

Industry Transition Platform:

Taking a system
change approach
to developing
strategy



Industry Transition Platform:

Authors

Taking a system change approach to developing strategy has been prepared by Edge Effects.

About Edge Effects

Edge Effects is a consultancy specialising in the practice of systemic leadership, strategic planning, stakeholder engagement and capacity building for sustainable development and positive change. We believe that the most effective responses to complex sustainability challenges reside in a diversity of perspectives, collective wisdom and creative experimentation. Our purpose is to enable people to accelerate the transition to an inclusive, low carbon world by imagining and co-creating sustainable futures and influencing the systems in which they operate.

Edge Effects partnered with the Climate Group to design and facilitate a strategy development process for ITP, using a systems change approach. We designed and facilitated seven workshops, both face-to-face and virtual, to support industry emissions reduction strategy development and peer learning, using a range of participatory methodologies and tools.

We hope that this guide gives you inspiration, tips and tools to take more of a system change approach to strategy development in your context. We would love to hear how you get on. Please share your stories and reflections by getting in touch at hello@edgefx.co.uk.



Contents

Acknowledgements

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It draws on the experiences of the 11 state and regional governments who participated in the ITP:

North Rhine-Westphalia, Germany

Emilia-Romagna, Italy

Lombardy, Italy

Hauts-de-France, France

Wales, United Kingdom

Scotland, United Kingdom

Zuid-Holland, Netherlands

Alberta, Canada

Québec, Canada

California, USA

Minnesota, USA

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Industry Transition Platform:

Introduction

The Industry Transition Platform (ITP) brought together 11 highly industrialised state and regional governments from across Europe and North America to develop impactful and ambitious strategies to cut industry emissions. All 11 governments had the shared ambition of reducing emissions from industry. Each government had its own regional context and set of government priorities, and they were at different stages of industry emissions reduction.

Over a two-and-a-half-year process, the ITP enabled governments to share and learn with and from each other as they developed their strategies, using a mix of strategy development workshops, technical research, webinars and site visits. Further information about the [Industry Transition Platform](#) can be found on the Climate Group website.

Through the ITP strategy development process, participants built their understanding of the challenge of transitioning to low emission industry across their jurisdictions, they explored the role of government and the potential actions they could take to enable industry transition, and they developed their ITP strategies.



Figure 1 ITP participants sharing and learning together



Figure 2 ITP site visit in Lille, France

About this document:

This document focuses on the ITP strategy development process – a system change-oriented approach which recognised the complexity of developing policy to reduce industry emissions.

There is a wide field of system change frameworks and tools. ITP offers one example of taking a system change approach to strategy development. Our aim here is to share the principles, frameworks and tools that ITP participants used to help develop their strategies.

Use it as a reference document, a lived experience of driving climate action, an inspiration and a thought-starter to help understand a challenge and develop a strategy to address it within your context.

The tools and templates were developed with reference to industry emissions reduction, but they can be applied to other systems such as transport or energy.



There is a sister publication: [Stakeholder engagement guide](#), which shares the ITP's approach to stakeholder engagement when operating in the complex environment of industry emissions reduction.

Use it as a reference document, a lived experience of driving climate action



Recognising complexity in strategy development

Transitioning to low emission industry is not easy for any government to tackle and “solve”. At the outset of the ITP, we explored how change happens in different operating contexts and the implications for developing strategies to reduce industry emissions.

The Cynefin Framework

Developed by Dave Snowden at IBM, the Cynefin framework¹ helps us think about how we address the problems we are working on, depending on the nature of the challenge and our operating context.

In brief, the framework distinguishes between the *predictable world*, where we can expect things to repeat in the same way time after time and can therefore rely on past experience to provide the way forward, and the *unpredictable world*, where things don't always happen in the future in the same way that they happened in the past.

The framework further divides the predictable world into the *obvious domain* and the *complicated domain*. In the *obvious domain*, a clear, linear connection exists between cause and effect and is well known. When a problem is in the obvious domain, anyone can solve it. We can rely on best practices and recipes. Think of following the instructions to put together a piece of IKEA furniture.

In the *complicated domain*, the connection between cause and effect is still linear but is not always easy to see. A problem in the complicated domain requires a level of expertise or experience to understand and determine which approach to take to address a challenge. We rely on good practice according to expertise and guidelines. Engineering challenges, such as building the Eiffel Tower or Concorde, or medical challenges like performing a heart bypass operation, would fall into the complicated domain.

¹ For more about the Cynefin Framework, see this article: hbr.org/2007/11/a-leaders-framework-for-decision-making or watch this short video: www.youtube.com/watch?v=N7oz366X0-8



The most common leadership failure stems from trying to apply technical solutions to adaptive challenges.

Ronald A. Heifetz



Figure 2 Cynefin Framework¹

The unpredictable world also divides into two domains: the complex and the chaotic. In the *complex domain*, you can't figure out the best answer ahead of time. We can only see the relationship between cause and effect in hindsight. Just because something has happened before doesn't mean it will happen again. Problems are context-specific, which means the solutions that work in one context won't necessarily work for the same problem in a different context. A challenge or problem in this domain calls for emergent practice. We need to try new approaches – to experiment, prototype and learn our way forward. And we need to pay close attention to the impact of our actions: what takes us towards addressing the challenge and what doesn't. Everyone affected by the problem has some 'expertise' or feedback to contribute to the best solutions. Challenges such as parenting, behaviour change, and culture change fall into the complex domain.

And finally, in the *chaotic domain*, there is no connection between cause and effect. We can't figure out the patterns. It is the domain of novel practice where we need to act fast to stabilise the situation and see if, over time, patterns start to emerge. Think of firefighting or disaster response situations.

The primary Cynefin domains for industry emissions reduction strategy development are the complicated and complex domains. Some aspects of reducing industry emissions are complicated and lend themselves to technical solutions – for example, the best options for carbon capture and utilisation or the latest technology for clean hydrogen. However, the challenge of transitioning to low emission industry is complex and calls for a system change approach to developing strategy.



Thought starter questions:

- Is the challenge you seek to address a technical problem or an adaptive challenge?
- Which domain(s) of the Cynefin Framework are most relevant to that challenge?
- What are the implications for how you might go about developing strategies and taking action to address it?



Topics related to industry transition are vast and complex, extending well beyond technology and infrastructure. Understanding and connecting into activity across our own government is one of the biggest challenges to joined-up policy development. To have a coherent strategy for industrial transition we need to communicate, coordinate, and collaborate.

ITP Participant

Characteristics of technical problems

Characteristics of complex challenges

Knowable: easy to identify and define

Unknowable: difficult to pin down, open to multiple definitions, easy to deny it's a problem

Often lend themselves to quick, cut-and-dried solutions

Require changes in mindsets, values, beliefs, behaviours, relationships, roles and approaches to work / life

Solutions are grounded in technical expertise

Solutions are generated through collaboration, experimentation and social learning / action inquiry

Can often be solved by an expert or authority

Requires all stakeholders affected by the problem to contribute to solving it

Requires change in just one or few places; often contained within clear boundaries

Requires change at multiple levels and in multiple places across boundaries

Has a "right answer" based on past experience predictably repeating itself

Has no right or wrong answer – solutions receive response which can be positive and / or negative, and which may be different across contexts / over time

Has a finite end point when the problem is solved

Is evolutionary – has no clear end point or final solution

Table 1: Characteristics of technical problems and complex challenges

A system change approach to strategy development

Many strategies use a deliberate strategy approach² that assumes a stable operating environment where we can predict and control what will happen as a result of our actions, using linear, cause-and-effect thinking: if we do A and B, we will achieve X.

When addressing complex long-term change like reducing industry emissions, we are in a complex working environment that we cannot predict and control. A more holistic, emergent approach to strategy development is needed, grounded in complexity and systems thinking.

Our system change strategy framework, illustrated in Figure 5, underpinned the development of the ITP strategies. It offers a strategy development process which is:

Emergent – develops over time, rather than being set in stone

Experimental – puts forward ideas to be tested and developed with others

Iterative – cycles through rounds of testing ideas with others, gaining feedback and insights to improve those ideas and testing again

Adaptive – adapts and changes in response to changing conditions

Collaborative – engages the perspectives and needs of multiple stakeholders throughout and works in partnership with other

Inquiring – seeking to learn with and from others, building in moments of reflection and feeding learning into the strategy process

² For more about deliberate and emergent approaches to strategy, see this article: www.forbes.com/sites/karlmoore/2011/03/28/porter-or-mintzberg-whose-view-of-strategy-is-the-most-relevant-today/



Strategy - a plan of action designed to achieve a long-term or overall aim
[Oxford English Dictionary]

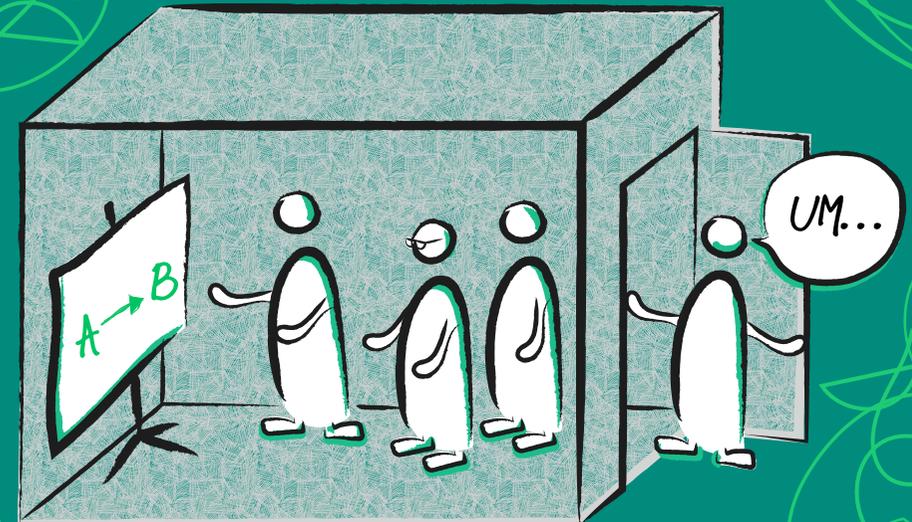


Figure 4 Developing strategy in a complex context



The systems change approach is very transferable to other areas of policy change or programme design. Systems change, stakeholder mapping, co-benefits - really transferable.

ITP Participant

As Figure 5 suggests, this is not a linear strategy development process. It requires us to continually (re-)define the challenge, see the system, spot leverage points, and act strategically in a dynamic, interconnected, iterative process. It is an inclusive process, emphasising the importance of continuous stakeholder engagement throughout strategy development and into implementation, so that we can develop a wider perspective, make better-informed decisions, and build collaboration. And it is a learning-oriented process that invites us to experiment and adapt our approach based on those experiments. Whilst this document separates the different process steps for ease of reading, we need to keep in mind the inter-connectedness of each part of the process.

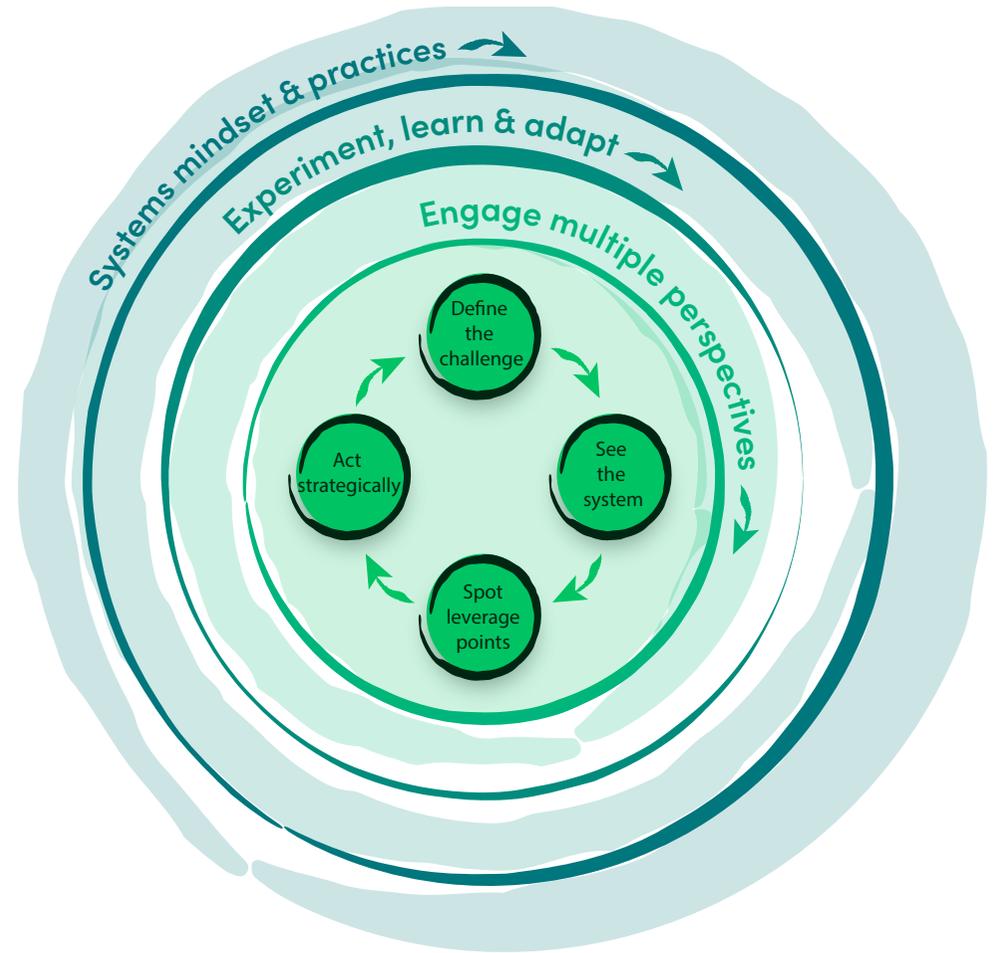


Figure 5 'Edge Effects' system change strategy framework

Defining the challenge

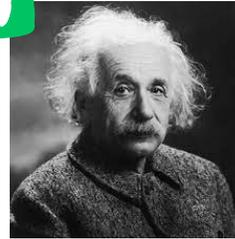


Thought-starter questions:

- What's the challenge I/we want to address?
- Who are the different stakeholders and actors?
How do they see the challenge?

One of the characteristics of complex challenges is that they are *unknowable*: difficult to pin down and open to multiple definitions. You need to spend time exploring the challenge you are addressing and agreeing on the problem you are trying to solve, before jumping into solutions and thinking about what you can do to bring about change. Staying open-minded and taking the time to build a richer understanding and definition of the challenge is an integral part of a systemic strategy development process.

The ITP challenge of low emission industry transition is a huge, messy problem. It sits at multiple levels. There are many different aspects and entry points to the issue. And there are various diverse actors and stakeholders involved. Everyone has their perspective on the issues and barriers, and on what industry transition could (and should) look like. We spent the first six months of ITP strategy development on understanding the challenge in the different government contexts – initially through forming high-level innovation team challenges at our initial workshop, then participating governments undertook more exploration within their own contexts and engaged with a wide range of stakeholders to explore how they saw the challenge. We revisited and refined how we understood the challenge several times through the process.



If I had an hour to solve a problem, I'd spend 55 minutes thinking about the problem and 5 minutes thinking about solutions.

Albert Einstein

Two innovation teams were set up as part of the ITP. Each innovation team brought together a subset of the ITP governments focused on different aspects of industry emissions reduction: one explored the challenge of driving disruptive innovation in partnership with industry, the other focused on accelerating the adoption of green hydrogen. Participating governments worked within an innovation team to share experiences and ideas and to support each other to develop their ITP strategies in response to their innovation team challenge.



Boundaries

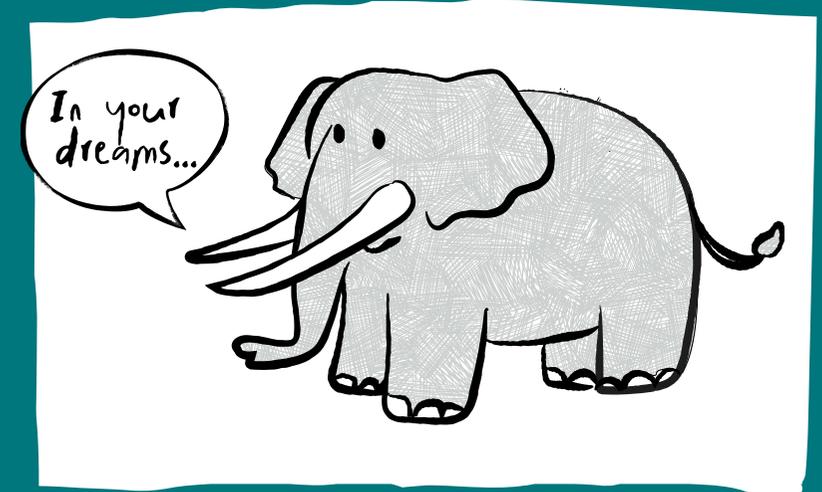
Some of the complex challenges associated with sustainable development can feel enormous. To help determine your bite of the elephant, you can draw boundaries around the system for which you are developing a strategy. Boundaries can be anything which defines the scope of the challenge and its system.

For the ITP, participants drew various boundaries when defining their challenge:

- **Topic boundaries:** industry emissions, disruptive innovations or clean hydrogen
- **Geographic (or place-based) boundaries:** the government's regional jurisdiction
- **Organisational boundaries:** regional government, and within that the department or team leading on the emissions agenda
- **Industry boundaries:** which industries were of most relevance in the jurisdiction in terms of their level of emissions and strategic or economic importance to the jurisdiction



How do you eat an elephant?



One bite at a time.

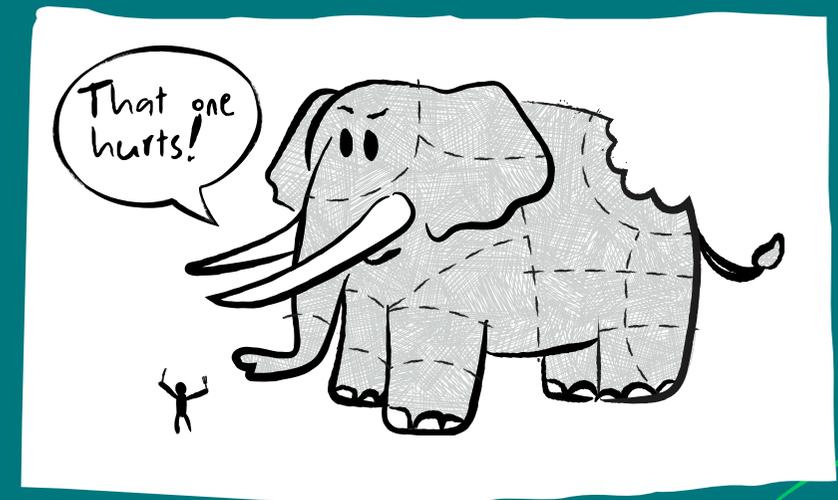


Figure 6 How do you eat an elephant? One bite at a time

Multiple levels

Whilst drawing boundaries can help you define the scope of the challenge you are taking on, you also need to remember that systems operate at multiple levels. And system change happens at many levels and often comes about through interactions between the different levels. It's helpful to consider which levels to work at to bring about change.

The ITP was set up to enable change at multiple levels:

- **The level of each participant and their remit**
- **The level of each participant's government and how industry transition sat within the government's remit and priorities**
- **The level of the innovation team, where multiple governments working on the same challenge came together to learn, share and collaborate**
- **The level of the Industry Transition Platform, which was seeking to progress the global goal of industry transition**

When spotting leverage points during the strategy development process, ITP participants also explored potential interventions and policy actions at multiple levels:

- **Within their own departments**
- **Within their regional jurisdiction**
- **Influencing their national government**
- **Collaborating to influence cross-country international governance**

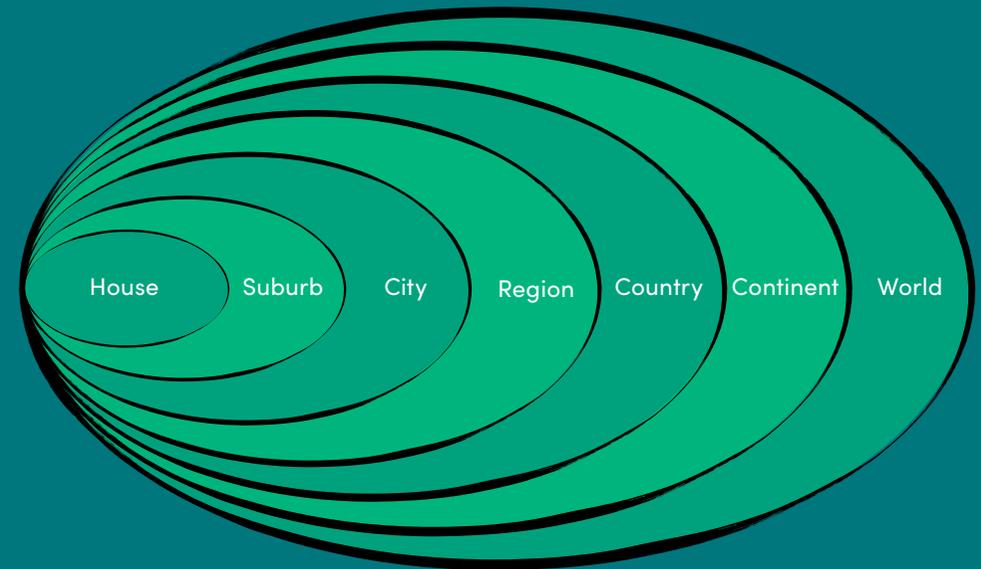


Figure 7 The multiple levels of systems

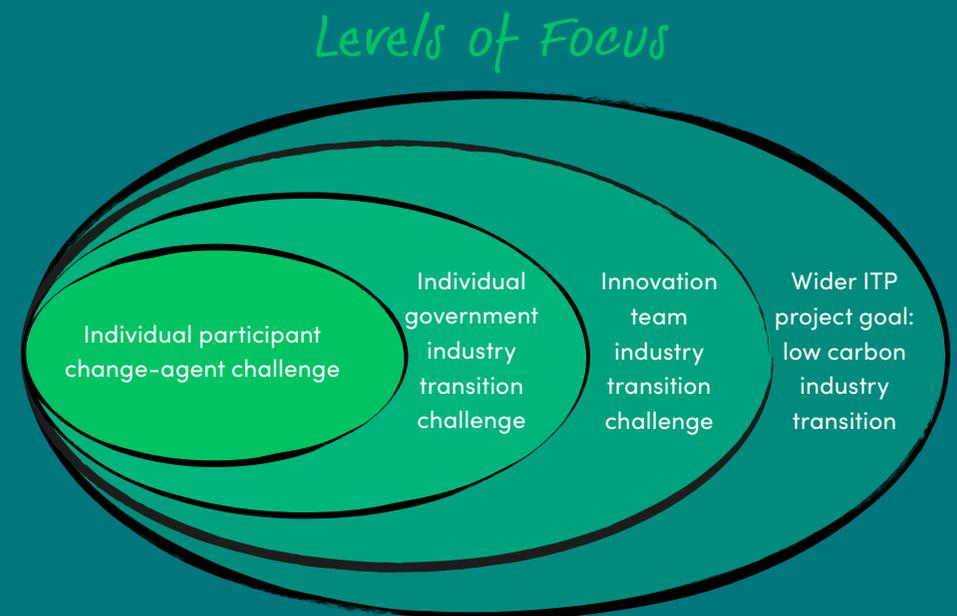


Figure 8 The multiple levels of the ITP

An inquiry-led process:

As systems change is an iterative learning-oriented process, it can be helpful to frame the challenge as an inquiry question. Holding a question can help us stay open and curious and invite others to join us in exploring our inquiry. Powerful inquiry questions are often formed as “How might we.....?” or “Why might.....?” questions, as these kinds of questions invite exploration, creativity, generative conversations and thinking³. “How might we.....?” questions lend themselves well to strategy development.

Alongside the overarching challenge question, it’s also helpful to articulate other related learning questions to capture areas you want to explore further and learn about to inform your strategy. These questions form the basis of your learning agenda as you progress your strategy development.

In ITP, the two innovation teams framed their challenges as the following questions:

 How might we accelerate the adoption of clean hydrogen for industry decarbonisation?

 How might we drive innovation in partnership with industry to achieve low carbon intensity?



Thought starter questions:

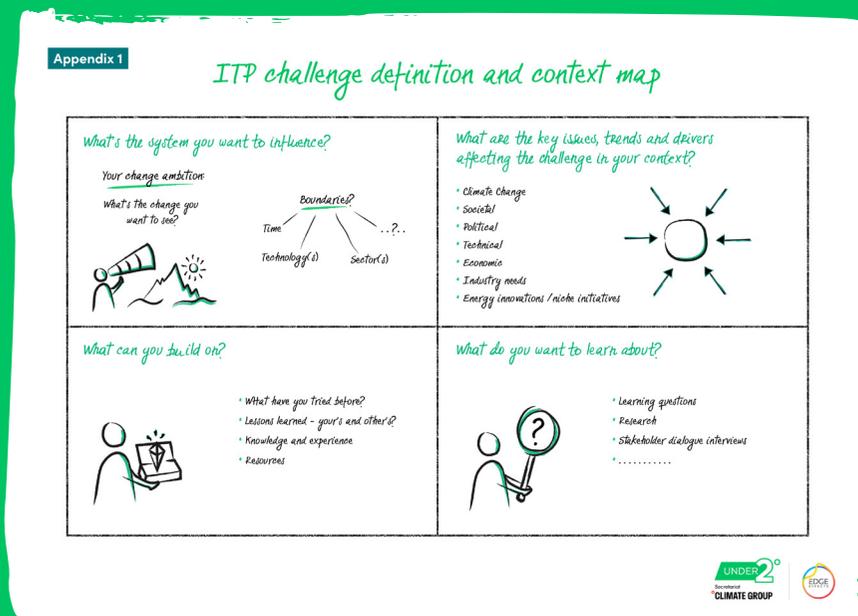
- What boundaries could you draw around the challenge you are seeking to address?
- At what levels does your challenge sit? What levels could you work at to enable change?
- How could you frame your challenge as an inquiry question?

³ For more about powerful inquiry questions, see this article: [The Art of Powerful Questions – Catalysing Insight, Innovation and Action](#)



Tool: Challenge Definition and Context Map

During the ITP, we used the Challenge Definition and Context Map to pull together an overview of the change we wanted to see (reduced industry emissions) and the various considerations above. This map captures your current assumptions and the bigger picture of your challenge. It can help to crystallise your thinking and form a narrative to act as the basis for engaging your team and other stakeholders in exploring and refining the challenge for which you are developing a strategy. For an ITP Challenge Definition and Context Map template, see [appendix 1](#).



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Figure 9 ITP challenge definition and context map

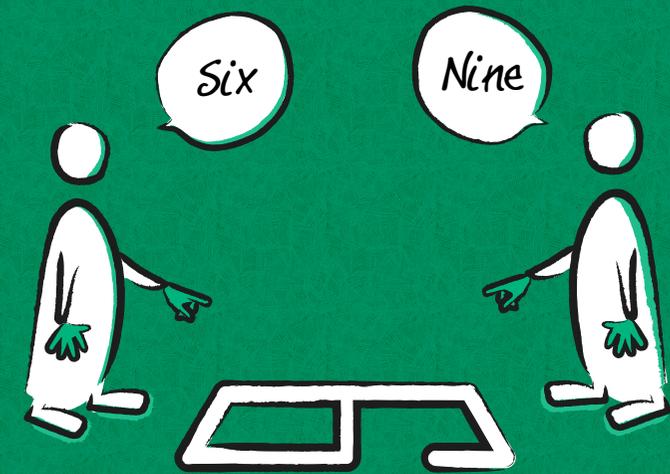
As a pre-cursor to *forming the innovation team challenges*, each ITP government shared their challenge definition and context map and discussed how they saw the challenge of reducing industry emissions in their jurisdiction. By sharing their maps, they were able to identify the commonalities and differences across their different contexts, enabling a collective innovation team challenge to emerge as an overarching shared inquiry whilst allowing for contextual nuances at the individual government level. This can be a helpful process if you are working on a common challenge with a cross-departmental or cross-organisational team, or a collaborative multi-stakeholder group.

0 Our department is a key part of the complex and dynamic energy system. This system has many stakeholders of varying levels of sophistication and is responsible for delivering a critical public good.

ITP Participant



Figure 10: ITP participants discussing their challenge in innovation teams



Perspective

Figure 11: Multiple perspectives on an issue

Engaging multiple perspectives

Suppose we seek to define or address a complex, messy challenge from only our perspective. In that case, we are likely to miss critical information and considerations which need to be included to identify the most impactful and implementable solutions. Engaging and understanding many different actors and stakeholders' points of view helps us gain a wider view of the challenge and develop a richer definition. Inviting them to collaborate and co-create solutions leads to more effective strategies which have a better chance of being implemented and bringing about the change we are seeking.

When dealing with a complex challenge, stakeholder engagement is a golden thread which should be prioritised at every step of the strategy development process and beyond into implementation.



Figure 12: Discussing a stakeholder prioritisation grid

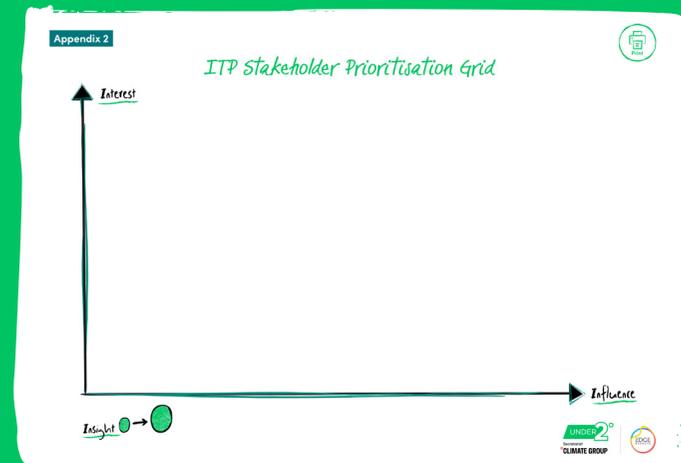
Stakeholder engagement and the approach we took throughout the ITP is the subject of a sister publication, ITP's stakeholder engagement guide, which goes into more depth on how we approached stakeholder engagement throughout the strategy process.



Tool: Stakeholder Prioritisation Grid (an Influence/Interest Map)

One starting point for stakeholder engagement is to create an Interest/Influence map for your challenge. This involves brainstorming all the different stakeholders who are either involved in your challenge or would be affected by a change in the status quo in your challenge system. When you are brainstorming, remember to think widely, going beyond the obvious and the 'usual suspects' that you are familiar with. Once you have your list, you can map them according to how much influence they have on your challenge / in the challenge systems and how interested (or affected by) the challenge they are. You can also use size to indicate those stakeholders who may have insights or perspectives that are particularly useful to you or likely to be different to the mainstream view. This map can inform your stakeholder engagement prioritisation and planning.

In the ITP we carried out this stakeholder mapping and prioritisation at the first workshop to determine the diverse range of stakeholder groups that could contribute to participants developing a richer definition of their challenge. We repeated various forms of stakeholder mapping through the strategy development process. For an ITP Stakeholder Prioritisation Grid template, see appendix 2.



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Seeing the system

Systems thinking is a holistic approach to change, which recognises that the whole may not be equal to the sum of the parts. Rather than breaking a challenge down into its parts, a system change approach seeks to understand the challenge system as a whole. It focuses on understanding relationships and interconnections between different elements and how the system works over time.

Seeing the system challenge as a whole

System mapping is a helpful tool for seeing a system holistically. A system map is a visualisation of the system, including its purpose, the different elements and the inter-connections or relationships in the system.

Once you have created a system map for your challenge as you see it currently, you can play around with changing things and explore what impact those changes might have. For example, you might try to change the relationships between certain parts, bring some stakeholders closer or further apart, or add a new element into the mix.

Note: There are many ways to map a system, including issue or cluster mapping, causal loop mapping and actor/stakeholder mapping, to name a few⁴. The simplest way to start mapping is using paper & pen or post-it notes to draw your maps – either on your own or with a group. If you are working virtually or want to capture your maps to share with others or revisit and iterate, there are a number of online tools which can help to work visually for mapping. [Miro](#), a collaborative virtual whiteboard, is the platform we used for the ITP. For more complex mapping, you could explore [Kumu](#), or for more basic functionality, try [Google Jamboard](#).



Thought-starter question:

- What's going on in the system and wider systems I am engaging with?



A system is 'an interconnected set of elements that is coherently organised in a way that achieves something...a system must consist of three kinds of things: elements, interconnections, and a function or purpose⁵.

Donella Meadows

In the ITP, we used a simple form of system mapping to help participants see, reflect on and refine their challenges. For step-by-step instructions to complete this system mapping exercise, see [appendix 3](#)

Appendix 3

System mapping exercise

| | | |
|------------------------------------------|---------------------------------------------------------------------|----|
| How do I see my challenge now? | What's the change I'd like to see (short- / medium term)? | |
| | From | To |
| | | |
| My dream outcome (long term) would be... | What questions am I holding? What do I want to learn more about? | |

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- 4 For more on system mapping, read these short articles: <https://medium.com/systemic-design-group/systems-mapping-how-paris-meets-climate-change-664321d31f47>, <https://medium.com/disruptive-design/tools-for-systems-thinkers-systems-mapping-2db5cf30ab3a> and <https://pujaprakash.medium.com/4-types-of-systems-maps-to-master-for-innovators-5fdac771f72d>
- 5 See Thinking in Systems by Donella Meadows: <https://donellameadows.org/systems-thinking-book-sale/>



Figure 13: Sharing & discussing challenge system maps

Zooming out to see the wider system

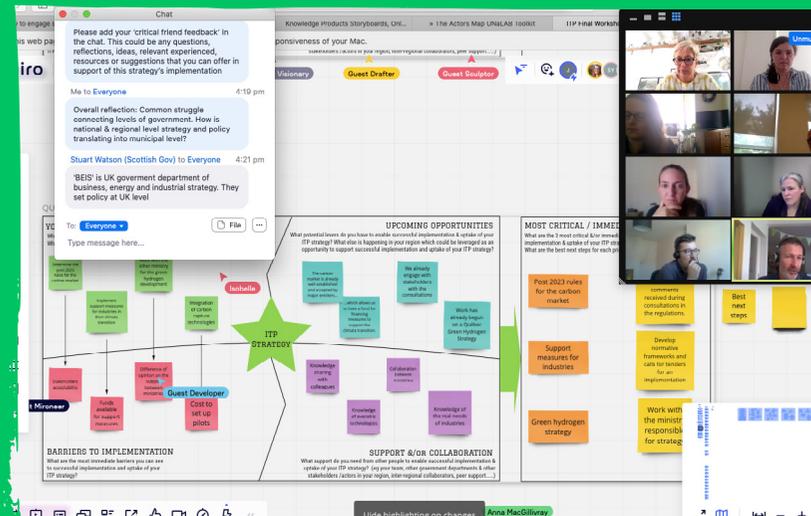
When defining your challenge, it is helpful to draw boundaries around the system you are developing a strategy for and to identify at which levels you are working. Whilst those boundaries help determine the scope for your strategy, it is important to remember that the system you define is nested within bigger systems where change is also happening. Changes in those bigger systems can create shocks or disruptions for the system you are working with. So, you need to consider the implications of changes that happen beyond the scope of your strategy – at a broader scale and a smaller scale. The COVID-19 pandemic offers us a live example of this.

You think that because you understand 'one' that you must therefore understand 'two' because one and one make two. But you forget that you must also understand 'and'.

Sufi Teaching story

Systems mapping technique was new to me, I could see it being useful in mapping complex industrial processes to better understand the opportunities for carbon reduction.

ITP Participant



Around one year into the ITP process, *the COVID-19 pandemic arrived*. An external shock that happened in the global system, the pandemic had significant implications for the project. We needed to explore the implications of the pandemic and adapt the ITP accordingly at many different levels. On a micro-scale, we needed to rethink how we came together as a community and transition from in-person workshops and site visits to online workshops and virtual site visits. On a larger scale, participants needed to revisit their strategies as national and regional government priorities changed and resources were re-allocated.

Zooming out and zooming in

Throughout the strategy development process, you need to both zoom out to look at what's happening in the broader context and what the implications might be for your challenge and your strategy, and then zoom back in to focus on refining your challenge definition and strategy in light of those external changes and on planning what to do next.

We've already seen how using the Challenge Context Map to zoom out to the wider system helped to define the ITP challenges. We zoomed out again at different times during the strategy development process, using different tools to help us look at the wider systems around us and identify the implications for the ITP strategies.

Zooming out to look at co-benefits⁶

ITP participants were focused on reducing industry emissions as part of their climate change commitments for their regional governments. Climate change is only one of many regional government priorities. With priorities, attention, and resources shifting in response to the pandemic, we took time to zoom out and look at the wider regional government system, exploring the inter-connections and 'co-benefits' between reducing industry emissions and other government priority areas. Looking at our ITP strategies through the lens of co-benefits helped to identify areas of mutuality and alignment with other priority areas, such as green recovery. This helped to think about which interventions were more likely to gain support and be successful and opened up new possibilities and options, including:

- offering different options and key messages for framing the strategy or specific interventions. For example, leading with the air quality and health benefits of reduced emissions, rather than emissions reduction;
- opening new avenues for potential allies and collaborators around the ITP strategy. For example, partnering with departments focused on job growth and retention to maintain the presence of big employers by supporting their transition to low emission operations
- giving a boost to policy actions which had previously seemed beyond the spheres of influence of the ITP participants and their departments

The insights from zooming out to co-benefits later fed into strategy prioritisation.

For a blank template for this Exploring Co-Benefits exercise, see [appendix 4](#)

⁶ For more about co-benefits, see the RMI's Regions Take Action: the benefits or major climate policies: www.theclimategroup.org/our-work/publications/regions-take-action-benefits-major-climate-policies

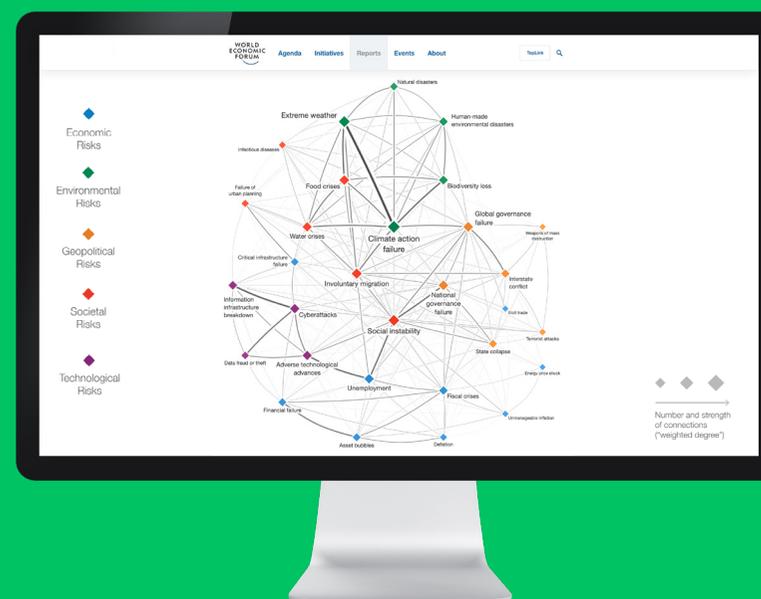


Figure 14: The Global Risks Interconnections Map 2020, World Economic Forum Global Risks Perception Survey 2019-2020⁷

Appendix 4 Exploring co-benefits

Other priority:

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Step 1</p> <p>What are the connections and mutual benefits between low industry emissions & [other priority]?</p> <ul style="list-style-type: none"> • How do low industry emissions support [other priority]? • How do low industry emissions benefit from [other priority]? | <p>Step 2</p> <p>If [other priority] is the main priority for a region, how might that shape:</p> <ul style="list-style-type: none"> • Who you would engage in your strategy development & implementation? • What key messages you would use to engage them? • What kind of policy options you would focus on in your strategy? |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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⁷ For more about the World Economic Forum's Global Risks Perception Survey, see here: www.weforum.org/reports/the-global-risks-report-2021

Zooming out to look at the wider strategy context

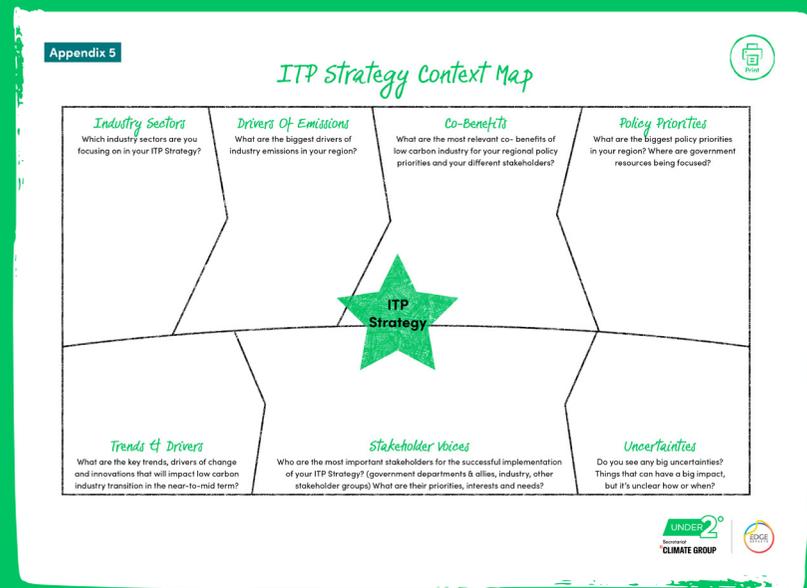
As participants moved towards refining and prioritising what to include in their ITP strategies and given all the changes at play in the wider context, it was useful to zoom out once more. Participants used the ITP Strategy Context Map to pull together key highlights from the many influencing factors around reduced industry emissions and their ITP strategy. Bringing them together in one map helped to see the bigger picture and notice any patterns which can inform decisions about where best to focus in the strategy.

For a blank template of the ITP Strategy Context Map, see appendix 5. Feel free to adapt it to bring together the influencing factors around your challenge. It's helpful to do this with others and discuss what's most important and relevant for your strategy.



The situation has changed but the overall goal has not. The goal is still to transition industry to zero carbon, but the challenge has gotten even greater. Framing in terms of green/economic recovery is key.

ITP Participant



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Figure 15 ITP Strategy Context Map

Spotting leverage points



Thought-starter questions:

- What's my role in addressing this challenge?
- Where do my powers lie? Where can I influence?
- Who do I need to engage and collaborate with to develop and implement this strategy?

Spotting leverage points is where you start identifying where there is the potential to intervene and do something which could shift the system in the direction of the change you are seeking.

When developing a strategy for a complex challenge, it's important to maintain a diversity of potential interventions. Strategy development for a technical problem seeks to narrow down the options based on best or good practice; for a complex challenge it seeks to expand the space of possibilities and identify a portfolio of potential interventions, rather than narrow down too soon or too far.

The leverage points and interventions most relevant to your strategy are determined by the role you play in the system, where your powers lie and what influence you hold. Depending upon your role, you will be more-or-less-well placed to intervene at different places in the system.

The *ITP participants were all members of regional governments*, so our starting point for thinking about leverage points was to brainstorm a long list of potential policy actions that a regional government could undertake relevant to the innovation team challenges and the transition to low emission industry.

Having come up with a long list of options, innovation teams collectively discussed and mapped them according to the potential impact each action could have on reducing industry emissions – giving a broad first cut at prioritisation.



Donella Meadows suggests there are 12 archetypal leverage points⁸ for intervening in systems. These archetypes can open up ideas of where to look when thinking about possibilities for your own interventions.



⁸ For more about Donella Meadows' 12 Leverage points, see this article: medium.com/10x-curiosity/systems-archetypes-places-to-intervene-b778deba0ed



From this long list of potential options, each government selected their initial *portfolio of potential policy actions* to explore further as part of the strategy development process.

The initial selection was made according to which potential policy actions:

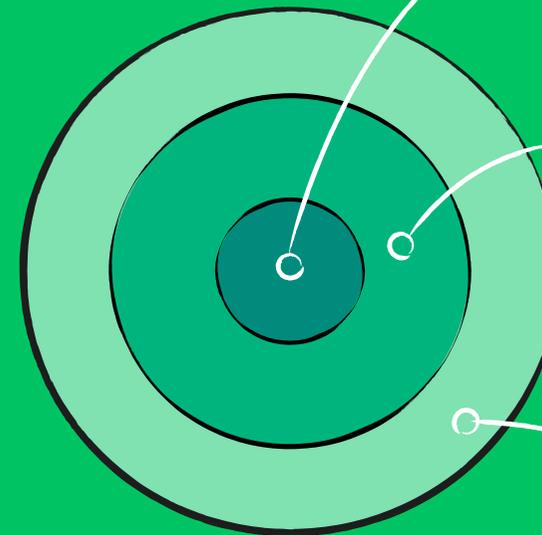
- fit with their regional context and jurisdictional powers
- had a higher potential impact on reducing industry emissions
- were within their spheres of influence or control

For a blank Spheres of Influence template, see appendix 6.

Note: can be helpful to discuss with others where potential options fall between your sphere of influence or sphere of concern and to brainstorm how you might increase your sphere of influence around potentially high impact interventions.

At this stage of the strategy process, the initial portfolios of potential policy actions represented the ITP participants' best thinking. It was not intended to be a final decision and likely to be changed and adapted as the strategy development process unfolded. Each government went on to explore their initial list of potential policy actions with other stakeholders in their jurisdictions, testing their assumptions and getting further input and information to help them test their shortlist, and adding or removing potential actions as they tested them with others.

We need to focus our energies on what we can control + influence!



Sphere of CONTROL:

What we can directly control

Sphere of INFLUENCE:

Things we can do something about with or through others

Sphere of CONCERN:

Wide range of concerns that are beyond our scope or reach, where we have no influence

We can increase our sphere of influence through expanding our networks, allies and collaborators

Figure 16: Spheres of influence⁹



Placing the strategies in the different levels of control made it possible to have a more global portrait.

ITP Participant

⁹ Adapted from Stephen Covey's circle of control in *The 7 Habits of Highly Effective People*: www.franklincovey.com/7-habits-book/

Acting strategically



Thought-starter questions:

- Where am I best placed to act, given my role in the system?
- Where do I focus my resources?
- What strategies will I adopt? In collaboration with who?

Whilst it is important to maintain a portfolio of potential interventions when developing strategy for a complex challenge, there comes a point where you need to focus your strategy, energy and resources on the interventions which offer the best chance of moving the system towards the change you are seeking at the time.

Potential interventions can be explored and tested in many ways, including engaging and collaborating with others, gathering information, carrying out experiments or prototypes, and continually capturing and reflecting on learnings about the interventions and their impact on the system.

As you explore your potential interventions, some may turn out to be less impactful than expected. Others might work better in the future rather than at the current time or may not get traction or attract the necessary resources or may need further testing as pilot schemes. Through this exploration, you can start to refine, clarify, and prioritise what to focus on in your strategy.

Assessing and prioritising interventions

An **ease** and **impact** matrix is a common way of prioritising strategy options. At its simplest, this involves mapping your potential interventions onto a 2 x 2 matrix according to the **ease** of implementing it (hard – easy to implement on the horizontal axis) and how much **impact** an intervention is likely to have (low – high on the vertical axis).

Ease/impact Matrix

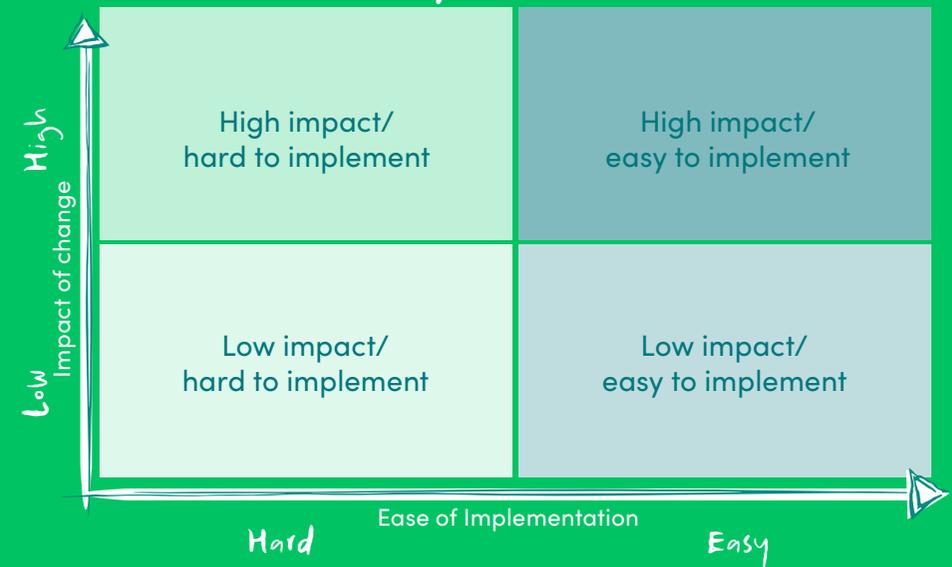


Figure 17: Simple Ease / Impact Matrix



When using this kind of matrix for a complex challenge, it's important to unpack and agree in advance what criteria you will use to assess **ease** and **impact**. For **ease**, you can think about the key requirements for implementation in your context, and for **impact**, choose criteria and indicators of change which are relevant to the challenge you are seeking to address.

It can also be helpful to include a timescale dimension. System change is a long game, so there may be some interventions which can be implemented sooner, whilst others may need longer either to develop or to create the right conditions for that intervention to be successful and impactful.

The ITP Policy Options Matrix, a tailored ease / impact matrix, was used by participants to prioritise the potential policy action they were considering for their strategy. Using this map helped participants to refine their thinking and prioritise their options.

For ease, ITP participants assessed and mapped the likelihood of successful implementation of each potential policy action according to:

- whether it was within their spheres of control or influence
- whether they had allies they could collaborate with (or who would support that policy action)
- whether they had or could gain access to resources to implement it
- whether there was appetite amongst key stakeholders and how a policy action fit with key stakeholder needs and interests

For impact, they assessed and mapped each policy action for its potential to impact on:

- emissions reduction
- industry uptake and transition to low carbon
- at least one clear co-benefit for another government priority in their jurisdiction

The ITP matrix also used colour coding to differentiate between options that could be implemented in the short, medium or longer term.



Tool: ITP Policy Options Matrix

For a blank template of the ITP Policy Options Matrix, see [appendix 7](#). Feel free to adapt it to your own criteria for ease and impact. It's helpful to do this in discussion with others.

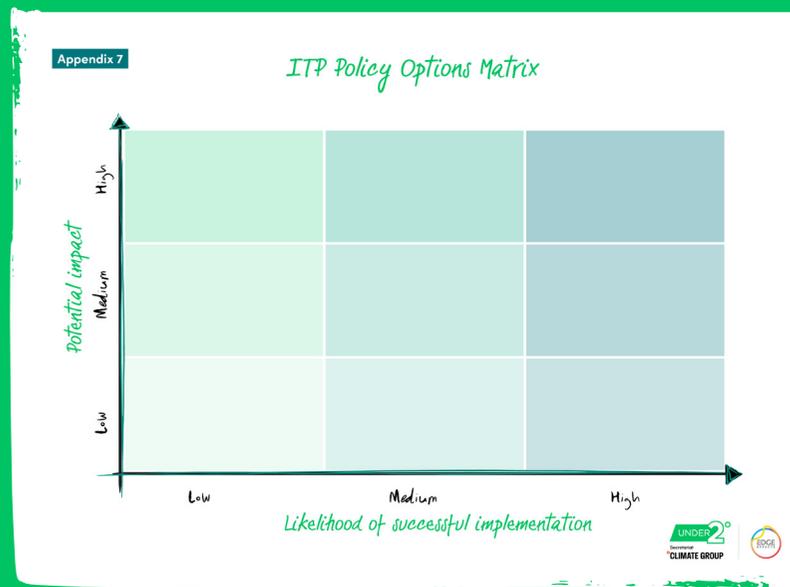


Figure 18: ITP Policy Options Matrix



[Go to printable map](#)

Maintaining your learning agenda

Prioritising potential interventions is important to decide where to focus most of your time, energy and resources for the next strategy period. However, as we progress with implementing strategies to address a complex challenge, conditions are constantly changing – sometimes because of larger trends, changes, or disruptions in the wider operating environment; sometimes in response to an action that’s been implemented and has affected the system we are working with. Rather than seeing strategy as something that can be finalised, we need to see it as an ongoing process. A process where we keep our minds and our eyes open, and where we cycle back around to sense check if the actions we are focused on are still the most impactful ones in the current climate or whether we need to make any adjustments.

Maintaining a learning agenda is one way to support you to keep your eyes open and stay curious. This can be started right from the beginning of the strategy process: defining the challenge included framing an overarching challenge inquiry question and capturing learning questions for further learning. As you progress with your strategy development and explore those questions, more questions will arise.

In the ITP, participants refreshed and updated their learning agenda as the strategy development process progressed. We highlighted knowledge gaps and learning questions throughout the process and sought to address them through research, site visits, discussions with expert speakers, and ongoing stakeholder engagement to explore, sense check, and collaborate.

Learning by experimenting

When assessing your portfolio of interventions, there may be some which you are clearer and more confident about prioritising, whilst there are others that you are less confident about or need to learn more about. Where you are less clear about an intervention – what it might look like in practice, how it might work and what’s needed for implementation, or whether it makes sense to commit resources to it – action experiments can help to explore those interventions through a series of smaller practical steps

Cycles of action inquiry

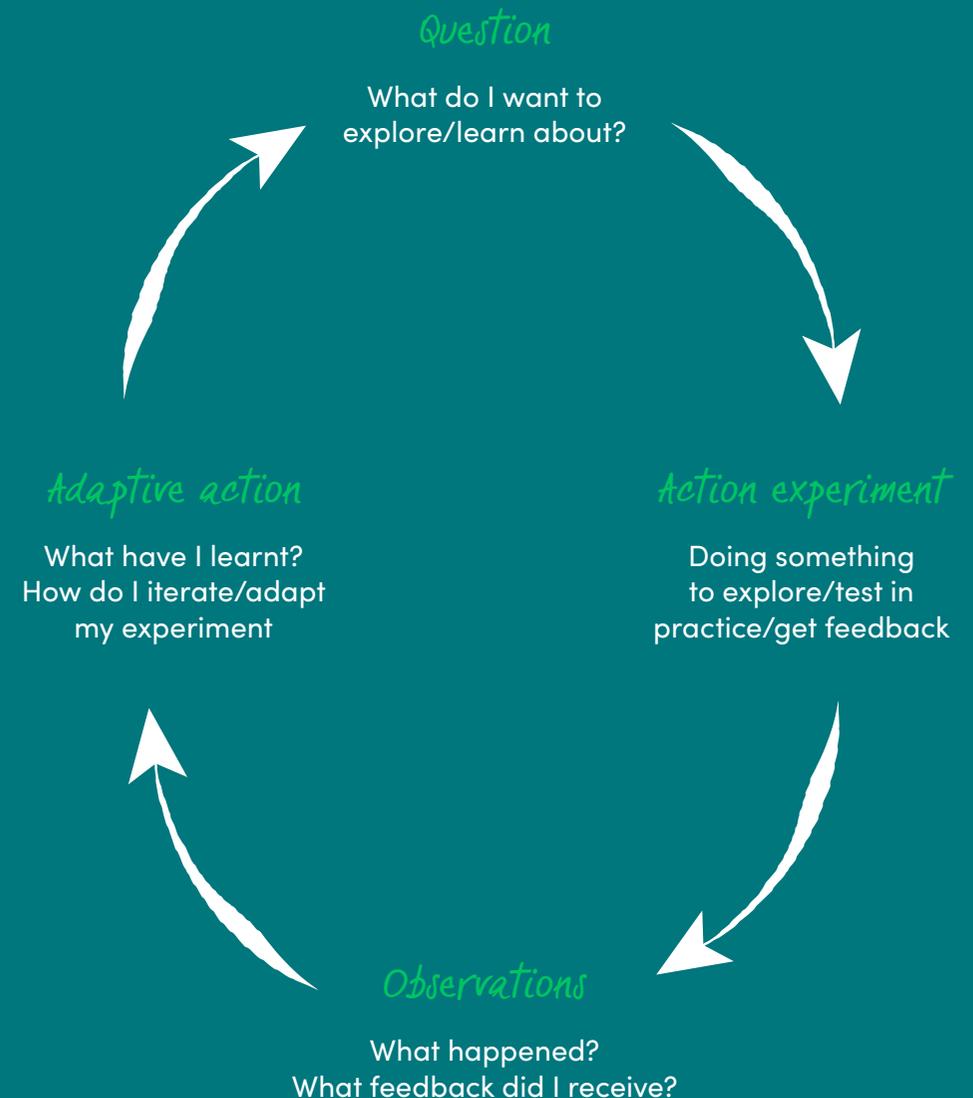


Figure 19 Cycles of Action Inquiry

Experimentation is simply trying something different to learn about how it works in practice. You could try experiments to explore any aspect of a potential intervention, including working through the practical details and requirements for implementation, uncovering potential problems or unintended consequences, aligning a team or a group of allies around a direction of travel or getting feedback on how different stakeholders respond.

Experiments can range from the smallest micro-experiment (for example, reaching out to the innovation team within an industry player rather than the corporate affairs team as part of your stakeholder engagement) to larger pilot projects (for example, testing a small-scale hydrogen system on a housing estate).

During the ITP, each government spent time assessing which aspects of their potential interventions they needed to learn more about and identifying experiments they could carry out to help their learning.



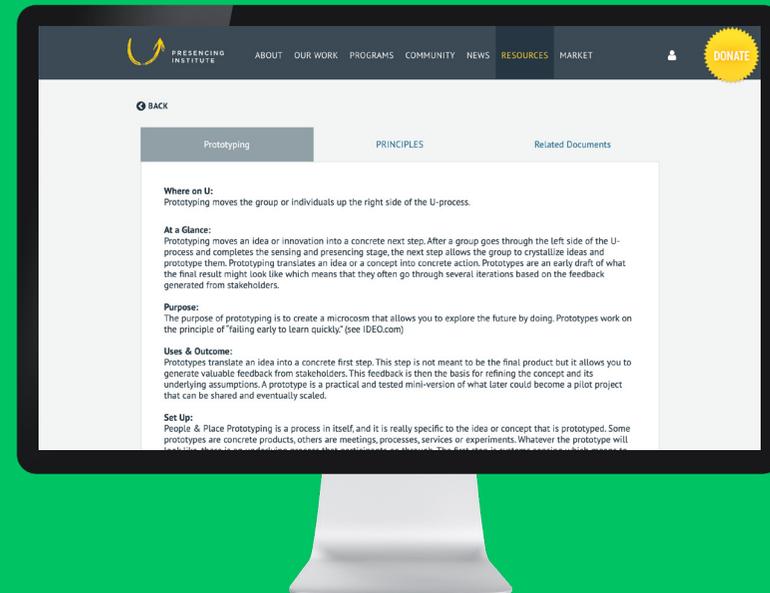
Thought-starter questions:

- What potential strategy interventions do you need to learn more about in practice?
- What aspects of implementation do you want to learn more about?
- What could be some action experiments you could try to learn more about that intervention?



Tool: Prototyping

If you want to learn more about the characteristics of experiments and criteria for designing experiments, the Presencing Institute has a useful [Prototyping Guide](#).



The idea of making "pilots" and experiments on the policies that we want to put in place is really helpful.

ITP Participant

Industry Transition Platform:

Appendices



Secretariat
CLIMATE GROUP

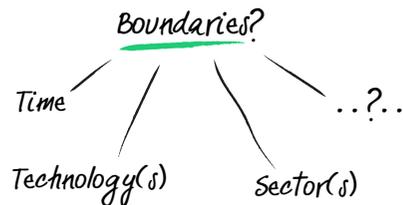


ITP challenge definition and context map

What's the system you want to influence?

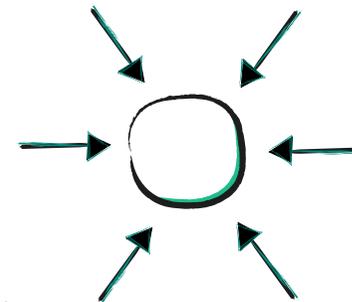
Your change ambition:

What's the change you want to see?



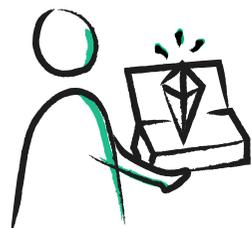
What are the key issues, trends and drivers affecting the challenge in your context?

- * Climate Change
- * Societal
- * Political
- * Technical
- * Economic
- * Industry needs
- * Energy innovations / niche initiatives



What can you build on?

- * What have you tried before?
- * Lessons learned - your's and other's?
- * Knowledge and experience
- * Resources



What do you want to learn about?

- * Learning questions
- * Research
- * Stakeholder dialogue interviews
- *

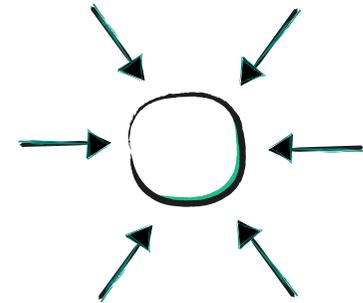


ITP challenge definition and context map

What's the system you want to influence?



What are the key issues, trends and drivers affecting the challenge in your context?



What can you build on?



What do you want to learn about?



Appendix 2

ITP Stakeholder Prioritisation Grid instructions

Step 1

Brainstorm (with others) and list as many different stakeholders as possible who are:

- Involved in your challenge and/or
- Affected by a change to the status quo of the challenge.

Note: Your list should include named institutions and/or people, as well as general stakeholder groups. Be as specific as you can be. You can continue to add to this list as your stakeholder engagement progresses and you identify more people to engage.

Step 2

Map stakeholders onto the Stakeholder Prioritisation Grid.

Map each stakeholder from your list according to:

Influence

How much influence this stakeholder has on your challenge – on the process of enabling change to happen? On access to resources? On decision making and implementation? On other stakeholders? **Position from Low to High along the horizontal axis of the Prioritisation Grid**

Interest

How much of an interest does this stakeholder have in your challenge and/or any change to the status quo – willingness to engage in the challenge? Level of investment in challenge outcomes? Something to gain or lose? **Position from Low to High along the vertical axis of the Prioritisation Grid**

Insight

How much insight could they add to your understanding of the challenge – new information? Relevant expertise? Awareness of resources? A different perspective or experience of the challenge? **Indicated from Low to High by the size of the stakeholder on the Prioritisation Grid**

Step 3

Prioritise stakeholders to engage in this stage of your challenge
Using Stakeholder Prioritisation Grid, identify an initial list of stakeholders to engage in helping you to define your challenge.

Note: The more complex your challenge, the more different stakeholder perspectives you should aim to engage and include. We recommend you engage a minimum of 5 different stakeholders, from at least 3 different stakeholder groups, to give a range of different perspectives and insights on the challenge.

Note: The prioritisation grid can be reviewed at different stages of your challenge journey to inform the development of your stakeholder engagement strategy as your challenge progresses.

Step 4

Begin your stakeholder engagement process.

ITP Stakeholder Prioritisation Grid



Insight ○ → ●

Appendix 3

System mapping exercise instructions

Step 1

Set up a (quick & intuitive) system map for your challenge

- Write your challenge topic on a post-it note & place it at the centre of your map (piece of flipchart paper)
- Brainstorm the different parts or elements that are connected to, influence or are affected by your challenge topic. These can include (but need not be limited to):
 - You, your team, your department
 - Other stakeholders (e.g. other government departments, corporate actors and bodies, NGOs, academic, the public and any other relevant stakeholders)
 - Physical / infrastructure elements
 - Goals, targets and priorities, opportunities, incentives, barriers
 - Events (past & future), market / external trends and forces, emerging innovation & technologies

Note: this is about exploring the challenge – there is no right or wrong; write down everything that relates to your challenge topic and free associate all the parts that make up the system of the challenge

- Write each part on a separate post-it note
- Arrange the different elements on your map in relation to the challenge topic & each other
 - Place the post-it notes quickly & intuitively
 - Make any adjustments to the direction of and distance between elements
 - Draw lines to highlight the connections & relationships between the different elements (**Note:** it will start to look messy – this is about exploring the complexity of your challenge, so for now embrace the messiness!)
- Step back & look at your map as a whole
 - Try moving / turning your map around & looking at it from different angles
 - What do you notice? How does it make you feel?
 - If needed, make any further adjustments needed to better reflect the current reality
- Take a photo of your current map (note – this is to capture a snapshot of your thinking now, before you make changes to your map in Step 3)

Step 2

Explore your map of the current situation with someone else

- Find a partner with who you can share and discuss your map
 - Describe the key parts, relationships, influences and flows
 - Where are the important inter-connections & relationships in your map?
 - What's great about the map? Where are the strengths, resources & enablers, that you can build on?
 - What's frustrating or challenging about the map? Where are the blockers & barriers to change?
 - What behaviours does the current system produce? What's the purpose it currently serves?
 - What new insights are emerging from this map?

Note: role of partner is to listen deeply & in silence

- Ask your partner to share their reflections from your map and from listening to you describe it:
 - What I notice is.....
 - The bigger picture I see is.....
 - The potential contribution to [your challenge] is.....
 - The questions that come to my mind are.....
- Take a few minutes to write down any insights / reflections from your conversation

Appendix 3

System mapping exercise instructions

Step 3

Experiment & modify your map to represent the ideal situation

- What is your heart's desire for how this situation could enable a lower carbon economy to emerge?
 - Write it on a pink heart post-it note and place it on your map
- How might this system map be strengthened to better enable that?
 - E.g. by adding or removing an element, connecting up elements that are currently dis-connected, strengthening or disrupting existing relationships & connections, linking together goals, priorities or targets, sharing information and resources between different elements, valuing diversity, capacity building, nurturing emerging innovations
- What parts or inter-connections might need to be disturbed or disrupted to better enable that?
- What would you change, add or remove to your map to unlock positive change and better enable a low carbon economy?

Step 4

Refine your challenge

- Building on the insights from mapping your challenge, use the attached template to capture how you see the challenge now

System mapping exercise

| | | | |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----|
| <p>How do I see my challenge now?</p> | <p>What's the change I'd like to see (short- / medium term)?</p> <table border="1"><tr><td data-bbox="1115 391 1624 1053">From</td><td data-bbox="1624 391 2128 1053">To</td></tr></table> | From | To |
| From | To | | |
| <p>My dream outcome (long term) would be...</p> | <p>What questions am I holding? What do I want to Learn more about?</p> | | |

Exploring co-benefits

Other priority:

Step 1

What are the connections and mutual benefits between low industry emissions & [other priority]?

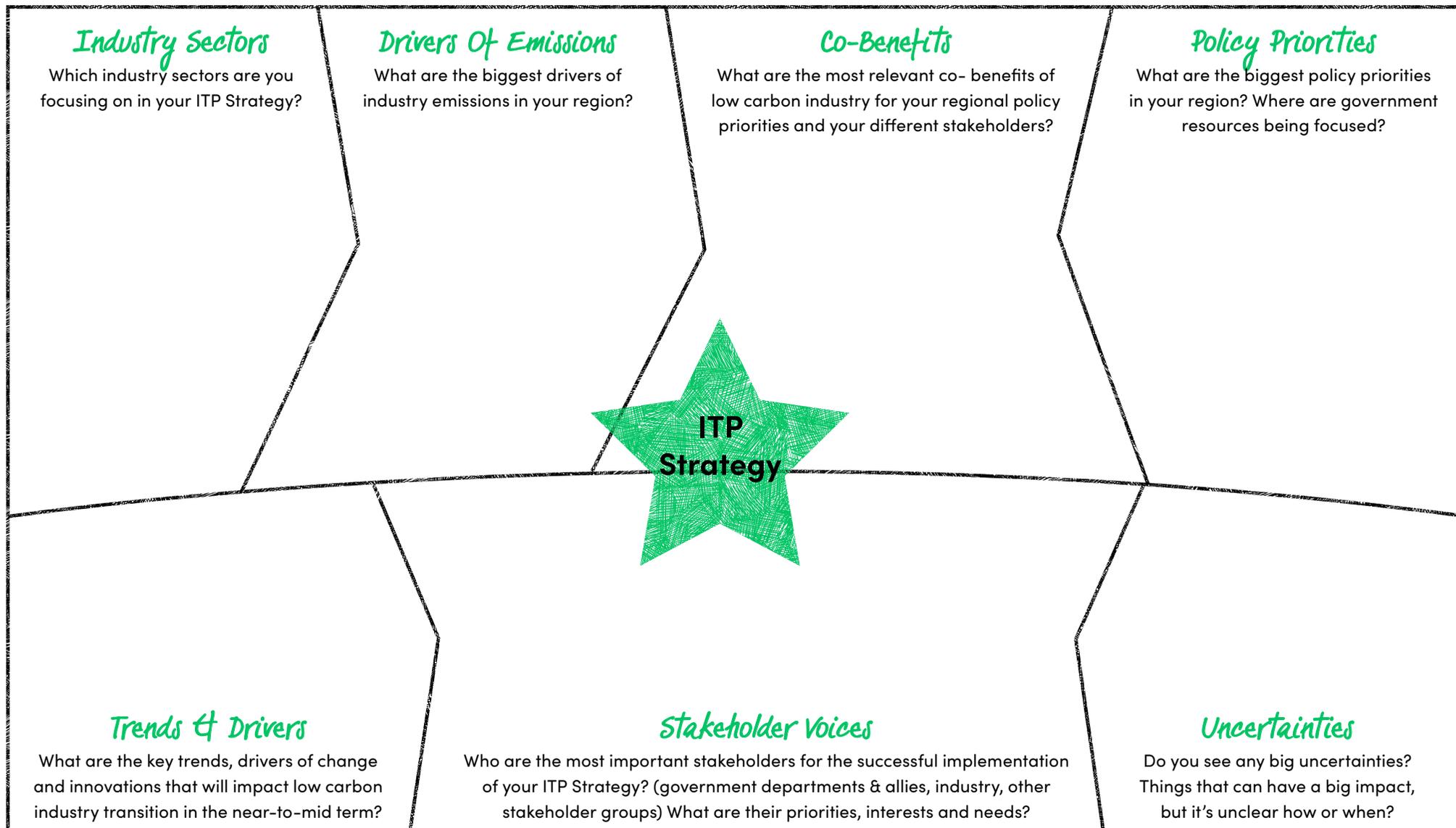
- How do low industry emissions support [other priority]?
- How do low industry emissions benefit from [other priority]?

Step 2

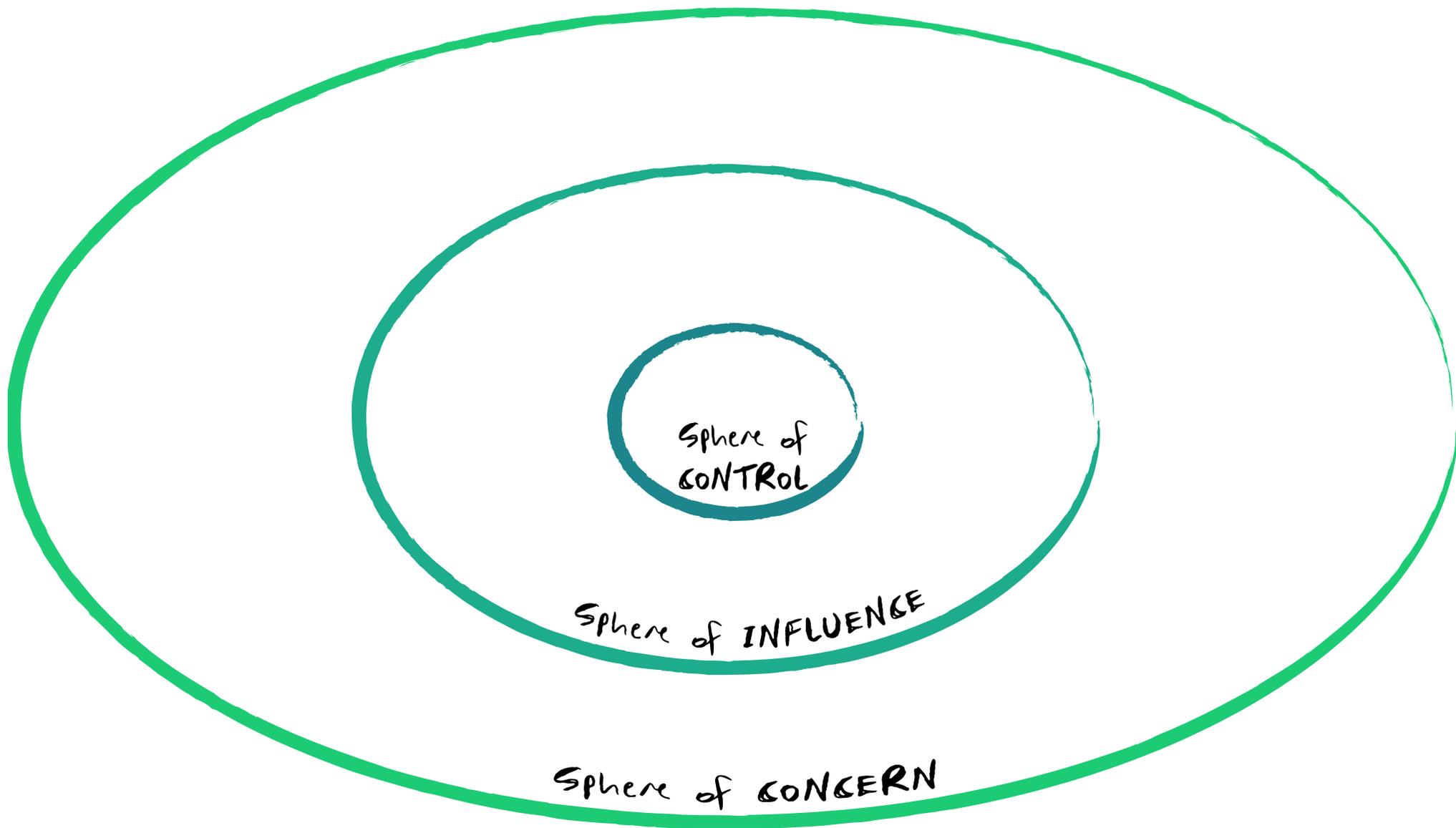
If [other priority] is the main priority for a region, how might that shape:

- Who you would engage in your strategy development & implementation?
- What key messages you would use to engage them?
- What kind of policy options you would focus on in your strategy?

ITP Strategy Context Map



Spheres of Influence



Appendix 7

ITP Policy Options Matrix instructions

Step 1

To complete this, please review your current list of policy options in light of your context map.

You may want to consider the following questions:

- What's the likelihood of successful implementation?
 - Is it in your spheres of control &/or influence?
 - Do you have allies you can collaborate with?
 - Do you have resources or can you access resources through others?
 - Is there appetite amongst your stakeholders?
- What's the potential impact?
 - on emissions reduction?
 - on industry transition to low carbon?
 - does it have (at least one) cobenefit?

Step 2

You may also want to consider which of the are short term, medium term or longer term options by using different colour post- it notes.

ITP Policy Options Matrix

