

Need for speed: Strategy mapping and adaptive management

This paper forms part of the 2021 Discussion Series on Climate Change.



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Disclaimer

This document and associated graphics are a result of a half-day workshop involving experts in the climate and economic policy fields. The aim of this discussion paper is to describe a strategy mapping process and its outcomes, as well as the potential role “sprint” techniques such as the one described here can play in a wider policy development process. Despite the experience and knowledge of participants, this document is not a substitute for long-term policy development undertaken by skilled practitioners. The results of this strategy mapping process should also not be taken as representing the views or positions of individual participants. While the bulk of ideas and views represented in the room are presented in the maps below, some were excluded for overall coherence or readability. Feedback provided by participants indicated the workshop, although a fast and furious exercise, was nonetheless very useful at explaining the method and its potential uses.

Thank you

The McGuinness Institute would like to thank Isabella Crawford, Maisie Hance, Reuben Brady, Dana King and Sophie Wells for their efforts organising and running our strategy mapping workshop. The event would not have been the success it was were it not for their input and insight.

Discussion Paper 2021/02

Need for speed: strategy mapping and adaptive management

17 August 2021

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Note: This is the first in a series of discussion papers being prepared by the Institute to consider solutions to policy knots that relate specifically to climate change.

1.0 Introduction

This discussion paper is a result of a half day Emissions Reduction Plan Strategy Mapping Workshop held on 21 May 2021 – two weeks before the Climate Change Commission’s Final Advice to the Government was published.

2.0 Exercise

This workshop was run to test the utility of strategy and assumption mapping in improving the overall design and communication of an emissions-reduction strategy. We developed strategy and assumptions maps for a well-developed policy area, allowing us to focus on capturing the benefits of the process rather than the plan itself.

We initially ran a four-hour workshop to design an emissions-reduction strategy map and a related assumptions map. The Institute then developed these maps into finished products. This paper briefly describes the workshop process and the resulting maps, and includes a discussion of the findings.

The workshop took place between the release of the Climate Change Commission’s Draft Advice (published 1 February 2021), and Final Advice (published 9 June 2021), and used the 2025, 2030 and 2035 emission budget periods as the basis for its discussions. This paper was produced to test the strategy-mapping process and share insights, with the goal of helping other groups conduct similar exercises. Given the short timeframe, the process was the focus, rather than the resulting content. It is important to note also that the discussion paper produced isn’t necessarily reflective of any one participant’s views.

Participants

We invited 15 people to participate in our strategy-mapping exercise. The majority of participants were from an environmental science, economics, strategic planning or public policy background. A number of participants were also engaged in developing the upcoming Emissions Reduction Plan, or had specific expertise in the field.

Participants were split into three groups, with each group focusing on a different emissions budget period, as described in the Climate Change Commission’s Draft Advice. Organisers attempted to incorporate a mix of skills and experience in each group to generate lively, productive conversations.

Method

In the lead-up to the workshop, participants were provided with a range of information on strategy and assumption maps, including existing examples. A full list of resources is included at the end of this paper.

Participants were given two worksheets to provide a broad structure to their strategy and assumption maps. Groups had 90 minutes to complete both emissions-reduction mapping exercises, and ten minutes per group to present their findings. Each group included an event organiser to facilitate the conversation and to note down observations and assumptions.

The group at large spent 30 minutes combining the three maps, each with a different outcome horizon, to create a shared emissions reduction strategy map covering 2021 to 2035.

Finally, the Institute’s designers presented the group with a range of different design options, with participants voting on which was best suited to presenting the workshop’s findings.

After the workshop, organisers recorded the workshop outputs and combined each team’s assumption map into a shared document. Designers then transformed the final strategy and assumption maps into the graphics in appendices 1, 2 and 3.

Replicating this process

To assist others in replicating this process, additional resources, including templates, are included at the end of this document. The brief description above does not capture the full detail of the strategy- and

assumption-mapping process undertaken on the day. If your organisation would like to undertake a similar exercise, the McGuinness Institute is happy to assist with advice and further detail on our experience.

Design considerations

The McGuinness Institute team have created two design options for the workshop's outputs:

Option 1: Traditional design

This is more traditional and provides a straightforward, linear design approach which centres the content of the strategy map and focuses less on visual narrative.

Option 2: Explorative design

This is more explorative and focuses on communicating relationships between the Emissions Reduction Plan, stakeholders and themes, through an immersive and engaging compass-style design. This option has the potential to be expanded further by combining it with a 'cone of plausibility, though this added complexity may detract from the readability of the document without additional explanation.

These two options could be used in conjunction, with Option 1 acting as the primary map and Option 2 providing additional context and analytical depth. The use of icons was explored and discarded, as they added unnecessary visual clutter to an already detailed piece of work.

3.0 Results

In addition to this discussion paper, four major outputs were created:

- (i) **Assumption map (see appendix 1)**
- (ii) **Strategy map – Option 1: Traditional design (see appendix 2)**
- (iii) **Strategy map – Option 2: Explorative design (see appendix 3)**
- (iv) **Questions used to stress-test our assumption and strategy maps (reviewed and updated)**
Prior to the Workshop, the Institute developed a range of questions used to stress-test our assumption and strategy maps. These were refined during the Workshop to create the following list:
 1. Assumption mapping: Have you assessed and managed each assumption in detail? For example: (i) by its magnitude (to reduce risk) and (ii) by the extent to which it is explicitly or implicitly understood (to manage risk).
 2. Alignment: Do cause-and-effect relationships exist throughout the whole strategy map? Move from the top of the strategy map to the bottom, reviewing each relationship along the way, then move back to the top again, doing the same.
 3. Alternative approaches: Place your hand over portions of the strategy map and see if alternative/less costly/more effective themes, goals, actions or requirements exist.
 4. Concise language: Check words are precise and familiar, and sentences are short and straightforward. (Apply the 'Write Plain Language Standard').
 5. Clarity over what is not included: Is it clear what the strategy is not focused on (and does that need to be specified)?
 6. Indicators: How would you know whether the strategy is working correctly?
 7. Timely feedback: How can you get fast feedback on the strategy so you can respond quickly and adjust/pivot your strategy accordingly?

4.0 Discussion

The notes below seek to capture some of the themes, discussions and points of conflict which emerged during the workshop, but which could not be succinctly represented in the graphics seen in the appendices. This paper does not capture the full diversity of discussion in the room, and is shaped by the perspectives and biases of its author. Other participants will have different views on which were the most important themes from the day, and, where possible, their observations or feedback has been incorporated. A draft of this paper was circulated on Friday 16 July for this purpose.

Governments have choices

As the maps in the appendices make clear, there are lots of effective tools at our disposal. We can reduce emissions on the land, in our stationary energy sector, in transport and in industrial processes. We can intervene directly in the activity of private enterprises, or leave it to market forces to shape decisions made by firms. We can subsidise people for the additional costs imposed by our interventions, or we can view these costs as exerting necessary pressure on consumer behaviour. We can invest in mitigating our own emissions on shore, or we can pay someone else to do our heavy lifting offshore.

The combination and shape of the policies employed by governments will have corresponding effects on the type of society and economy we inhabit and pass on. Ensuring these impacts are not only well understood by policymakers, but also by the broader community, is key to the public engaging meaningfully in the process.

The Climate Change Commission has clearly acknowledged the need for better information on the effects of our climate interventions, with distributional effects discussed extensively throughout their advice. Government can rise to this challenge by ensuring the impacts of policy choices are well understood and highlighted in their response to the Commission's advice. Given the tension between pace of action and perfect knowledge, attention should be focused where impacts are poorly understood and likely to affect vulnerable communities, industries and regions.

We know what needs to be done

Closely related to the above: despite the considerable expertise of those in the room, we did not identify any ground-breaking new ideas or solutions. This is not a critique of anyone present, or of the process followed, but reflects the considerable work done in the climate policy field in recent years, and the limitations imposed by the fundamental assumptions described below.

Regardless of how many times we ran the same exercise, and the calibre of participants, it's unlikely we would strike upon an idea of such stunning originality it would fundamentally change the course of domestic climate policy.

The takeaways from this realisation are:

1. We already know, largely, what we need to do. We may be reaching a point at which additional lengthy reports act as an impediment to action, as they divert time, political energy, and policy capacity away from implementation.
2. There's no magic bullet waiting in the wings. While remaining open to new ideas and initiatives, particularly approaches incorporating mātauranga Māori, we should act as through the tools we have at our disposal are the ones we will need to use.

This first point is not a critique of the Emissions Reduction Plan, or the Commission's advice, or the Interim Commission's report, or any work done by the Ministry for the Environment, or universities, or anyone else. With 2030 looming, and New Zealand likely to miss its Paris commitments by a wide margin, delivering domestic mitigation through established, proven policy prescriptions must be the priority.

Report authors considering recommending the creation of further reports should closely consider whether extensive additional policy work will alter the choices we need to make, or simply delay making them. Agencies charged with implementing the Emission Reduction Plan may find delivery-focused models such as strategy mapping can strike the balance between blind movement and prevarication.

Relying on quicker, more responsive strategy development models also creates more opportunities for learning from and refining policy and programmes as they are developed and implemented. Given uncertainty around the pace and nature of global climate action, adopting this more adaptive management approach allows us to take bold action in the near term while minimising the risk of locking ourselves into poor choices long term.

Transition vs transformation

Where do we want to be in 2050? Where do we therefore need to be in 2035? And then where in 2025? And in 2022? And tomorrow? A tension raised on the day, and reinforced in feedback on the draft of this discussion paper, is the tension between gradual transition and radical transformation.

Most of us know the kind of world we would like to see 100 years from now, but it can be difficult to work backwards far enough to know what we need to do right now to get there. While transformational change can and does happen overnight, the sweep of human history is a story of far more gradual transition in societies and institutions. Waiting for transformation at the expense of taking immediate, gradual action is a sure way to see change fail to materialise.

How to address this gap between the present state and the utopia/dystopia we're shooting for? Strategy development which clearly grapples with the temporal and staged process of arriving at a future point can help us identify interdependencies and give us the confidence to act now. Strategy mapping, with its visual nature, its quick turnaround, and endless repeatability is ideally suited to the task of guiding complex, long-term transitions.

Two classes of assumption

Throughout the workshops, it became clear we were dealing with two classes of assumptions. One group, what we might call 'operational' assumptions, deals with the reality of implementing a strategy. How we assume stakeholders will respond to particular interventions will shape the nature of the interventions we craft. Our goal in understanding and acknowledging these assumptions is to clarify our thinking, understand our risks, and allow observers to challenge and stress-test our thinking. Our assumption mapping exercise dealt largely with these 'operational' assumptions.

The other class of assumptions sit above these 'operational' assumptions and deal not with the practicality of implementation, but with the meta-structures in which the strategies exist. These 'fundamental' assumptions concern the economic, social and cultural systems affecting the strategic decisions made, and the values of those making the decisions.

In the context of climate change, these 'fundamental' assumptions deal with questions like:

- Can we continue to consume at the rate and in the manner we do?
- If so, are all people entitled to the same level of material comfort enjoyed in developed nations?
- Does the Earth have a hard carrying capacity, or will human innovation allow for endless growth?
- Is our existing economic system capable of managing the change required?

The difficulty in dealing with these 'fundamental' assumptions is the reluctance of individuals and institutions to take an explicit position on these vexed questions. Instead, the conversation tends to veer into vague language and caveats. For example, instead of taking a position on the sustainability of current farming practices, we can see below how the Commission hedges its language:

In addition to improving efficiency on farms now, the successful development of new technologies and practices would provide greater flexibility and allow Aotearoa to meet the more ambitious end of the 2050 biogenic methane target range without reducing agricultural production. Promising options currently being researched and developed include a methane inhibitor that would be compatible with the pastoral farming system and a methane vaccine.

In conversations and presentations on the day, the majority of participants took the view that the economic and social status quo would largely prevail over the period considered. The consequence of this assumption,

right or wrong, is our strategic thinking is in turn constrained by the way things are. Where this constrained thinking confronts problems to which it is not suited, the quality of our analysis suffers.

One way to avoid the trap of leaning on ‘common sense’ to define the strategic environment in which policy is developed is to make explicit that the analysis relies on a *ceteris paribus* assumption. ‘Holding all else equal’ is, of course, a fallacy, but at least it makes it clear that the analysis exists within a bounded conceptual system and does not represent the full suite of possible solutions.

Do we know enough to act?

Given all of the assumptions described above, big and small, implicit and explicit, do we know enough to build a long-term climate policy framework? Over the course of the workshop, participants made a number of statements which appeared to be accepted by the room at large. Given the expertise and range of views present, and the lively discussion around what constitutes an assumption, this general acceptance is a reasonable indicator the statements are accurate.

What is the use of highlighting these verifiable statements? While building policy solutions on assumptions is sometimes necessary, the validity of these interventions relies on those assumptions remaining true. For example, assumptions about price sensitivity underpin expectations of the impact of emissions pricing on consumer choices. Should these assumptions, based on particular models of human behaviour, prove incorrect, the policy frameworks built on them will fail to achieve their aims. We do not face the same risk if we build our interventions on surer ground.

Although these statements might seem a relatively scant basis on which to develop an enduring policy framework, they cover many of the scenarios and proposals discussed on the day. For those interventions not covered by the below, a well identified and examined assumption is the next best thing. Many of these statements are also reflected in the Commission’s advice under their ‘Principles to guide the Aotearoa transition’.

- 1. There is a problem, and we know what’s causing it.**
Climate change is occurring, and it is undesirable. Human activities are the primary driver of this change. We know which activities are driving change.
- 2. We have the capacity to do something about the problem.**
The choices human society makes will affect the intensity and speed of climate change. We have the tools and knowledge available to give effect to these choices.
- 3. There are ‘no regrets’ decisions we can, and should, make now.**
Where benefits are clear, and risk low, we ought to act as quickly as possible. If we can make meaningful, affordable changes with few negative impacts, we should.
- 4. Some changes we will need to occur in the future require us to take action now.**
Policies may have a long lead time. We should identify these temporal interdependencies and take the necessary actions now. Path dependency locks in patterns that can be difficult to reverse.
- 5. Our ability to predict the detail and order of events gets hazier the further into the future we look.**
We do not have perfect knowledge about the course of future events. We can, and should, avoid locking ourselves into particular paths where significant uncertainty exists. Our solutions must be adaptive to reflect this uncertainty.
- 6. We can manage uncertainty.**
Long-term investments in skills, innovation and strategic planning can, to an extent, mitigate risks associated with imperfect knowledge of future events.
- 7. Good planning needs good information.**
Accessible and relevant research is essential when managing rapid and uncertain change. The public interest is best served by reducing information disparity between actors. Good information takes time and money to find and collate.

5.0 Additional Information

5.1 Terms of reference

Aim of the workshop

The aim of the workshop is to:

1. Connect a group of highly motivated and informed parties.
2. Learn more about the strategy mapping tool.
3. Prepare and design an emissions-reduction plan strategy map (we will have two designers available to help capture the participants' thinking). Note: The aim is clearly not to create an optimal strategy (we only have four hours) but to express what the group thinks in an explorative and creative way. In other words, learning by doing.
4. Garner ideas from attendees on what should go into Aotearoa New Zealand's Emissions Reduction Plan (and what should not).
5. Create a set of questions that can be used by others to stress test future Emissions Reduction Plan.
6. Publish a summary paper that will consist of a method explaining how to create and use strategy maps. Most importantly, write up the process as an exercise so that others can learn lessons in terms of processes, stress testing questions and outcomes. (This publication is the major output). The Institute believes that, in the future, many organisations and councils may wish to create and possibly make public their own Emissions Reduction Plan. Our intention is write up the lessons learned so that the exercise can be replicated and improved by other players across various fields.

5.2 Workshop resources

All resources used on Friday 21 May 2021 can be found on the McGuinness Institute website page here:

- Agenda
- Exercise 1: Worksheet 1: Strategy mapping exercise
- Exercise 2: Worksheet 2: Assumption mapping exercise
- List of participants
- Presentation PowerPoint
- Pre-reading
 - » **Pre-workshop exercise: Aquaculture Strategy Map**
Please read the Aquaculture Strategy Map (page 6); and apply the stress test questions found at the bottom of worksheet 1. If possible, please identify one or two assumptions that underlie the aquaculture strategy. This exercise will help showcase how to apply worksheets 1 and 2 to a strategy map, in advance of the workshop.
 - » **Strategy mapping the Climate Change Commission Draft Advice** (two excels)
The Institute undertook an open and closed exercise on mapping the strategy inherent in the Climate Change Commission Draft Advice. Please read in advance of the workshop.
 - » **Article**
Having Trouble with Your Strategy? Then Map It (by Robert S Kaplan and David P Norton). This article is old (2000) and only has a profit focus; the two overarching purposes are to increase growth or increase productivity. Obviously the aim of the workshop is to reduce carbon use. This means influencing the supply side and/or the demand side. Do not feel the need

to read the article from front to back but if you have time, please take a cursory look at some of the diagrams and perhaps highlight a few observations.

» **YouTube video**

Strategy is largely about judgement. If you have time, you might like to watch a recent video, found here. It is by the authors of a new book called *Noise: Why We Make Bad Judgments and What We Can Do About It*. It is interesting because it talks about the difference between bias and noise – and how these two components get in the way of making good judgements. I like the distinction that algorithms remove noise but not bias. This talk is useful when thinking about assumptions. For example, how do we identify and manage inbuilt biases – their solution is to adopt ‘decision hygiene’.

Special thanks to the participants for giving their time:

Roana Bennett, Greg Briner, Lionel Carter, Isabella Crawford, Matthew Everett, Malisha Frawley, David Gawith, David Hall, Maisie Hance, Ella Lawton, Tom Milton, Leah Murphy, James Palmer, Michelle Pawson, Donna Purdue, Lachlan Rule, Elliot Scholz, Ali Segura, John Stewart, Nigel Taptiklis and Alex White.

The McGuinness Institute team included:

Wendy McGuinness, Reuben Brady, Dana King and Sophie Wells.

Appendix 1: Assumption map

Worksheet 2: Assumption mapping exercise

Explanation

An assumption map helps to test, validate or identify holes in the strategy (an assumption being an unchallenged input that shapes the strategy). It helps identify issues that could prevent the strategy from succeeding.

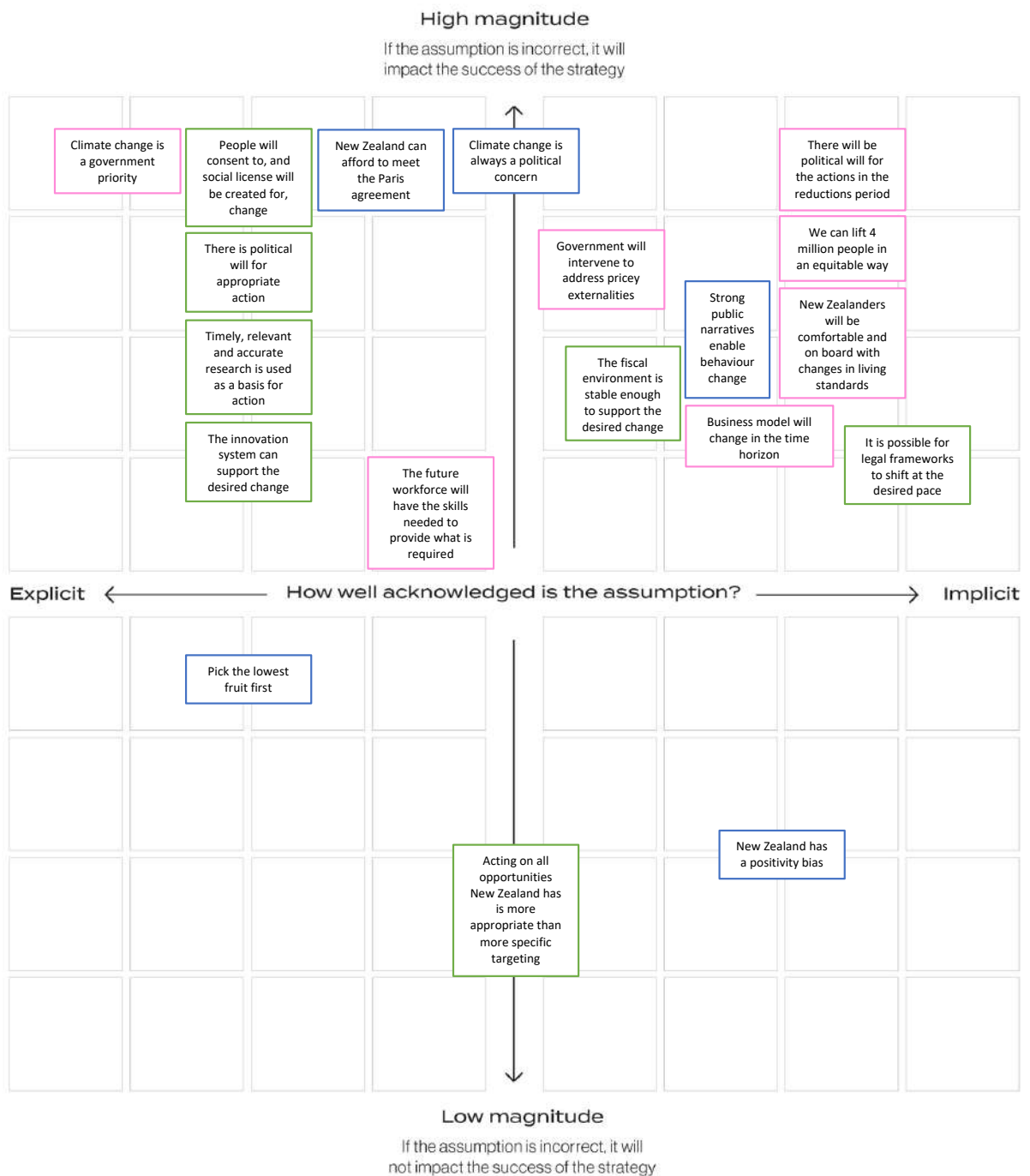
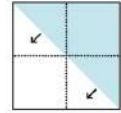
Step 1: Write down a list of assumptions that you think may exist. (e.g., use sticky notes – but not orange ones)

Step 2: Sort similar assumptions and then choose a high-level assumption to reflect the group (e.g., use an orange sticky note).

Step 3: First rank these high-level assumptions from top to bottom on the left of the diagram below by whether they have a high or low impact (magnitude) on the success of the strategy (use the orange sticky notes only on this worksheet).

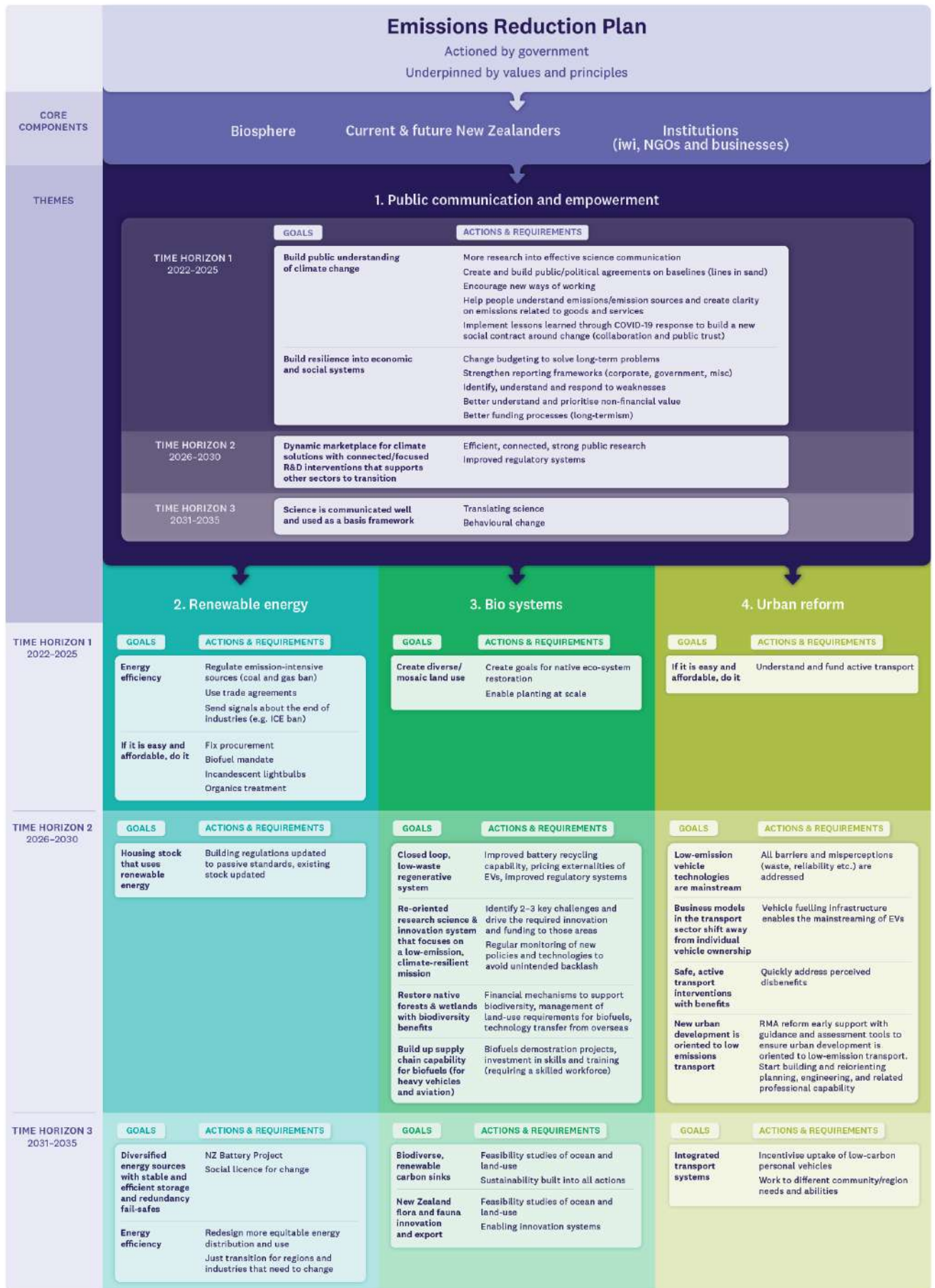
Step 4: Second move these high-level assumptions across the diagram from left to right to show what is explicit (well recognised) and what is implicit (not well recognised).

Step 5: Now think about how you could move the assumptions from right to left and/or from top to bottom. Note: You will not be able to remove all assumptions, but by making them more explicit/transparent you are ensuring you know when you are taking a calculated risk. This will ensure when the strategy is reviewed or assessed, learnings can be made, and action can be taken early (saving money and time).



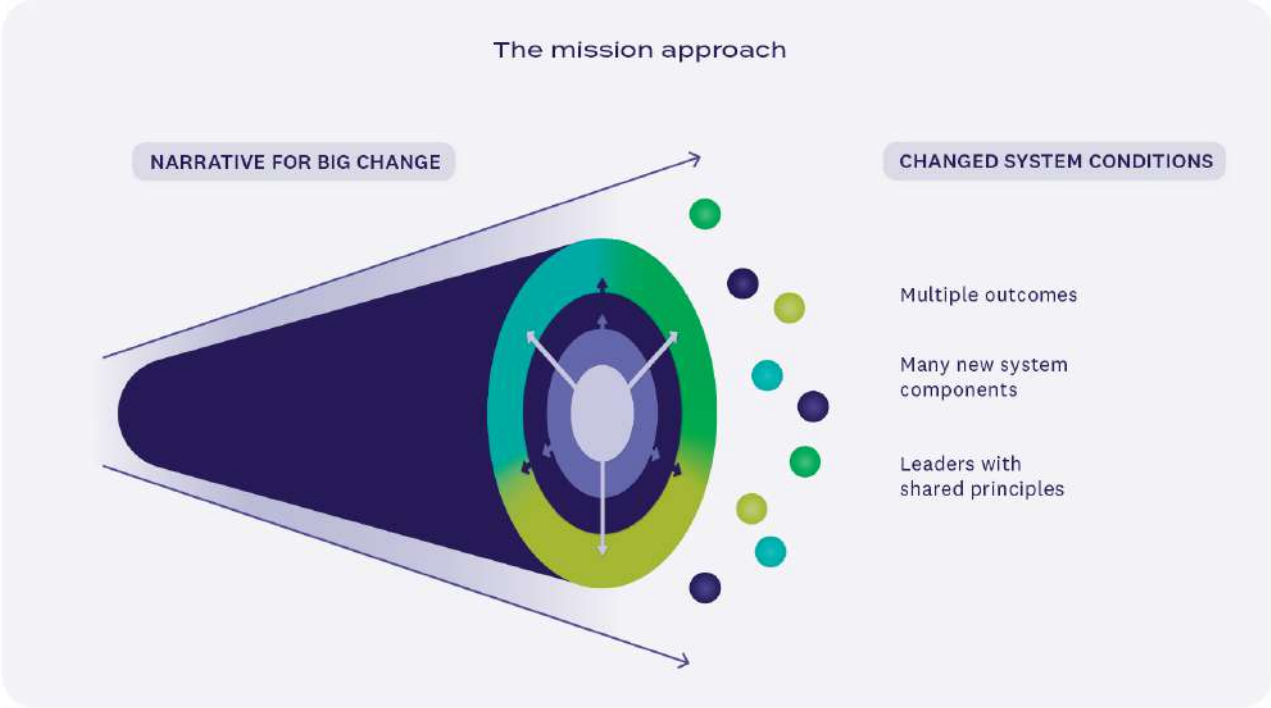
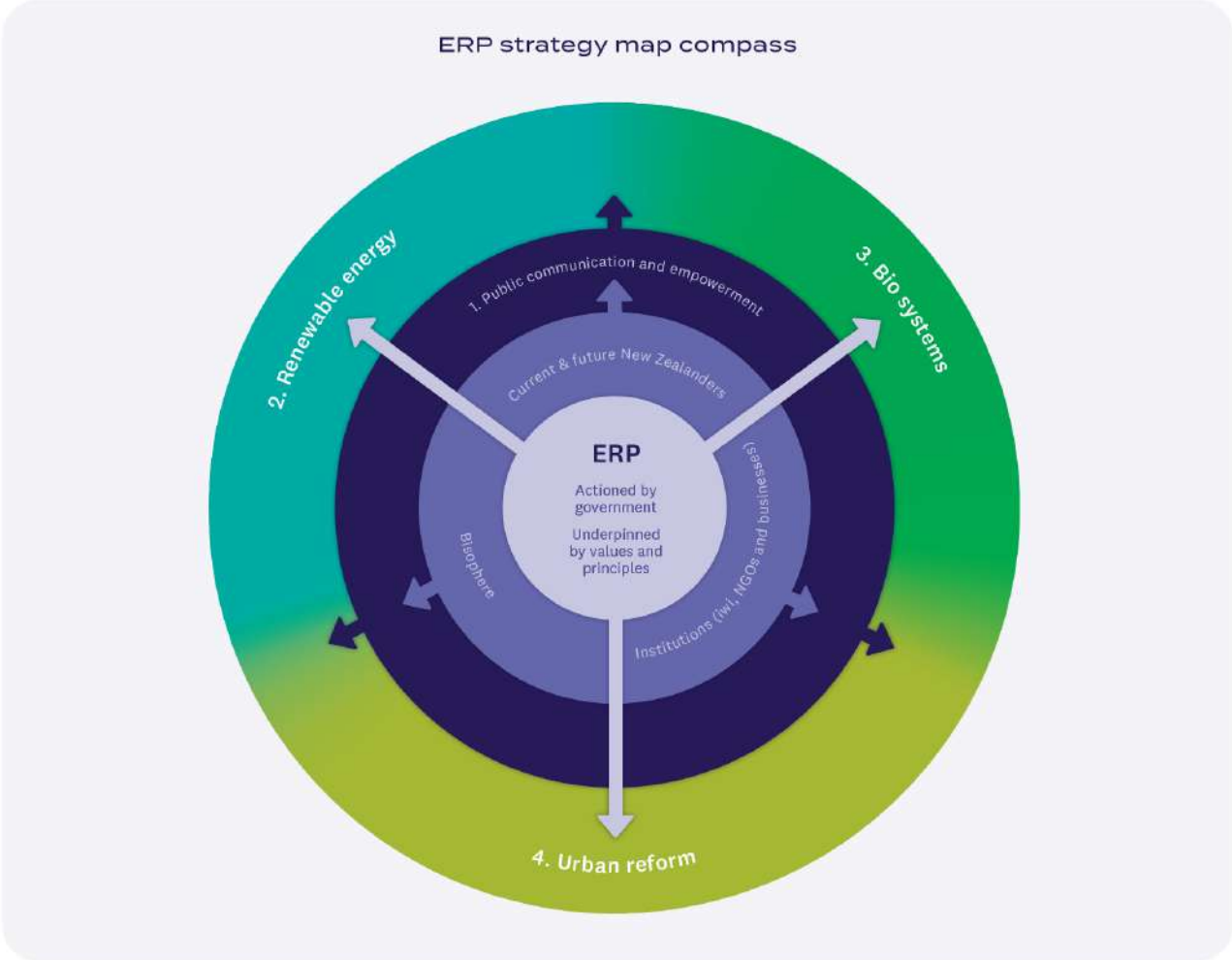
Appendix 2: Strategy map – Option 1: Traditional design

ERP STRATEGY MAP – OPTION 1
[13 August 2021]



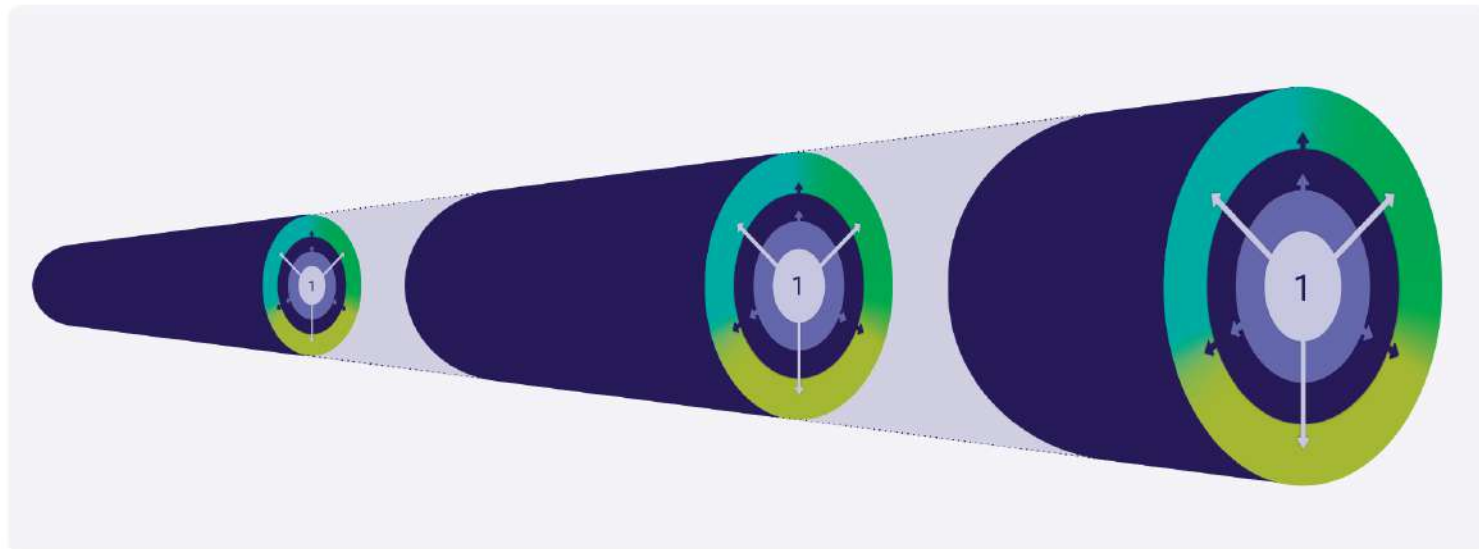
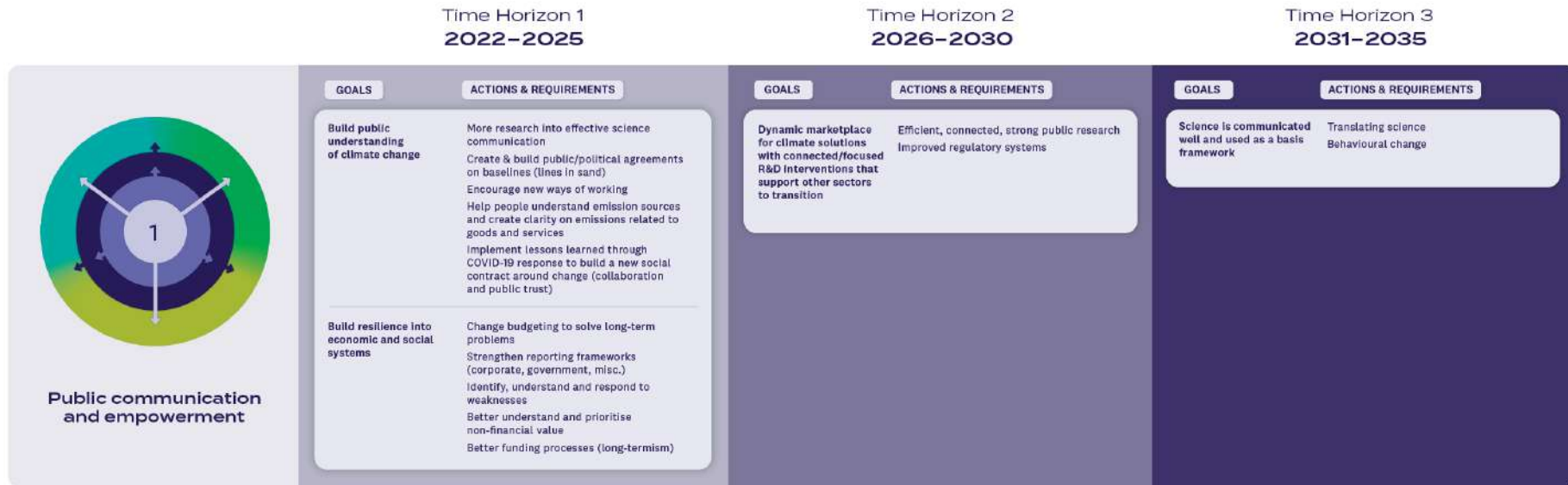
Appendix 3: Strategy map – Option 2: Explorative design

ERP STRATEGY MAP – OPTION 2
 ERP strategy map compass & the mission approach
 [13 August 2021]



Appendix 3: Strategy map – Option 2: Explorative design (cont.)

ERP STRATEGY MAP – OPTION 2
Public communication and empowerment
[13 August 2021]



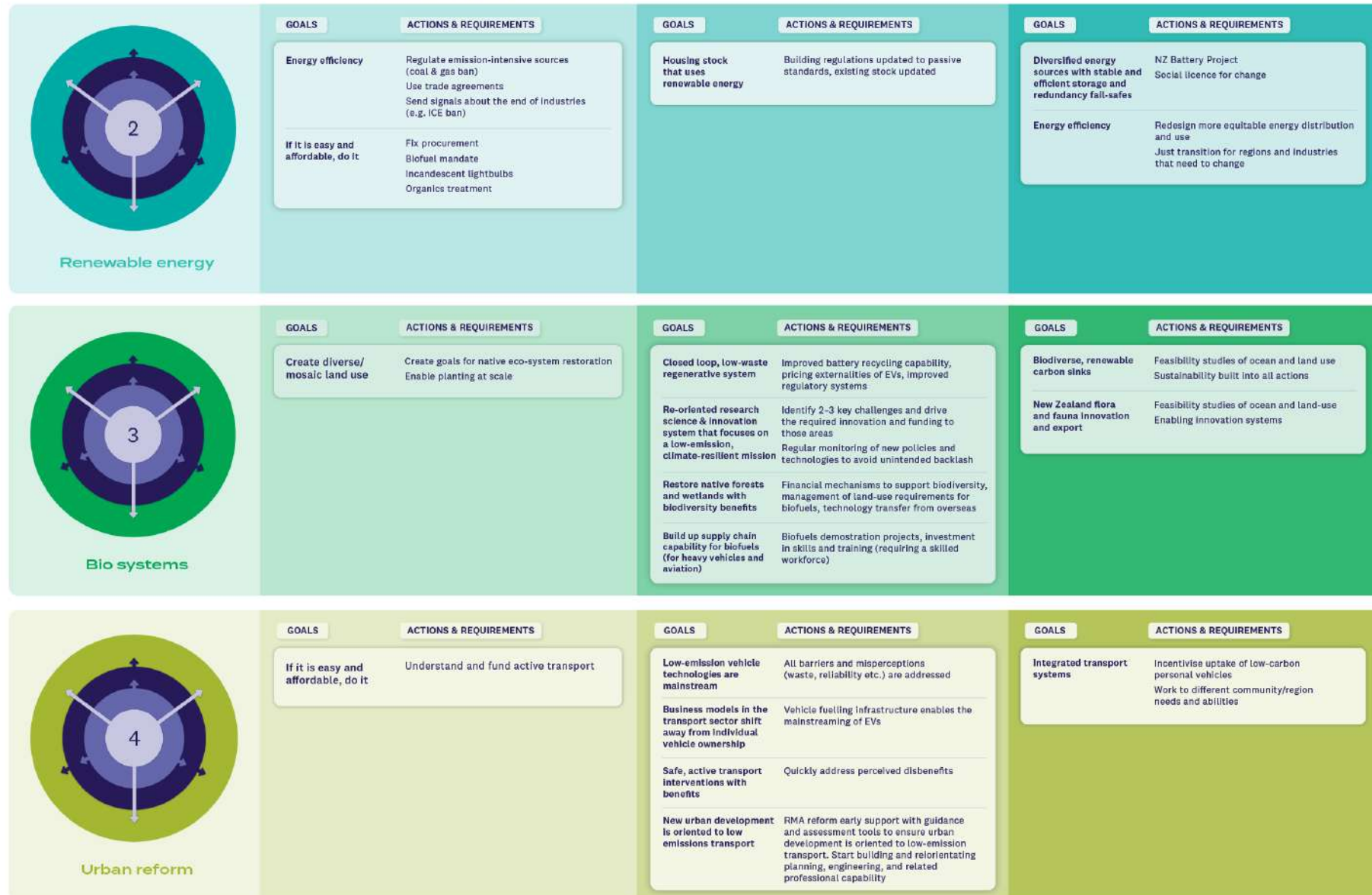
Appendix 3: Strategy map – Option 2: Explorative design (cont.)

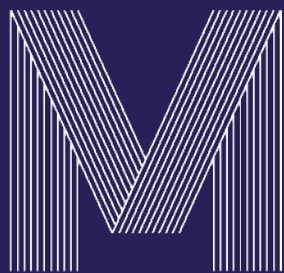
ERP STRATEGY MAP – OPTION 2
 Renewable energy, bio systems & urban reform
 [13 August 2021]

Time Horizon 1
 2022–2025

Time Horizon 2
 2026–2030

Time Horizon 3
 2031–2035





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