you to recognise early warning signs as they happen.

Scenarios should be a reasonable distance in the future – at least five years, though generally a minimum of 10-20 years.

There are different ways to create scenarios. In this tool we outline a 2x2 scenario matrix approach, but you can find two alternative approaches – morphological scenarios and scenario archetypes – elsewhere in the Toolkit. You will need to have a list of important, highly uncertain drivers (the critical uncertainties) from the Driver Mapping tool as input to the Scenarios tool.

There are five steps:

Step 1 → Develop the axes of uncertainty

Step 2 → Describe what the world is like in each future scenario

Step 3 → Name the future scenarios

Step 4 → Plenary presentation and discussion

Step 5 → Write up the scenarios

Step 1: Develop the axes of uncertainty

- First you work with your long list of critical uncertainties, developed from the <u>Driver Mapping</u> tool. Use the prioritised critical uncertainties from the top right-hand quadrant of the driver map (try for a minimum of 10 critical uncertainties)

- You are aiming to create a continuum between two opposite uncertain outcomes – the way a driver may play out. These are not necessarily positive or negative – they are just the extremes of the uncertainty. Explore different ways to describe the outcomes and pick the best for your purpose. For instance, 'Productivity' could be described as:

High and steady productivity growth ←→ Low and fluctuating productivity
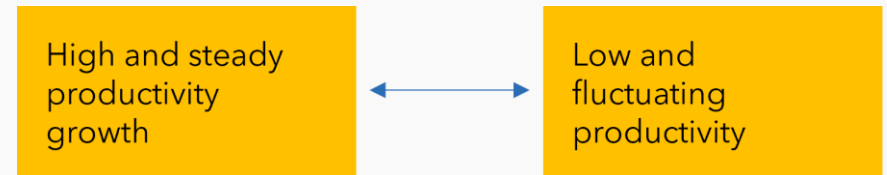
- Cluster your axes into two categories. The categories should be independent of each other. This is to ensure that your two axes are different enough to provide you with an interesting and contrasting set of scenarios. For example, you could oppose technological changes with social ones.
- Discuss which uncertainties will be the most important for your stakeholders and policy or strategy area. There may be two that stand out as most dominant, or you may create overarching axes of uncertainty from a cluster.
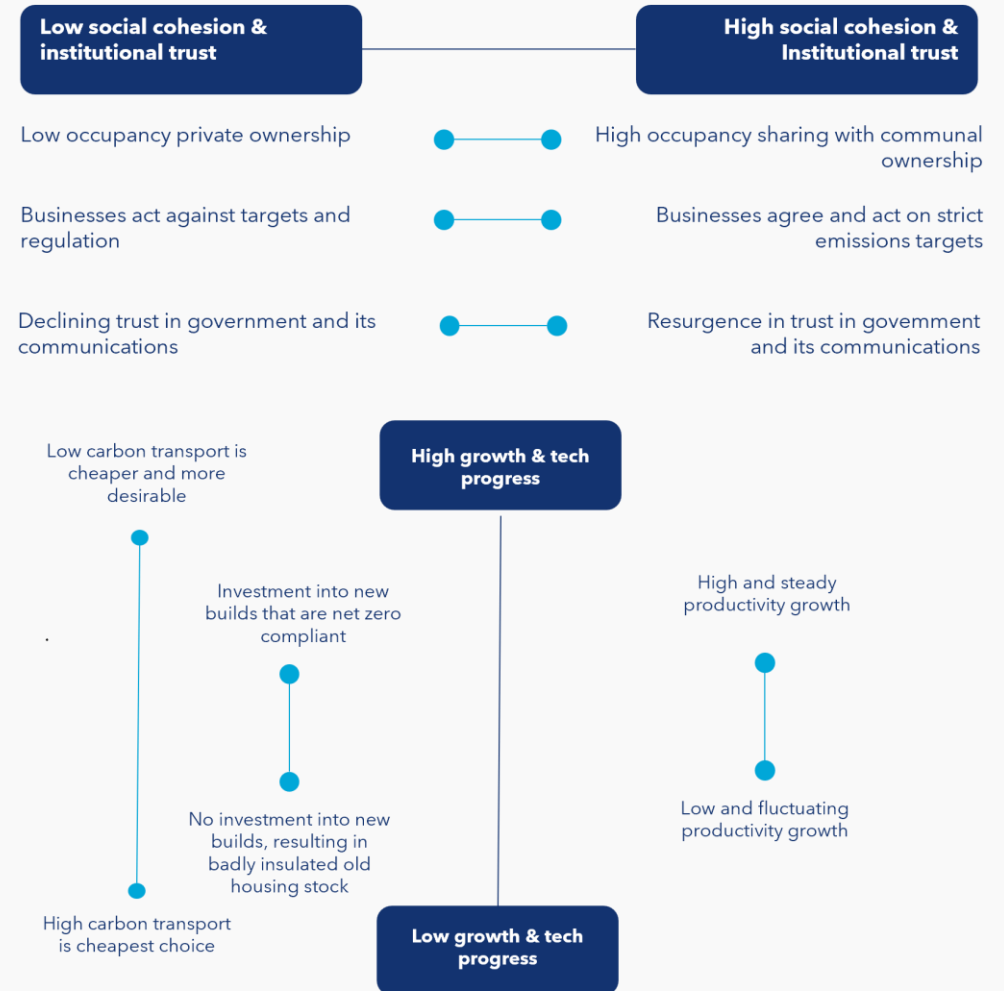- These will be the axes for your 2x2 scenario matrix on which to build your four future scenarios.

Case Study

The GO-Science Net Zero Society project axes

Low social cohesion & institutional trust ——— **High social cohesion & Institutional trust**

Low occupancy private ownership ——— High occupancy sharing with communal ownership

Businesses act against targets and regulation ——— Businesses agree and act on strict emissions targets

Declining trust in government and its communications ——— Resurgence in trust in government and its communications

Low carbon transport is cheaper and more desirable

High growth & tech progress

Investment into new builds that are net zero compliant

.

High and steady productivity growth

No investment into new builds, resulting in badly insulated old housing stock

Low and fluctuating productivity growth

High carbon transport is cheapest choice

Low growth & tech progress

A sample of the Axes of Uncertainty generated during the Net Zero Society Foresight Project, 2023, showing how they were clustered. More detail on the approach is outlined in the report.

Case study

The GO-Science Net Zero Society project 2 x 2 matrix.

High growth & tech progress

Low social cohesion and institutional trust

High social cohesion and institutional trust

Low growth & tech progress
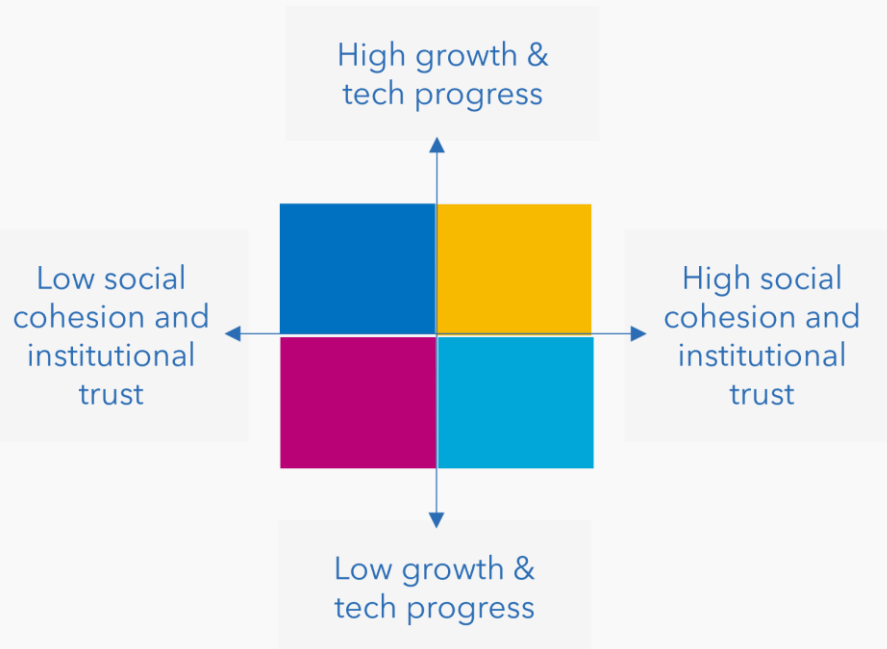
Step 2: Describe what the world is like

Participants should populate each quadrant (remembering to include the results of your Horizon Scanning, and other research), considering:

- What are some of the key characteristics of each future?
- How would life be different from today? Think as broadly as possible; what about work, commuting, education, leisure, shopping, the economy, politics, the environment/climate, international relationships? What else?

Each participant should visit all four quadrants during the exercise.

Step 3: Name the future scenarios

Ask participants to think about a name for each scenario. Names should capture the essence of each scenario, be evocative, and highlight their distinctiveness. There should be a commonality of theme. Take care not to bias the names (that is, do not give a positive name to the scenario you prefer, and a negative name to the one you do not).

The scenarios for the <u>Net Zero Society Foresight Project</u> were named: Slow Lane Society, Self-Preservation Society, Metropolitan Society and Atomised Society

Step 4: Plenary presentation and discussion

For each future scenario:

- What surprised you?
- What were the similarities and differences between scenarios?
- What were your key learning points from the overall exercise?

Step 5: Write up the scenarios

After the workshop, you will need to write up the four scenarios so you can share them. This could be a short narrative or you may want to do further work to add more detail. In the Net Zero Society example above, the scenarios were used as a starting point for a set of quantitative models.

In order to bring your scenarios to life and help people engage with them, you could use some of the Experiential Futures methods such as storytelling, media headlines, or 'A Day in the Life'. In the Net Zero Society Foresight project, the scenarios were used as the basis for a public engagement exercise.

Next Steps

Scenarios are often used as part of a wider futures process. For example, they can be a basis for Policy Stress-testing.

Depending on the object of the exercise, you may wish to consider one or both of the following: understanding stakeholder impacts and identifying main recommendations and issues.

Stakeholder impacts: what this means for you, your stakeholders and your policy area

Think about what each scenario means for your stakeholders. Some questions you may ask include:

Given the characteristics and conditions in each future…

- What does this mean for you, your stakeholders and your policy/strategy?
- Consider the characteristics in a SWOT format:
  - What are our strengths in policy or strategy for this future?
  - What are our weaknesses in policy or strategy for this future?
  - What are the opportunities that the policy or strategy needs to facilitate?
  - What are the threats that the policy or strategy needs to mitigate?

Identify the main recommendations and issues for developing the policy or strategy

This step creates the bridge between the future described in each scenario and the present policy/strategy challenge.

- Assume that you are in this future.
- Based upon this conversation, what three recommendations would you make to ensure that the policy/strategy meets its objectives?

You may wish to run the Policy Stress-testing tool at this stage.

You can use these recommendations as an input to a Roadmapping exercise.

Case study

The GO-Science Net Zero Society project was commissioned as part of the government's net zero strategy in 2021. The project involved developing a set of plausible scenarios to stretch thinking about how society might change by 2050. Multiple workshops (including Driver Mapping and Axes of Uncertainty), fed into the creation for four scenarios, each with narratives and brought to life by rich picture illustrations. The scenarios produced are the cornerstone of the net zero society foresight report and have been designed to help policymakers stress-test policies.

Resources for this tool can be found in the
Resource Bank
Case studies can be found in the
Case Study Bank

Visioning

In Visioning, groups create a positive vision for the future and define the path towards making it happen. Visioning is used to create a set of common aims for a project and to describe what the future will be like if they are delivered. The vision is your destination.

Use this to…

- Agree a shared sense of where you are going
- Focus the groups on what a successful outcome looks like
- Agree what the current reality is and what needs to be done to deliver success
- Set out and prioritise the steps required to achieve the vision
- Understand areas of disagreement or uncertainty around your vision

You end up with…

- A shared vision and the steps required to achieve it
- A set of external threats and opportunities related to the policy or strategy

What to watch out for…

Visioning need not be limited by what is happening today, so ensure that your participants are not limited by perceived roadblocks. Encourage aspirational and creative thinking.

Who to involve

The widest possible range of stakeholders in the issue or policy area. This is one of the most relevant tools for public engagement in this toolkit.

Number of participants

At least 6 – 10. There is no real upper limit.

Time it takes

Minimum 2-3 hours for a workshop, but could be a much longer process if you were engaging a community, for example. Allow time for preparation beforehand and writing up your vision.

How to include more perspectives

Widen your group to include as many stakeholders as possible. If you want to get people to buy into a bold vision, it really helps for them to be part of its creation.

The Approach

This tool creates an ideal future, without the constraints you would have to consider in other Futures exercises. You can present the results in narrative, visual, or more <u>experiential</u> forms.

There are four steps:

Step 1	Introduction
Step 2	Describing the vision of success
Step 3	Agreeing the current situation
Step 4	Presenting the vision
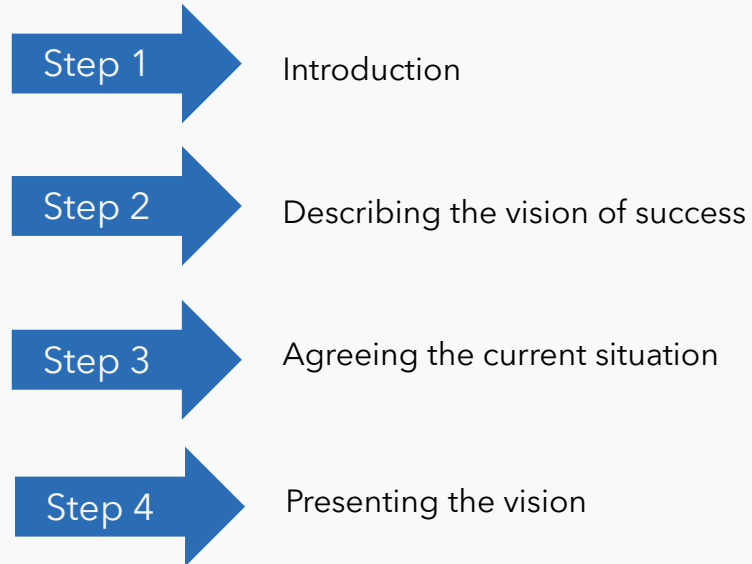
20 minutes

Step 1: Introduction

Introduce the output from previous relevant work such as <u>Horizon Scanning</u> or <u>Seven Questions</u>.

40 minutes

Step 2: Describe the vision of success: identify the key differences between the present and the ideal future

You could do this by asking participants to imagine they are members of the team that has successfully delivered the policy or strategy, and describe what this looks like.

Some suggested questions include:

- What have we achieved, what impact have we had?
- Who are our stakeholders? How have they benefited from what we've done?
- What are we most pleased about?
- What procedures or decision-making processes have we put in place to make sure the project is sustained?
- How are we measuring success?
- Is there anything we still need to tackle?
- What are the challenges we face now?

Experiential techniques are useful here if you have time, such as creating some media headlines to bring the vision to life.

Compare what participants have developed:

- What are the differences?
- What do we agree on and will form the core of the vision?
- What details will need to be considered later?

Step 3: Agree the current situation and define the steps to deliver the vision

The objective of this session is for groups to think about the current reality and discuss what needs to happen to achieve their vision.

Ask the participants to consider the following questions:

- How close are we to our vision?
- What needs to change to achieve the vision?
- Which changes are in our control? Which are not?
- What are the key steps towards achieving the vision? When do we need to achieve them by?
- What resources do we need? Who will lead the process?
- Who or what will be the winners and losers in this change? How do we bring people with us?

Build a timeline of the key steps.

30 minutes

Step 4: Present the vision

Summarise your vision and the steps that could get you there. You could use visual or other ways of bringing it to life.

Need to save time?

Steps 1 and 2 will give you an outline core set of thoughts for your vision. If you are limited for time, just doing them will give you enough to clarify your thinking and allow you to summarise key points. You will lose some strategic depth in how to achieve the vision.

Case study

Natural Resources Wales set out to support the creation of a collaborative vision for the environment in Wales in 2050. Although led by NRW, this Vision was for the people of Wales. As part of a wider visioning project that included citizen assemblies, scenarios were presented to open discussion with the public about the future and connections with nature. Scenarios helped identify viewpoints and opinions from diverse participants that ultimately helped shape the final vision.

Resources for this tool can be found in the
Resource Bank
Case studies can be found in the
Case Study Bank

Futures Wheels

A Futures Wheel is a structured brainstorming method to organise thinking about future events, issues, trends and strategies. It is particularly useful for identifying and mapping connections, causalities and impacts.

Use this to…

- Identify impacts and consequences of important future events, trends, issues or strategies (some possibly unintended)
- Map connections and causalities between these
- Gain a deeper, shared understanding of how events and trends may play out

You end up with…

A map of the impacts of an important future event, issue, trend, or strategy over different timescales of your choosing showing connections and causalities

What to watch out for…

This is a speculative tool: all inputs are based in an as yet unknown future

Who to involve

Consider including people with responsibility for developing and implementing the policy or strategy, senior decision makers, external stakeholders and subject matters experts.

Number of participants

A minimum of 6 people; you can split into breakout groups if needed.

Time it takes

90 minutes for one Futures Wheel.

How to include more perspectives

- Bring in people from outside your policy area and/or representatives from stakeholder groups
- Run several sessions with different groups
- Share the Futures Wheel(s) with other groups and get their feedback

The Approach

A Futures Wheel explores and maps successive cascades of impacts created by a single significant change. It will help you to extrapolate surprises, disruptions and backlashes as well as emerging opportunities. The development of Futures Wheels takes place rapidly, and is best done with breakout groups developing their own wheels, then comparing and combining them.

There are six steps:

1. Write the future event, trend, issue or strategy that you've chosen in the centre of the wheel on the chart.

90 minutes

2. Discuss what this future looks like. Put yourself at the time when it has already happened.

3. What are the immediate impacts of the event? These are your primary impacts – put these in the closest circle around the central point and connect them to the centre with a single line. You may find it helps to structure your impacts with a model like PESTLE to ensure you consider different types of impact. Finish all primary impacts before moving onto secondary impacts.

4. Next, identify the secondary impacts happening over the mid-term of each primary impact and write these in the second circle. Join them to the related primary impacts. This forms a second ring of the wheel. Finish all secondary impacts before moving onto tertiary impacts.

5. Continue ripple effect to the longer-term, until a picture of the implications of the event, trend or strategy is clear.

6. Debrief and share insights. If multiple groups, compare your wheels and combine to create a single output.

Futures Wheel Framework
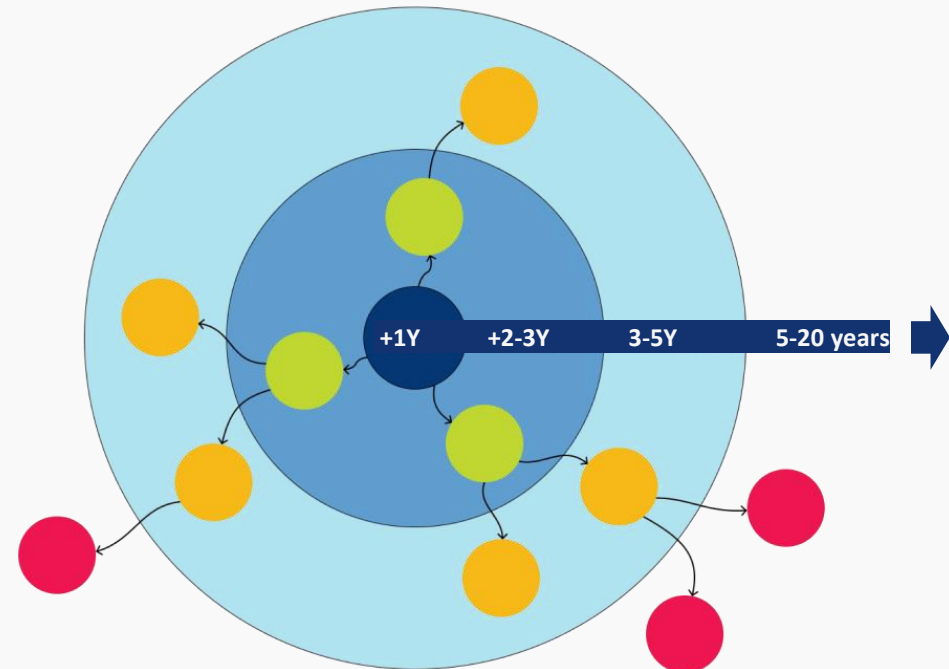
Need to save time?

Instead of comparing the outputs of multiple groups, you could do this within your team or a single small group. This will be quicker but will include a narrower range of insights.

Next steps

Use the output from Futures Wheels to inform <u>SWOT</u> and <u>Policy Stress-testing</u> tools.

Case study

Futures Wheels were used in a project for a local housing association to explore the interventions they wanted to make in response to challenges to their strategy. This enabled them to think through the implications beyond the usual one year, and to discover how these impacts could play out over time, including identifying some unintended consequences of these interventions.

**Resources for this tool can be found in the
<u>Resource Bank</u>
Case studies can be found in the
<u>Case Study Bank</u>**

Policy Stress-Testing

Policy Stress-testing (also known as Wind Tunnelling) is 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.

Use this to...

- Identify if a policy is robust across a range of possible futures, or would need to be modified if conditions change
- Explore how a policy could be modified to succeed in different futures, or to be made more robust against a range of different futures

You end up with...

- A set of contingency plans suited to different external conditions
- Feedback on how a new or existing policy, strategy or project plan might be affected in different scenarios and how it might need to be modified to ensure success across a range of future conditions, leading to a more resilient policy, strategy or project

What to watch out for...

The facilitation challenge will be to avoid groupthink or defensiveness around favoured policy options

Who to involve

People with responsibility for the policy or strategy area. Participants don't need to have developed the scenarios directly but will need to be familiar with them.

Number of participants

Up to 16, in two groups of 8. It becomes difficult to develop consensus with a larger group.

Time it takes

Can be done in 1.5 to 2 hours

How to include more perspectives

Consider including people from outside your team in your workshop, especially people who have a wider engagement with the proposed policy

The Approach

Policy Stress-testing is used to see how well a policy stands up to a range of conditions. You can use this to test an existing policy idea – in which case this exercise is testing whether it is robust enough to deliver in a range of future conditions – or it may be part of the process for developing new policy options.

Groups review the policy or policy options against the different conditions that exist in each of the scenarios (or trends/events). In each case they decide how well that option would work, and how it might need to be adapted. Policy options that work well in each scenario could be taken forward; ones that don't work in any scenario should be revised. Those that work well in some scenarios but not others could be treated as contingency plans to be adopted in suitable circumstances, or modified to make them more robust.

There are four steps:

Step 1	Introduce the scenarios (not necessary if they were developed by the group)
Step 2	Introduce or create the policy options being considered
Step 3	Test the policies against all scenarios
Step 4	Review the findings and discuss the implications

20 minutes

Step 1: Introduce the scenarios

Introduce the scenarios, unless the group are already familiar with them, with a short presentation that explains:

- How this particular set of scenarios was developed
- The scenario matrix
- The broad structure of each scenario and some of the strategic questions each one brings out

Produce a one-page handout for each scenario that shows the scenario matrix and gives the main characteristics of the scenario in bullet points

10 minutes

Step 2: Introduce the policy option to be tested

Remind the workshop participants of the Scoping Question and introduce the specific policy options being tested. You should check that participants understand the policy and its objectives clearly. If appropriate, ask them to come up with new policy options that appear to be beneficial in one or more scenarios.

Step 3: Test the policy options against the set of scenarios

Divide into groups, one for each scenario. Give each group the relevant scenario handout and the policy or the full set of policy options being tested.

Invite each group to test each policy option against their scenario. They should:

- Imagine that the world is as described in the scenario
- Decide whether – for this world – each policy is
  - o robust
  - o redundant
  - o in need of modification
- Be prepared to explain why they have made their decision

Remind groups to work with the logic within their scenario – don't change the scenario to make the policy or option work better

Step 4: Review the findings and discuss the implications

Facilitate this discussion by drawing up a table that lists the range of policy options down the side and the scenarios across the top. Gather feedback from each group and record it all in the table before analysing the results. The table may look something like this:

Strategic Policy Option	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Policy Option 1	Green	Yellow	Green	Green
Policy Option 2	Yellow	Yellow	Red	Green
Policy Option 3	Yellow	Green	Green	Yellow

Green	Means the objective is **robust** in the specified scenario
Yellow	Means the objective needs modified in the specified scenario
Red	Means the objective is redundant in the specified scenario

Next steps

Use the thinking about the impacts of possible futures to develop policy or strategic initiatives, and make them more robust.

Note that a single policy stress-testing workshop is a rough and ready process. A complex policy and associated contingency plans may need several iterations to provide dependable results. The value comes from thinking through the consequences of an uncertain future and asking the question "What if this future happens?"

Case study

GO-Science facilitated a policy stress-testing workshop for the Environment Agency and Department for Environment, Food and Rural Affairs (Defra). This workshop used the 4 scenarios developed in the GO-Science Foresight Wireless 2030 report in a policy stress-testing exercise to help explore ways of making environmental monitoring (e.g. real-time data monitoring provided by networked sensors) more resilient to future change.

This work and the Wireless 2030 report are discussed in a GO-Science blog post.

**Resources for this tool can be found in the
Resource Bank
Case studies can be found in the
Case Study Bank**

Roadmapping

Roadmaps are structured representations of the stages leading to your strategic goal or preferred future.

Use this to…

- Build common understanding and explore strategic or policy options. Later on you can use it to support the delivery and management of strategic implementation.
- Build a holistic picture of the different elements relevant to your goal and how they combine over time
- Deepen peoples' understanding of the complex connections and relationships between the different elements
- Support communication and cooperation, developing a shared understanding and alignment between networks and teams

You end up with…

- A clear structured set of steps needed to enable you to reach your goal

What to watch out for…

- The roadmap is a strategic guide. It can be used to create a more detailed action plan

- Failing to have the necessary skills and expertise in the room
- The key facilitation challenge will be drawing out the key dependencies between the elements of the roadmap

Who to involve

Roadmapping is best developed with a team, in a workshop, adding in key stakeholders and subject experts if possible. Make sure that you have representatives from all affected. areas. If possible, include people with responsibility for developing and implementing the strategy and senior decision-makers.

Number of participants

Usually 4-20 for a workshop; split into breakout groups if needed. You will need one facilitator per breakout group. You can involve more people beyond the workshop by asking them to review or add detail to your roadmap.

Time it takes

Roadmapping is an iterative and flexible process, so the time needed varies. At a minimum you will need half a day for a workshop, plus preparation time and review. It will take at least a day if you have breakout groups. It can take longer if you want to conduct further research in Step 3.

How to include more perspectives

- Share the roadmaps with other groups and get their input
- Revisit the roadmaps with more diverse groups to update

The Approach

One of the powerful things about roadmapping is that it can be used to decide how to achieve any objective, whether it is national and strategic or something you want to achieve personally in the future.

You use roadmapping once you know what your strategic objectives are – where you want to get to in the longer-term future. You will have determined this through your earlier work on the pathway.

A particularly useful aspect of roadmapping is that it combines known (certain) developments with speculative (uncertain) developments. The roadmap does not need to be a single line or be restricted only to the core issue; it can be expanded to include developments in related policy areas that may impact on the central project question.

There are four steps:

Step 1 → Agree the scope

Step 2 → Create a first draft roadmap

Step 3 → Refine and develop the timelines in the roadmaps

Step 4 → Present your roadmaps

Step 1: Agree the scope

Remind people of the strategic goal or preferred future.

You could use the SWOT tool or an experiential technique to help people engage with the goal.

Step 2: Create a first draft roadmap

This is a high energy exercise where you come up with ideas – they will be assessed in the next step.

Starting from where you are today, think of specific, time-based intermediate actions that need to happen to get you to your endpoint. Add in any relevant external events and drivers that might shape the policy area under consideration.

Step 3: Refine and develop the timelines in the roadmaps

This is a time for discussion and challenge. Your aim is to make the roadmap as resilient as possible.

You might want to do this all in a workshop, but if time allows it may be valuable to take some elements away for further research or to get input from people with particular expertise.

It can be useful to use a framework to categorise the factors you identified in the previous step – for example by the different actors responsible or by policy levers.

Consider what needs more 'filling in'. What is missing? What needs more information? Does it still make sense?

Also think about how the different steps interact. Where are the dependencies? Indicate these on your board with arrows.

Some intermediate steps may need their own, individual roadmap. Think about including When, Why, What and Who in your roadmap.

Step 4: Present your roadmaps

Visual representation of the roadmap, showing major developments at points in time, can be a very effective way of presenting your roadmap to others. Frequently, the more creative the presentation, the more widely it will be understood.

An example from the Government plan "Connected & Automated Mobility 2025: Realising the benefits of self-driving vehicles in the UK" is on the next page.

Next steps

Roadmaps are strategic. You can use them to make the case for a course of action. You can develop them into tactical, operational plans.

Think about how you will monitor progress towards the goal, whether there are key points where you might want to revisit this exercise, and if there are particular people or groups who could review the roadmap in order to validate it.

Alternative approaches

For a more advanced Roadmapping technique, you could use the approach and templates created by IfM Engage.

Case study

Published in August 2022 in the Connected and Automated Mobility 2025 command paper, the roadmap timeline set out how government intended to work towards realising the benefits of CAM technologies for the following three years after its publication. Activity is divided into the three following categories: The CAVPASS (Connected and Automated Vehicles: Process for Assuring Safety and Security) programme; regulatory/ legislative; and commercialisation. It shows actual and planned government activity from years 2022 to 2025, which was accurate at the time of publication.

Resources for this tool can be found in the Resource Bank
Case studies can be found in the Case Study Bank

Connected and Automated Mobility 2025 Roadmap

	2022	2023	2024	2025
CAVPASS (Safety research and assurance processes)	2022–23 Developing safety assurance framework for early use cases	2023 Safety assurance framework for early use cases		2025 Approval scheme in place
	2022 Dedicated support for trials & early deployments	2022–25 Developing approval and authorisation processes for other AVs, and in-use regulation and incident investigation processes		
	2022–25 Safety, cyber security and behavioural research programme			
Regulatory / legislative timeline	January 2022 Law Commission final recommendations published · July 2022 Amendments to The Highway Code on Rules on Safe Use		2024 In place to remove responsibility from vehicle occupants	2025 Self-driving vehicle framework in place
	2022–23 Primary Legislation progresses through Parliament		2024 onwards Secondary legislation	
	2022 Ready for ALKS introduction to market	2023-24 Consultation on secondary legislation		
Commercialisation	May 2022 Deployment and mass transit feasibility study competitions launched · Autumn 2022 Deployment and mass transit feasibility study bids identified and developed	Commercial deployment pilots		2025 Commercial services models ready for investment
		Mass transit feasibility studies		
		Supply Chain competition supporting the commercialisation of key connected & automated technologies, services and capabilities		Self-driving services operating in early use cases at scale and a growing, globally competitive supply chain

Source: Connected and Automated Mobility 2025 command paper

Backcasting

Backcasting is a way of connecting a given future to the present and overcoming "present bias" in the way that we plan. It is a tool for determining the steps that need to be taken to deliver a preferred future.

Use this to…

- Build a timeline working backwards from a preferred future to the present, setting out key changes
- Create a realistic and achievable plan by making you think about all the steps rather than just focusing on the end goal
- Identify what is within the control of the policy team and what lies outside the control and therefore needs to be managed
- Overcome the desire to seek immediate over long term gains ("present bias")
- Test the feasibility of a particular approach within a particular future, helping you think through the policy measures required to reach a preferred endpoint

You end up with…

An action plan to achieve the desired futures with a timeline back to the present

What to watch out for…

Many factors may prove to be outside your control. Include them anyway to ensure your view of the policy or strategy environment is complete

Who to involve

- Those with interest in the policy area
- Think about including other stakeholders that need to be involved in making the "preferred future" happen

Number of participants

8-16 people will allow you better to focus on policy debate. If you have enough facilitators, divide these into smaller groups, to allow more contributions from each participant.

Time it takes

4-5 hours over two workshops, plus some time to prepare beforehand and to write up the action plan.

How to include more perspectives

Backcasting can be used to engage a community in thinking about the future and build a shared purpose

The Approach

There are seven steps:

Step 1 →	Introduce the preferred future
Step 2 →	Identify the key differences between the present and the preferred future
Step 3 →	Build a timeline
Step 4 →	Identify which changes you are able to control and which you cannot
Step 5 →	Identify what you need to do to deliver the steps that are in your control
Step 6 →	Identify how you can influence the steps that are outside your control
Step 7 →	Develop the action plan

30 minutes

Step 1: Introduce the preferred future

Introduce the preferred future, which may have been developed during your scenarios exercise or be informed by a visioning exercise.

60 minutes

Step 2: Identify key differences between the present and the preferred future

Ask your participants to describe the key differences between:

- Where they are now and in the preferred future
- What drives change now and what will drive it in the preferred future.
- The policy delivery environment now and in the preferred future.

Use an approach such as PESTLE (political, economic, societal, technological, legislative and environmental factors) to ensure you capture differences in each category.

PRESENT ⟵————|————————|——————— 2050

Milestone   Milestone

40-50 minutes

40 minutes

Step 3:

Build a timeline that sets out the key changes needed to move from the preferred future to the present reality

Step 4:

Identify the changes you are able to control and which you cannot

- Note the events and steps needed to move back from the preferred future to the present reality. What needed to happen? What had to happen before that to enable it?
- Map these events on a timeline.
- Identify the critical events that must occur if the preferred future is to happen.

Score the critical events:

1. this event is wholly in our control
2. this event is partly in our control
3. this event is wholly out of our control

Step 5: Identify what you need to do to deliver the steps that are in your control

For critical events that are wholly or partly in your control, identify:

- what impact will the event have on delivering the preferred future
- who will benefit or lose out from this event happening
- what will benefit or lose out from this event happening (e.g. the environment, biodiversity, global security)
- who will – or may feel that they are going to – lose out
- how certain it is that the event will happen
- the enablers that will make it easier for you to make the event happen
- the barriers you may have to overcome to make the event happen
- key steps you need to take now

Step 6: Identify how you can influence the steps that are outside your control

For events that are wholly outside your control, identify:

- who has control
- the impact of the event not happening
- what you can influence to increase the likelihood that the event will occur and the key steps you'd need to take

Step 7: Develop the action plan

Summarise your findings and develop an action plan, taking into account all the outputs from the steps above.

Need to save time?

A swift backcasting exercise can be used as part of a strategy or scenario workshop. You can do this in about 90 minutes with a pre-prepared timeline.

Form two groups from your participants. One group starts from the present and creates a timeline of key events that would need to happen to get to the preferred future. The second timeline from the future backwards to the present day. This exercise works best when the groups do not look at each other's wall or whiteboard until the time is up. About half an hour should be enough.

After 30 minutes, the groups get to see each other's boards. What are the differences and similarities? If you have time, you can also ask some of the questions from Step 5.

Blending the two timelines into one will identify key decision points. This approach can bring energy to a workshop where a group is new to Futures thinking. Looking both forwards and backwards, and examining the differences between the two, can provide a rich view of the path to a preferred future.

Case study

The Mineral Products Association (MPA) developed a vision for success for its organisation, looking to build its capacity and impact. MPA used a backcasting exercise with senior and young industry leaders to identify and agree the steps required to deliver the vision and the roles that different actors in the industry, including MPA, needed to play to ensure its delivery. The Backcasting exercise helped to identify new strategic priorities for the association and led to the publication of a new Charter: 'Driving Change, Raising Standards and Improving Perceptions'.

Resources for this tool can be found in the
Resource Bank
Case studies can be found in the
Case Study Bank

Widening participation in Futures

Good Futures thinking is inherently a participative activity, not just desk research. Diversity of opinion and perspective will help shape futures that are fairer and more inclusive, avoid groupthink, and prepare for a wider range of possibilities by enabling you to explore futures beyond those you may have been able to imagine yourself.

Stakeholder analysis

For a robust Futures exercise, you will need to identify your primary stakeholders and think about how you can include their perspectives. Stakeholder analysis is a systematic way of assessing who might be affected by or influence a particular policy or decision. In its most general sense, a "stakeholder" is anyone affected by a policy - or lack of a policy.

You should identify those most affected or with the greatest influence, "primary stakeholders", taking their interests and concerns directly into account. These might be people you would interview in a Seven Questions exercise, or invite to be part of a Driver Mapping, Scenarios or Visioning workshop. You should also consider the concerns of those indirectly affected, particularly when you are communicating any decisions.

A key purpose of Futures thinking is to ensure that our decisions today work for future generations, so think about how you can include perspectives of future generations. The Long Time Project's toolkit has various techniques for this.

You could also consider the interests of the 'more-than-human world' - such as animal or plant species - in your Futures work. You could adapt a range of methods to represent their perspectives, for example by nominating (human) representatives to research and advocate for the interests of particular species or parts of the natural world.

> Beauty company Faith in Nature appointed Nature as a Director on their board. Nature is represented through a proxy role: 'a human who is legally bound to speak on behalf of the natural world'. The designated board representative will act and vote on behalf of the Earth – much like a guardian would act on behalf of a child within a court of law.

Participatory Futures

We sometimes use the term 'Participatory Futures' to refer to methods and tools that enable large and diverse groups of people to participate in the Futures process. For each of the tools in this toolkit, we've outlined some ways that you could incorporate different perspectives.

In some cases, however, larger-scale public participation might be particularly relevant and there are specific techniques you can use for this. Public participation can take many forms, from engaging with a representative sample of citizens to working closely with a specific community. Nesta's Our Futures report explores participatory Futures in more depth.

Public engagement in Futures exercises can be particularly beneficial if:

- You need to *create a shared vision of the future* with a community, such as the 'Nature and Us' public participation exercise used by Natural Resources Wales to develop a shared vision for the future of the natural environment. You could adapt Pathway 2 ("creating a shared vision") for this purpose.
- You want to *test how people might react to or behave in different future scenarios*. For example, the Net Zero Society Foresight project used public dialogue to explore reactions to four scenarios they had developed
- You need to make *challenging decisions about a future issue that will require public support*

However, it is worth bearing in mind that public engagement is often resource intensive, particularly if done on a large scale, and sufficient time should be allowed to do it properly. You should consider how to avoid bias in your participant group. If you are asking for people to give up their time to participate in your project, you should be clear why you are doing so and how their perspective will add value to and influence your output (and potentially benefit the participants themselves).

There are many organisations that undertake public engagement with their communities, through surveys, events, and online. If you are considering bringing in public engagement experts to help you run a process, the Futures Procurement Framework or Sciencewise are good places to start for those in the UK public sector. Involve UK provide a range of resources on public participation methods. Many of the Experiential Futures approaches can be very valuable here.

Case study

A public sector organisation wanted to explore the future of the internet and engage a diverse group of stakeholders with some scenarios that they had created. They contacted 'not the usual suspects' to engage in a 'roadshow'. These included:

- Farmers
- Pensioners in an old peoples' home
- Participants in a hospital's pain clinic
- Schoolchildren

They shared the scenarios and got feedback on them. These scenarios helped participants gain a feeling for what living in each of the four futures would be like. Participants shared what this would mean for them individually in each future, and these insights then became an input into the final report.

Public dialogue

"Public dialogue provides in-depth insight into the views, concerns and aspirations of citizens. It is a process during which members of the public interact with subject matter specialists, stakeholders and policymakers to deliberate over a relatively extended period of time on issues which are often complex or controversial. Its aim is usually to feed into future policy decisions. It supports constructive conversations between a group of citizens which has been recruited to be broadly reflective of the demographics of the wider society." Involve UK.

The Net Zero Society foresight project used public dialogue to explore four scenarios setting out different pathways to net zero. The approach tested how plausible each of the scenarios was seen to be and how participants reacted to them, drew out cross-cutting themes that they felt were important across all scenarios, and identified what participants thought were the key tensions and trade-offs involved in decision making around net zero. You can read more about the approach they took in Chapter 5 of the final report.

Citizen Assemblies

A citizens' assembly is a group of people who are brought together to discuss an issue or issues and reach a conclusion about what they think should happen. The people who take part are chosen so they reflect the wider population – in terms of demographics (e.g. age, gender, ethnicity, social class) and sometimes relevant attitudes (e.g. preferences for a small or large state).

For example, in 2019 a group of Select Committees from the House of Commons commissioned a citizens' assembly - Climate Assembly UK - to understand public preferences on how the UK should tackle climate change because of the impact these decisions will have on people's lives.

Appreciative Inquiry

If you want to work with really large groups you can use a tool like Appreciative Inquiry. Appreciative Inquiry is based on the fact that in every organisation, there is something going well. It finds this and builds upon the organisation's successes to co-create a new future. It can be organised in many ways and for as few as 8 people or as many as 60,000.

It requires very experienced facilitators, although they can train others to facilitate and expand the work. It requires that there are representatives from all stakeholders in the room and that the people who are present have agency and can make choices in the co-creation of their preferred futures.

Case study

Imagine Aruba (Nos Aruba 2025) was a process where 60,000 people (out of a population of just over 100,000) participated in developing a vision of a preferred future and making it happen. The challenge was to engage as many of the island's stakeholder groups and individual citizens as possible in developing awareness of sustainable development and social responsibility to develop an integrated and actionable strategic plan and an ongoing process to implement and sustain the strategy.

The implementation of the plans generated by this process are now well in hand. Most importantly, public participation in policymaking, involving all stakeholders, is now a well-established process on the island.

Experiential Futures

Experiential Futures are methods and tools where people get a visceral experience of a range of futures. This can be valuable as a way to start a creative and productive discussion about different possible futures, such as the scenarios or visions you may have come up with using other tools in this toolkit.

There are many different ways to develop experiential techniques in Futures work. The method you use will depend on factors such as your audience, time available, and budget. There are simple techniques you can try yourself at low cost, and more elaborate approaches where you may want to work with Futures specialists, or partners from creative backgrounds such as artists or writers. We have given some examples below of approaches you may want to adapt for your project.

Narrative and storytelling

Narrative and storytelling techniques can help people imagine and explore a possible future scenario, or to draw out their hopes and fears about the future.

Media headlines

You could provide media headlines from an imagined future to prompt a reaction from people you want to engage with, or generate them with participants as part of a wider Futures exercise. It is a way to get from your scenario descriptions to a more fleshed out, intuitive view of what a future is like.

You could start by thinking about what sort of headlines you might see in the media. For each future, ask participants to develop a minimum of four headlines. You may wish to give them context by naming well-known national newspapers or social media platforms. You can do this exercise quite quickly to encourage people to be creative by allotting 5 minutes per future.

In a future in which power and wealth are fairly equally distributed, but climate change is uncontrollable, you could find the following newspaper headlines:

> Our World is Luxury Automated Communism

> Hurricanes: Alexander, Brenda, Charles and Davina cause deaths, property damage on East Coast, all in the space of one week

> Refugee Council in emergency meeting

> International Social Court to try remaining billionaires for avoidance of social contributions

> This Year's Citizen Quota: top ten things you need to know

Day in the Life

Consider what "a Day in the Life" of someone like you would be in each future. Think about routine, everyday things that you might be doing. How would life be different from today? For example, in terms of your work, mobility, education, leisure, shopping, what and where you eat, daily routine, who you interact with, the wider economy, politics, regulation.

Personas

Personas are fictional characters created to represent the different people that might use, or be impacted by a policy or service. They can be useful in Futures work to help you explore how your scenarios may be experienced by different people. The Wireless 2030 Foresight project used personas in this way.

The futuristic Museum of Discovery in Australia created video personas of seven siblings living in 2050 in Southern Australia to engage young people in decision-making about the future.

Policy Lab's Open Policy Making Toolkit has advice and resources on creating personas.

Storytelling

If you have more time, you could use storytelling techniques to bring a set of scenarios to life. Sharing these in workshops could help you gain insights into people's reactions to a range of possible futures. For example, this report into the role of the UK food system in meeting global agreements, includes written and animated versions of stories they wrote to illustrate a set of scenarios.

The Wales Future Generations Commissioner's Office and Public Health Wales used storytelling techniques, such as letters/postcards to the future, to understand the viewpoints and experiences of people in disadvantaged communities as they face the future effects of climate change.

Storytelling can be a powerful technique and needs to encompass both the opportunities as well as the threats of the future to be constructive.

Speculative Fiction

This is fiction written about potential futures, both utopian and dystopian. You can use it to challenge your thinking about a future. Science fiction often falls into this category and there are many other books and short stories to choose from - for example, Ministry for the Future by Kim Stanley Robinson and Neuromancer or Peripheral by William Gibson.

Challenge yourself to think about what living in one of these futures might be like. What do you like about this future? What don't you like about this future? What early signs do you see that we might be heading in this direction?

You could run a workshop where participants write their own speculative fiction (for example, using this method outlined by the Fast Company), or find examples online, such as:

- Stories from Tomorrow: exploring new technology through useful fiction
- RAF Stories from the Future
- One day in 2050

Artefacts

Use physical objects 'from the future' to bring a possible future scenario to life, and help people engage with what it might be like. These can be very simple, or more professionally produced, depending on your resources. Examples of the latter include the Royal Society's Museum of Extraordinary Objects and the Institute for the Future's artefacts from the future of food. Some lower-cost options include:

- The BBC's Futures Bazaar Toolkit provides materials to run a workshop where participants create 'artefacts from the future' out of junk.
- The Thing from the Future is an immersive card game developed by The Situation Lab to kick start a strategic conversation and narrative around artefacts from the future. You start by describing an artefact from the future which you use to help you flesh out what that future might be like.

Images and speculative design

Using images helps people to quickly get in the mindset of a new future as a start for a conversation about what it would be like to live there. To make an existing tool - like Scenarios – more experiential, you could engage an illustrator to illustrate scenarios or emerging trends. AI image generators can quickly create powerful pictures to prompt discussion as you go along.

Image: One of the illustrated scenarios 'Atomised Society' produced by Ipsos Mori for the GO-Science Net Zero Society Foresight Project

Speculative design was used in workshops with older people across the country as part of the GO Science Foresight Project on the Future of an Ageing Population, to gain insights from their responses to the different possible futures represented.

Images of two speculative futures, showing different possible approaches to transport and mobility. Created by Strange Telemetry for the GO-Science Future of an Ageing Population Foresight Project.

Videos and Virtual Reality

Using videos and films is another way to help people explore a potential future. There are many science fiction films to choose from, both negative and (fewer) positive. Some are more plausible than others. You can also search the internet for film clips/advertisements from different companies about how they see their products in the future.

As with narrative, this is a starter for convening a conversation about potential futures that are different from today. Explore the assumptions that have been made to create this future. Explore how the future world is developed.

Dstl's Museum of the Future uses a virtual reality environment to enable people to see a possible future and directly interact with things that do not exist currently.

Gamification

Gaming involves getting participants to use information to make decisions about the future, in a controlled, risk-free environment. It can be used to develop alternative perspectives of the future, or to test the strengths and weaknesses of policy or strategy against a future vision or scenario set. There are various board games you could try, such as Nesta's Cards for the Future which prompts players to think about positive visions of technology and society. Wargaming is an advanced technique, extensively used in defence. Role-playing invites workshop participants to take the part of different stakeholder groups in future scenarios to help them understand how those groups may respond or the challenges they face. The technique is particularly effective if participants take on roles that are different to their actual experience or current responsibilities (for example, if government staff play the role of businesses, and business play the role of third sector).

These five steps outline a simple way to use role-playing in your futures work:

1. Introduce an existing scenario to participants.
2. Assign roles to groups or individuals. Assign overall aims for each role (if desired).
3. Each group reviews the strengths and weaknesses of the scenario from the perspective of their stakeholder group.
4. Each group then identifies how their stakeholder group will respond to the scenario (making strategic choices that are relevant to the objectives of the policy area).
5. Make recommendations for policy based on the conversation.

Repeat with other scenarios as required.

Other scenario-building approaches

The classic 2x2 matrix described in the toolkit is only one of several different ways to create possible, plausible futures. Here are two alternative methods – scenario archetypes, and morphological analysis.

Scenario Archetypes

Rather than exploring critical uncertainties as in the 2x2 Scenario matrix, this approach uses four standard scenario 'archetypes', each of which include winners and losers. Archetypes tend to the extremes; you will need to develop descriptions of them for your particular project through workshops, identifying both opportunities and threats in each:

1. "Continued Growth": a continuation of business as usual, what we see happening around us today, extending into the future.
2. "Decline and Collapse": a future where many of our assumptions about how the world works are no longer true. It usually depends on the fears present in society today and develops them. Growth will become recession, and then depression; environmental issues become disastrous; high-tech brings us into a new dark age.
3. "Disciplined Society": a future where behaviours and conditions adapt to growing internal or environmental limits. Hierarchical political and economic systems promote the rule of law.
4. "Transformation": New technology, business or social factors change the game (generally for the good).

If you use this exercise, it is important to visit all the different futures described. Consider in each:

- Who or what would 'win' or 'lose'?
- How might you succeed and enjoy life in each?
- What do people do?
- What would you need to look out for? What worries do people have?
- What would you need to mitigate? Adapt to? Avoid?
- What problems from today have disappeared?
- How would you get to this future from today?

The Resource Bank includes a template for this exercise.

Reference
Scenario Archetypes were developed by Dr Jim Dator when he analysed a range of images and scenarios of the future.

Dator, Jim. (2009). Alternative futures at the Manoa School. *Journal of Futures Studies. 14.*

Morphological analysis

'Morphological analysis' is a systematic approach to exploring the compatibility and convergence of different end states.

Building on Horizon Scanning and a Driver Mapping work, run an Axis of Uncertainty exercise as described in the 2x2 matrix Scenario tool. You should end up with a set of critical uncertainties that describe two possible end states that are extreme but plausible by the future timeframe you are working to:

2030 end state A	← **Uncertainty #1** →	2030 end state B
2030 end state A	← **Uncertainty #2** →	2030 end state B
2030 end state A	← **Uncertainty #3** →	2030 end state B

Rather than mapping two of these critical uncertainties against each other, you can generate a richer set of scenarios by colliding each outcome against every other, using a grid such as the one below. This enables you to rule out combinations of outcomes, because they simply wouldn't happen together (x), and identify those with the strongest, most dynamic or interesting mutual impacts (✓). The latter are the ones you would then develop into a set of scenarios. (Alternatively, you could score the strength of the relationships on a scale of +/-2).

You would then work these up in much the same way as in the other scenario tools in this toolkit.

	U/c 1:A	U/c 1:B	U/c 2:A	U/c 2:B
Uncertainty 1: Outcome A		✗		✓
Uncertainty 1: Outcome B	✗			
Uncertainty 2: Outcome A		✓		✗
Uncertainty 2: Outcome B			✗	
Uncertainty n:n				

Reference

A useful reference on morphological analysis and its use in Futures studies is:

Ritchey, Tom (2009, revised 2015) <u>Futures Studies using General Morphological Analysis</u>, adapted from an article for the *Millennium Project: Futures Research Methodology Series, Version 3.0*

Morphological scenario analysis benefits from expert facilitation as it is more complex.

Glossary

Actors: individuals and organisations – government, businesses, citizens, for example – that are active in the policy or strategy area.

Axes of Uncertainty: the critical uncertainties for the policy or strategy area in the future that are used to frame scenarios. The axes should capture the most important uncertainties but also be independent of each other.

Backcasting: a way of connecting a given future to the present and overcoming "present bias" in the way that we plan. It is a tool for determining the steps that need to be taken to deliver a preferred future.

Brainstorm: a process used in workshops or conversations to develop a long list of issues, drivers or ideas. Participants add to the list by building on each other's ideas. The ideas are evaluated after the brainstorm is complete.

Critical uncertainty: a driver or issue that is important for a given policy or strategy area but which has an uncertain outcome.

Delphi: a structured questioning tool, used to gather opinion from a panel of subject matter experts by using multiple rounds of questionnaires. It is a systematic and qualitative method that relies on experts to highlight the future issues they think could be important.

'Day in the life of': a 'day in the life of' narrative (sometimes shortened to DILO) is a used to illustrate how the conditions in a given scenario might shape the life of an individual stakeholder or a range of different stakeholders. DILOs can be used alongside scenario narratives to add detail and interest or they can form the central narrative itself.

Driver Mapping: charts the drivers collected in Horizon Scanning across a classification such as PESTLE, to ensure trends have been captured in the relevant areas, and positions them on an importance/uncertainty matrix.

Driver: a current or emerging trend that is likely to shape (have an impact on) development of the policy or strategy area.

Event: something of significance in the policy or strategy space that suggests the world is moving in a particular direction.

Facilitator(s): the individual(s) with responsibility for designing, managing and delivering the futures workshop.

Futures: an approach or way of thinking about the possible, probable, and preferable futures and the underlying structures that could give rise to particular future characteristics, events, and behaviour.

Foresight: a process by which one comes to a fuller understanding of the forces shaping the long-term future which should be taken into account in policy formulation, planning and decision making (from Coates, J.F., 1985. Foresight in federal government policymaking. Research Futures Quarterly 1, 29–53.)

Groupthink: the practice of thinking or making decisions as a group, typically resulting in unchallenged and poor-quality decision-making

Horizon Scanning: the systematic collection of insights on emerging trends and weak signals of change to identify potential threats, risks and opportunities in the policy and strategy environment

Internally consistent: scenario narratives that contain reinforcing messages about the future and do not include events that cannot happen within the scenario logic.

Intuition: the belief that something is going to be strategically important in the future, even when there is insufficient evidence to prove that it will be.

Issues Paper: a paper that presents quotes from the interviews to illustrate the strategic issues and choices around the policy and strategy agenda.

Natural Agenda: a structuring of Horizon Scanning data based on what emerges rather than using a pre-defined taxonomy.

Pathway: a combination of tools designed to meet a particular business need.

PESTLE: a generic term for the drivers shaping the future policy environment. PESTLE is an acronym which stands for Political, Economic, Societal, Technological, Legislative and Environmental drivers. There are a number of common variants which describe the same drivers or a subset of them – PEST, STEP, STEEP, STEEPL – and some (PESTLEV, for example, where the V stand for Values) which introduce additional drivers.

Policy Stress-testing: a method for testing strategic objectives against a set of scenarios to see how well they stand up against a range of external conditions. Sometimes called 'Wind-tunnelling'.

Predetermined element: a driver or issue which has both a high impact on the given policy or strategy area and a certain outcome.

Roadmapping: structured representations of the stages leading to your strategic goal or preferred future, showing how a range of inputs – research, trends, policy interventions, for example – will combine over time to shape future development of the policy or strategy area of interest.

Scan: (noun) an article, usually part of a Horizon Scanning process, that describes an external event or emerging trend that points towards change in the policy and strategy environment; (verb) to look for articles that describe an external event or emerging trend that points towards change in the policy and strategy environment.

Scanner: an individual who scans, usually as part of a structured process.

Scenarios: compelling stories about a range of different possible futures. They describe future worlds so that people can understand what it feels like to live there and what this will mean for them.

Scenario matrix: a 2x2 matrix that is constructed by juxtaposing two priority axes of uncertainty and that defines the parameters of a set of scenarios.

Scoping question: a precise definition of the object of the futures project; includes boundaries of the system to be studied, timeframe and decisions that will be informed.

Seven Questions: a structured interview technique for gathering the strategic insights of a range of internal and external stakeholders.

Stakeholder: any group or individual who has an interest in or an influence on the policy or strategy area.

SWOT Analysis: identifying the relevant Strengths, Weaknesses, Opportunities and Threats. Strengths and weaknesses are internal factors that need to be taken account of when developing policy or strategy. Opportunities and Threats are external factors that need to be considered.

Timeline: a method for presenting a series of events leading to a scenario or a vision that orders those events relative to each other and to time.

Trend: a visible – or emerging – pattern of events that suggest change. In futures thinking, a 'trend' becomes a 'driver' when it acts on the policy or strategy area of interest.

Visioning: creating a set of common aims and objectives for a project and describing what the future will be like (the vision) if they are delivered.

Weak signals: early warning signs of change, intuitively thought to be significant.

Wind-tunnelling: an alternative name for Policy Stress-testing.

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