TCFD Workshops: Practical steps for implementation

Navigating Climate-related Financial Disclosures

MCGUINNESS INSTITUTE
TE HONONGA WAKA

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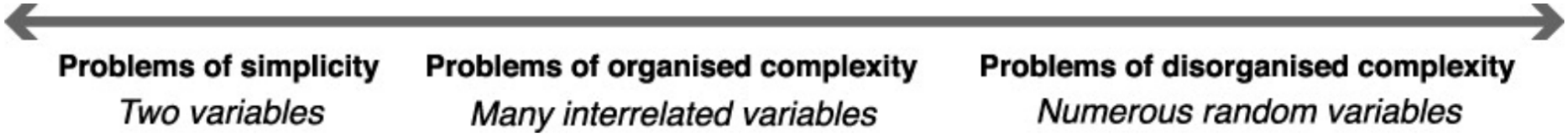
Photos

We will be taking photos of the speakers and possibly some video footage. If you do not want to be in any photos or videos, please let Eleanor or Isabella know.

Part 1: Global Context
Why have we not been able to tackle climate change?

(Hindsight)

1. 1958



Weaver described the seventeenth, eighteenth and nineteenth centuries as the period in which physical science learned how to analyse two-variable problems. These are problems where

'... the behaviour of the first quantity can be described with a useful degree of accuracy by taking into account only its dependence upon the second quantity, and by neglecting the minor influence of other factors'

(Undertaken first, before 1900)

Weaver goes on to describe a great middle region that had remained relatively untouched by science and yet was critical for the future of humankind:

'... But much more important than the mere number of variables is the fact that these variables are all interrelated ... They are all problems which involve dealing simultaneously with a sizeable number of factors which are interrelated into an organic whole.'

(Undertaken last, from 1950)

'... [A] large billiard table with millions of balls flying about on its surface, colliding with one another and with the side rails.'

'The great surprise is that the problem now becomes easier: the methods of statistical mechanics are now applicable. ... On the average how far does a ball move before it is hit by some other ball? On the average how many impacts per second does a ball experience?'

(Undertaken second, between 1900 and 1950)

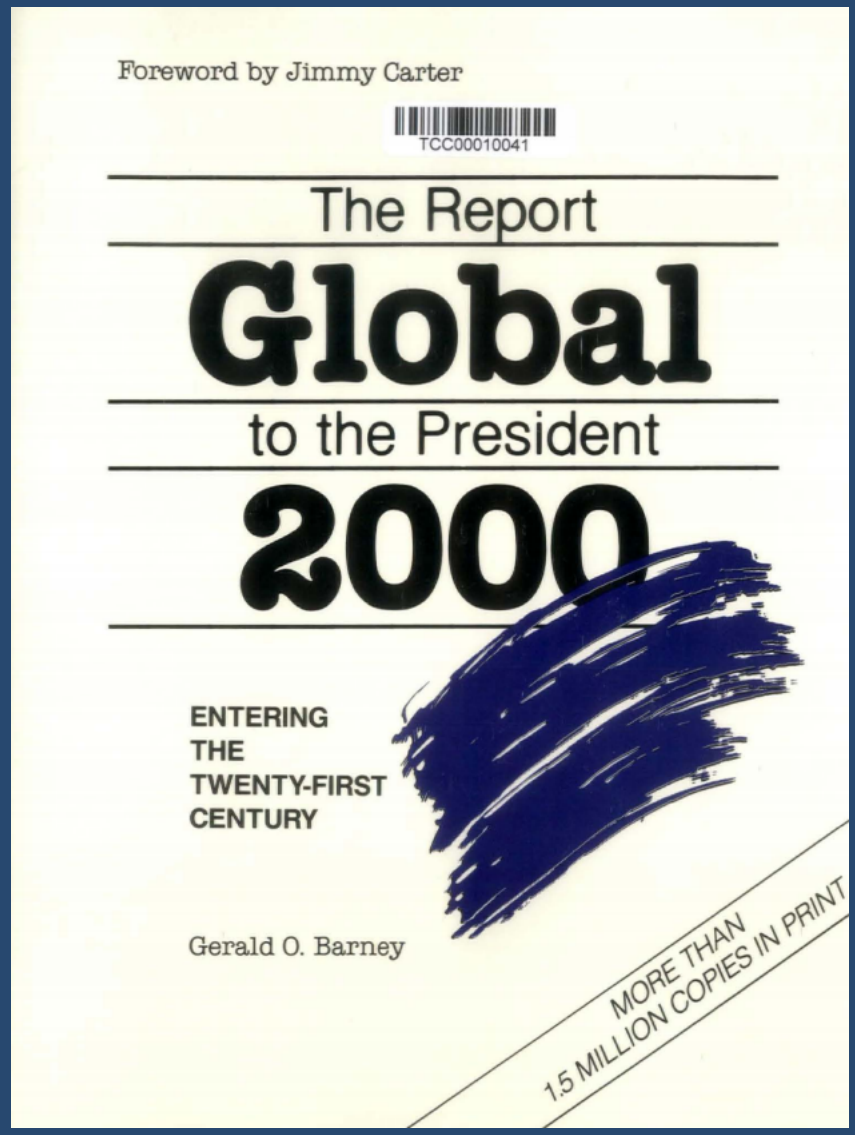
Dr Warren Weaver, Director for the Division of Natural Sciences, The Rockefeller Foundation

2. 1980

‘The Global 2000 Report to the President presents a picture that can be painted only in broad strokes and with a brush still in need of additional bristles. It is, however, the most complete and consistent such picture ever painted by the U.S. Government.

Many rapid and undesirable developments are foreseen if public policies concerning population stabilization, resource conservation, and environmental protection remain unchanged over the coming decades.

Vigorous and determined new initiatives are needed around the world. These initiatives need to be taken soon while the picture is yet fluid and nations are still preparing to enter the twenty-first century.’

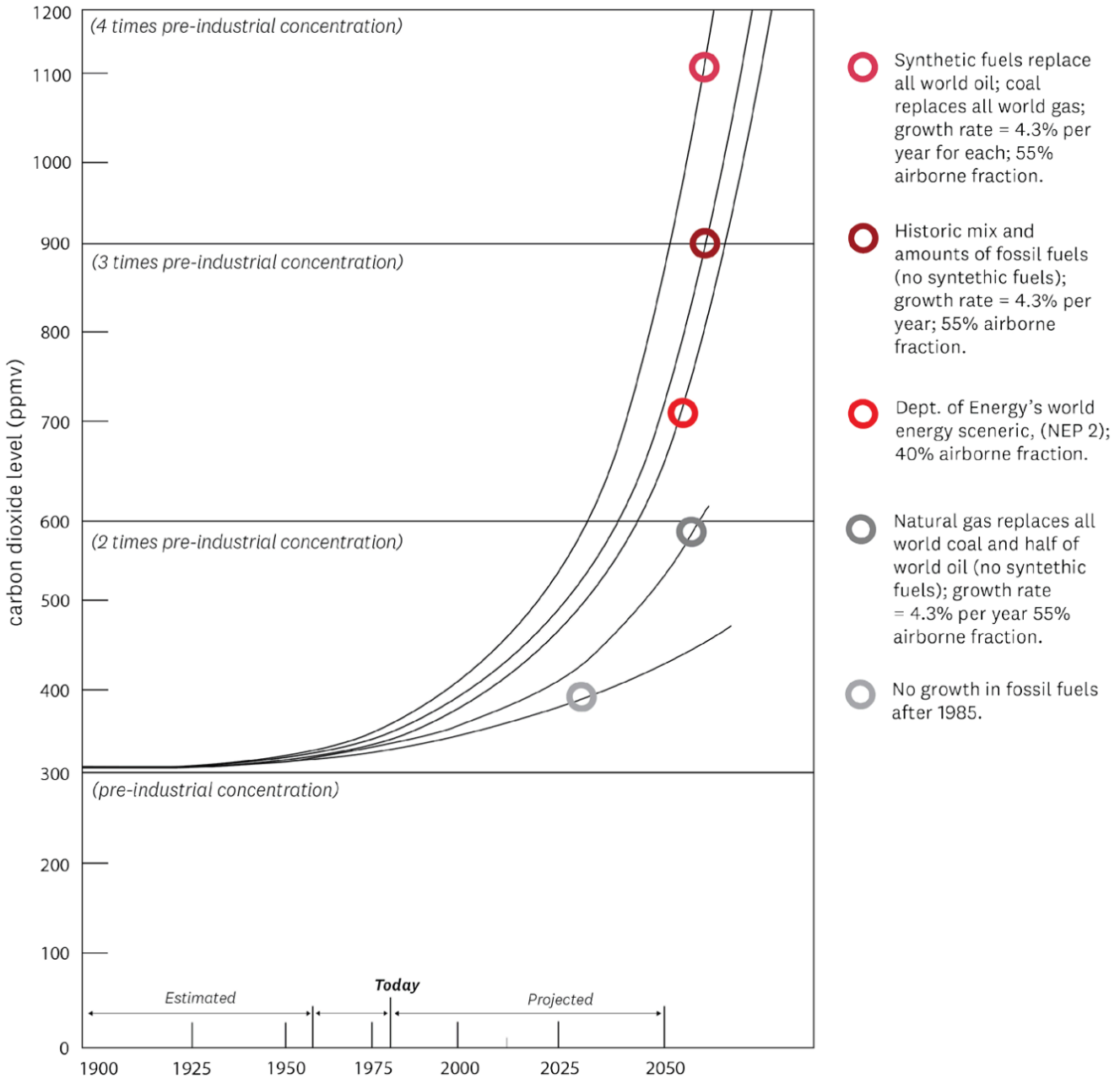


Gerald O. Barney, American physicist and principal author

2. Continued

'Probably the most serious anthropogenic threats to the stability of climate are CO2 emissions and releases of chemicals that deplete stratospheric ozone. In both cases it is impossible for an individual nation to protect itself against the consequences of other nations' actions. These problems are truly global in scope, and there is no human institution now established that can adequately address them.' (1980)

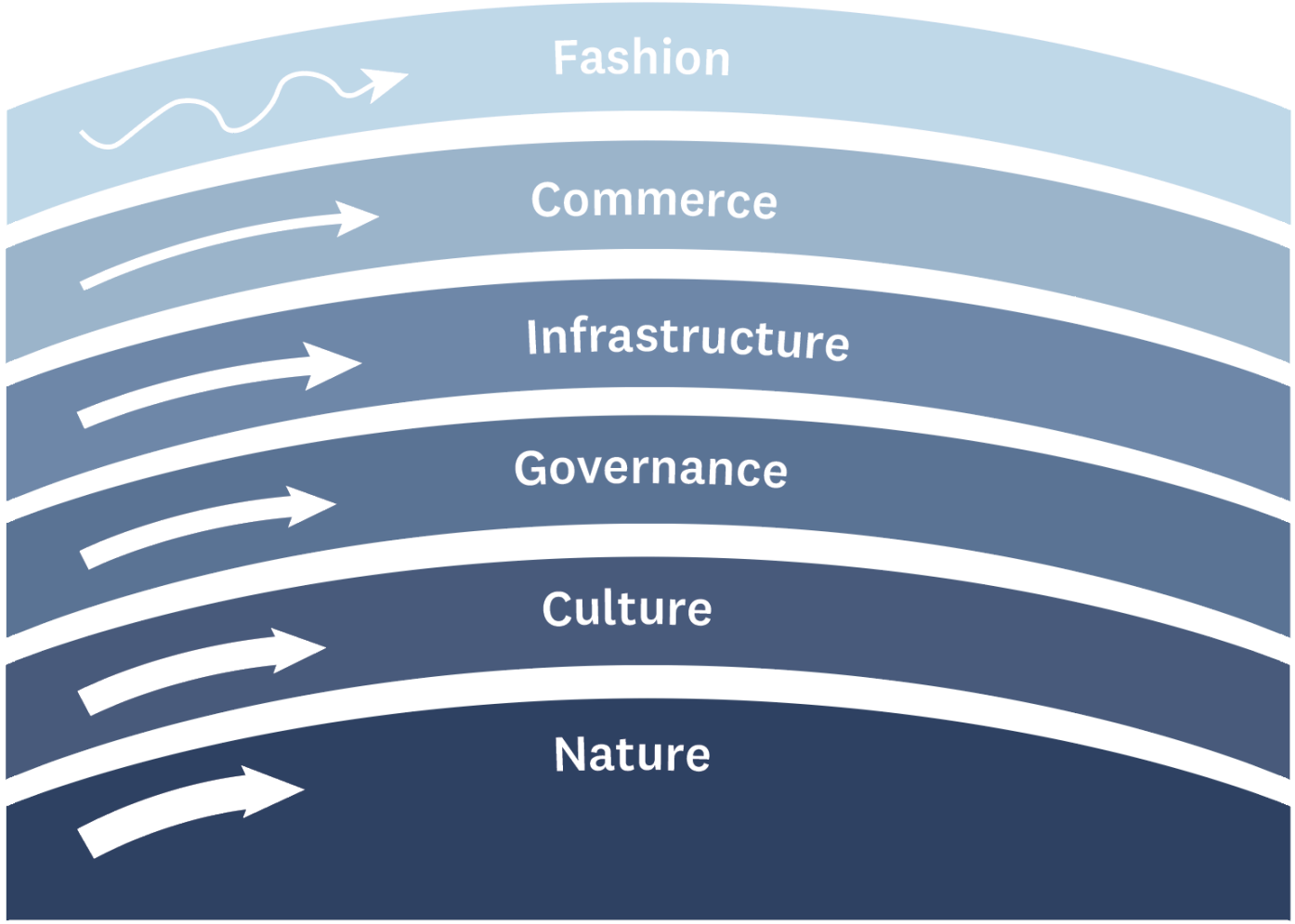
In 2019
1. The scenarios were accurate (in September 30 2019 we are 408.41 ppm, well over 40 ppmv).
2. If the first two scenarios were implemented in 1985 we would not have a climate crisis in 2019.



3. 1999

Pace Layers Thinking

The fast layers (fashion and commerce) innovate; the slow layers stabilize (governance and culture). The slowest layer (nature) does not disrupt often, but when it does disrupt, it disrupts all the layers above.



4. 2015 ‘Growing, Fast and Slow’ speech

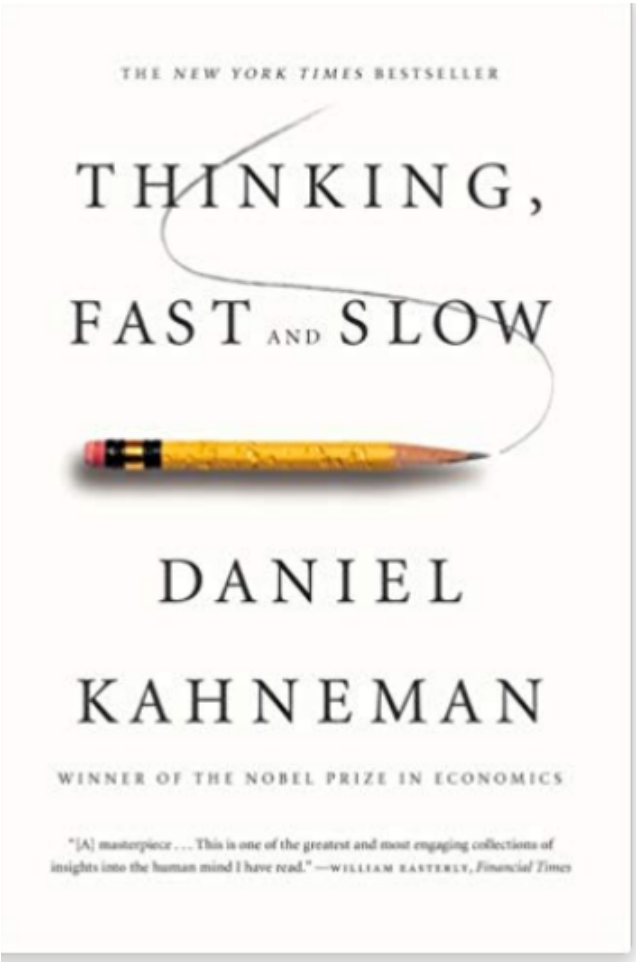
Haldane notes:

‘What follows is a cocktail of economics, history, sociology and psychology. For those seeking a common denominator, it is sitting between your ears. Psychologist Daniel Kahneman says the brain has two ways of thinking (fast and slow). The same may be true, and for many of the same reasons, when understanding growth (fast and slow).’

The question he explores is which comes first: sociological or technological transformation?

‘…sociological transformation supported, perhaps preceded, technological transformation…

And sociological transformation was at least as important as technological transformation in catalysing the lift-off in growth.’



Andrew G Haldane, Executive Director and Chief Economist of the Bank of England

Part 2: New Zealand Context
What makes us different?

(Insight)

What makes New Zealand different:

1. *Location – this delivers distance from the equator, long haul-flights, distance from major export locations and closeness to Antarctica*

2. *Culture and governance – such as te Tiriti o Waitangi and kaitiakitanga*

3. *Land mass – small overall but long and skinny from north to south*

4. *Sixty-five percent of New Zealanders live within five kilometres of the coast in 2006 (Stats NZ)*

5. *No close neighbours*

6. *Pacific region responsibilities*

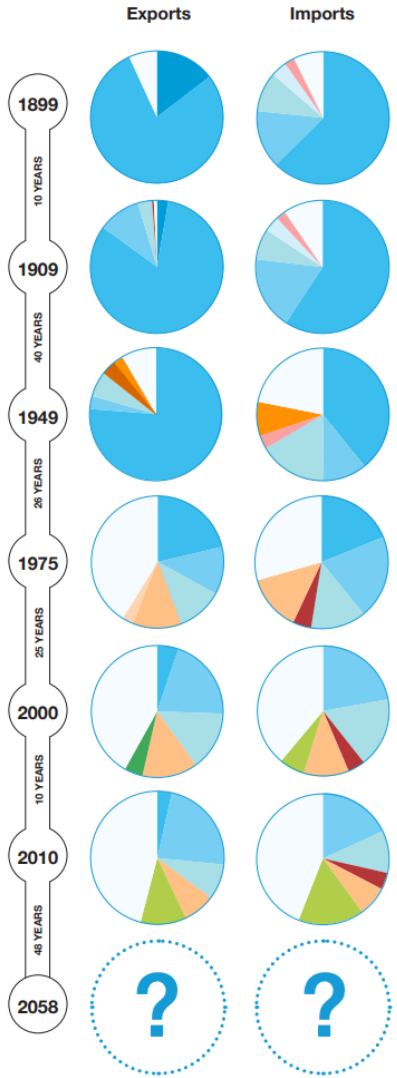
7. *Low population/high levels of resources*

8. *'Can do' attitude, brand, strong communities and strong international connections*

ANALYTICS 7

Exports and imports by country

Using *New Zealand Official Yearbooks* to understand the past and explore the future.



Below we have selected and reported on six years chosen to reflect different time periods in New Zealand's recent history. Each time period reflects both the percentage of exports and imports by product for that year. The percentages reflect the category 'type' listed below. 'British Colony and Possessions' starts at 12 o'clock, followed by the 'United Kingdom' etc in a clockwise direction.

Key observations – Exports:

1. New Zealand's initial high dependence on exports to the UK declined significantly from 1975 onwards.
2. By 1975, three other countries also dominated our export trade: Australia, Japan and the US.
3. Today, Australia is our largest trading partner, taking about 23% of our exports; China is our second-largest trading partner, followed by the US and Japan. Exports to the UK are now similar in size to exports to the Republic of Korea.

Key observations – Imports:

1. Over time, we have moved from importing most of our goods and services from the UK and the US to importing from Australia and China. Today, over 30% of our imports come from Australia and China.

Country

- British Colony and Possessions
- United Kingdom
- Australia
- United States of America
- Fiji
- India and Pakistan
- Germany
- France
- Canada
- Japan
- USSR
- China, People's Republic of
- Korea, Republic of
- Other

ANALYTICS 8

Exports and imports by product

Using *New Zealand Official Yearbooks* to understand the past and explore the future.

** Classification based on Standard International Trade Classification (SITC), an output classification developed by the United Nations.*

Below we have selected and reported on six years chosen to reflect different time periods in New Zealand's recent history. Each time period reflects both the percentage of exports and imports by product for that year. The percentages reflect the category 'type' listed below. 'Food and live animals' starts at 12 o'clock, followed by 'Beverages and tobacco' etc in a clockwise direction.

Key observations – Exports:

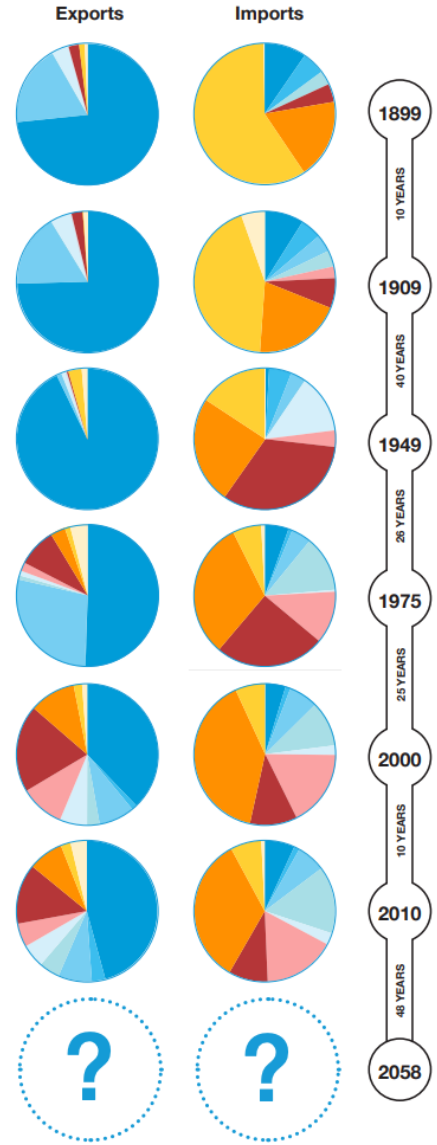
1. New Zealand has always been dependent on the export of 'Food and live animals'. This peaked in the middle of the 20th century; for example, in 1947, 93% of our export revenue came from 'Food and live animals'.
2. Both 'Manufactured goods' and 'Machinery and transport equipment' increased in size in recent years.

Key observations – Imports:

1. In the earlier part of the 20th century, 'Miscellaneous manufactured articles' followed by 'Machinery and transportation equipment' were the most significant categories of imports.
2. In later years, we can see 'Chemicals and related products' becoming increasingly important.
3. In the middle of the 20th century, 'Manufactured goods' peaked; for example, in 1947 'Manufactured goods' made up a third of New Zealand's imports.

Types of Product

- Food and live animals
- Beverages and tobacco
- Crude materials (inedible, excludes fuels)
- Mineral fuels (lubricants and related materials)
- Animal and vegetable oils (fats and waxes)
- Chemicals and related products
- Manufactured goods (classified by material)
- Machinery and transportation equipment
- Miscellaneous manufactured articles
- Other



Part 3: What does that mean for the work of the McGuinness Institute?

(Foresight)

Takeaways:

1. *Foresight and strategy require different skills and places for discussion. It was easy to jump into discussing strategy without fully exploring foresight.*

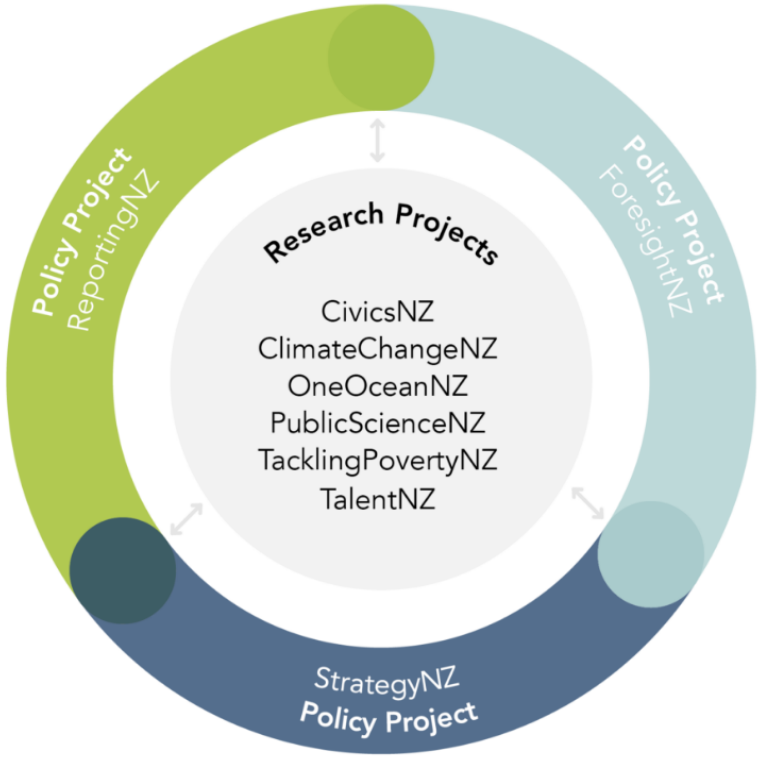
2. *Reporting is the third key policy component, as it informs foresight and determines whether strategy is successful or not.*

3. *Think tanks, and especially our Institute, work on problems of organised complexity.*

4. *Climate disruption will permeate all our research and policy work for the next ten years or more.*

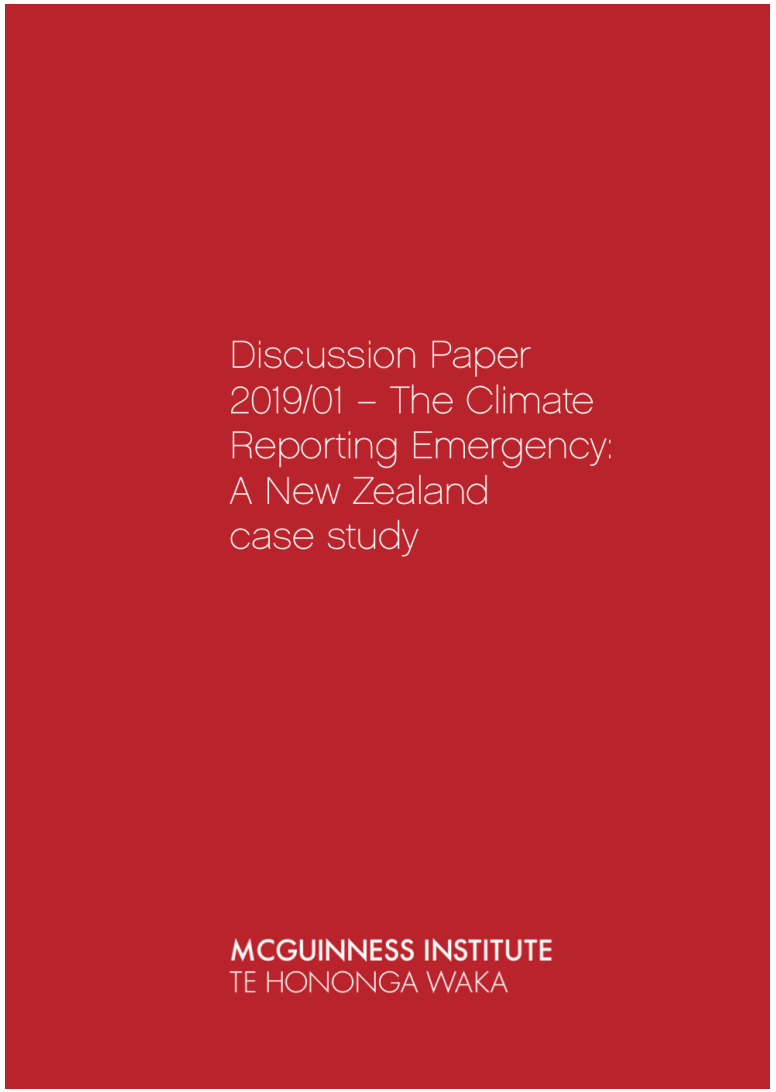
5. *Sociological transformation is at least as important as technological transformation.*

6. *New Zealand has unique risks and opportunities.*

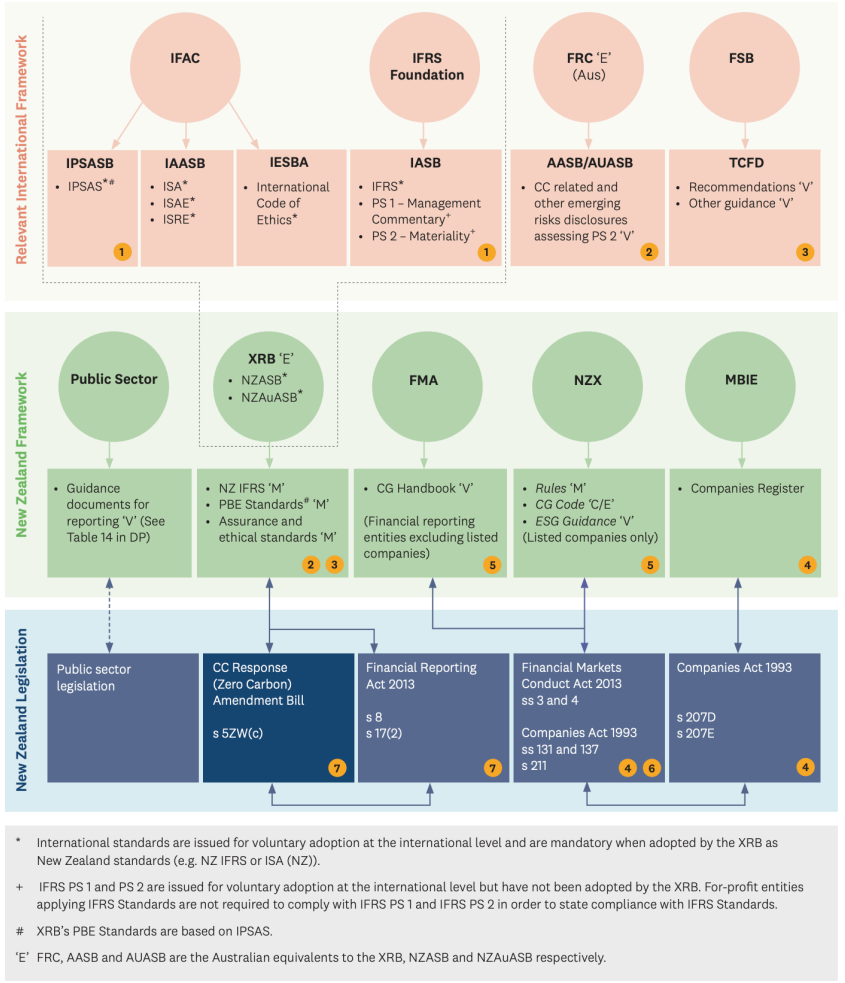


What we do: research

Discussion Paper 2019/01 – The Climate Reporting Emergency: A New Zealand case study



Map: Exploring ways to embed climate reporting into the existing framework



* International standards are issued for voluntary adoption at the international level and are mandatory when adopted by the XRB as New Zealand standards (e.g. NZ IFRS or ISA (NZ)).

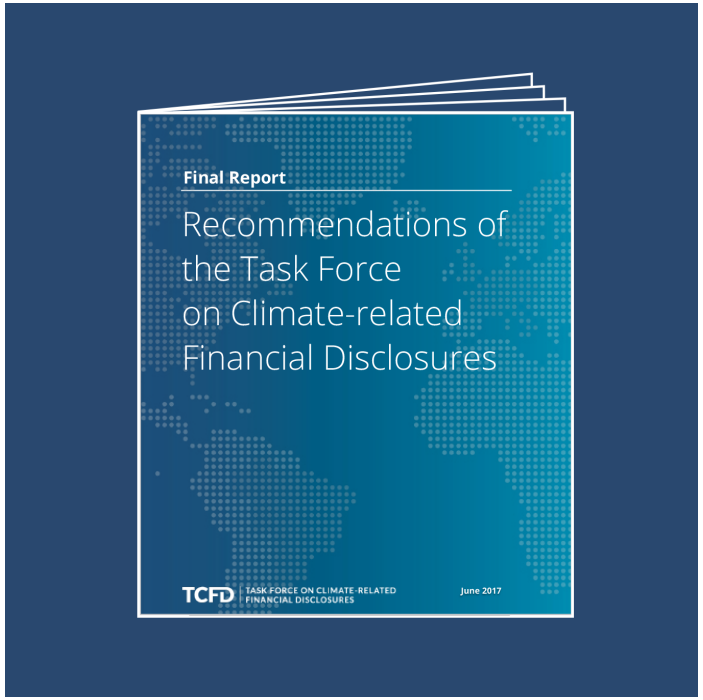
\+ IFRS PS 1 and PS 2 are issued for voluntary adoption at the international level but have not been adopted by the XRB. For-profit entities applying IFRS Standards are not required to comply with IFRS PS 1 and IFRS PS 2 in order to state compliance with IFRS Standards.

\# XRB's PBE Standards are based on IPSAS.

'E' FRC, AASB and AUASB are the Australian equivalents to the XRB, NZASB and NZAuASB respectively.

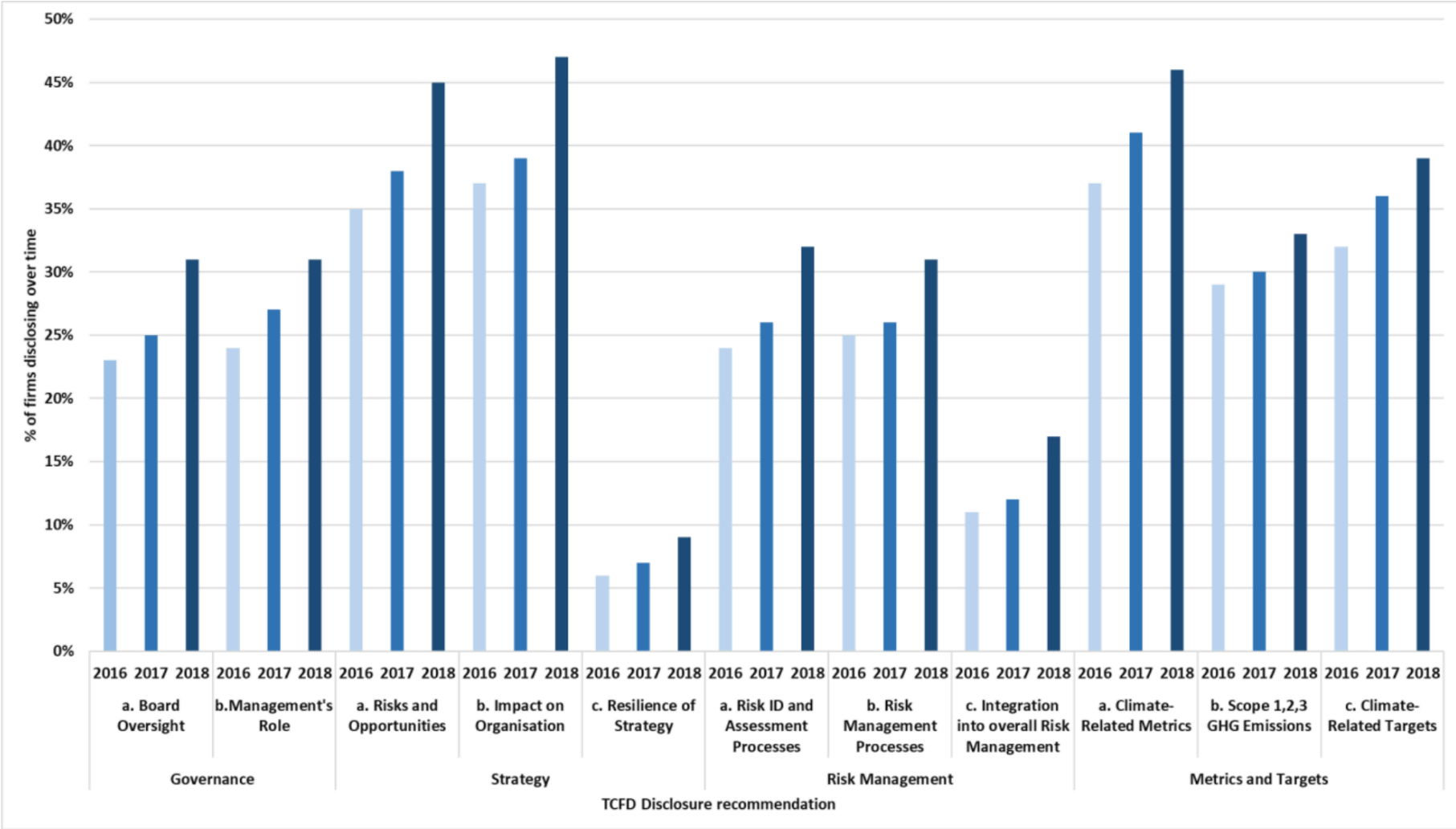
Part 4: How do we use scenarios to identify risks and stress test strategy?

(Strategy Exercise)



Governance	Strategy	Risk Management	Metrics & Targets
Disclose the organisation's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.	Disclose how the organisation identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.	a) Describe the organisation's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.	b) Describe the organisation's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and if appropriate Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

Chart 2: Changes in TCFD disclosures by recommendation 2016 – 2018



8 October 2019

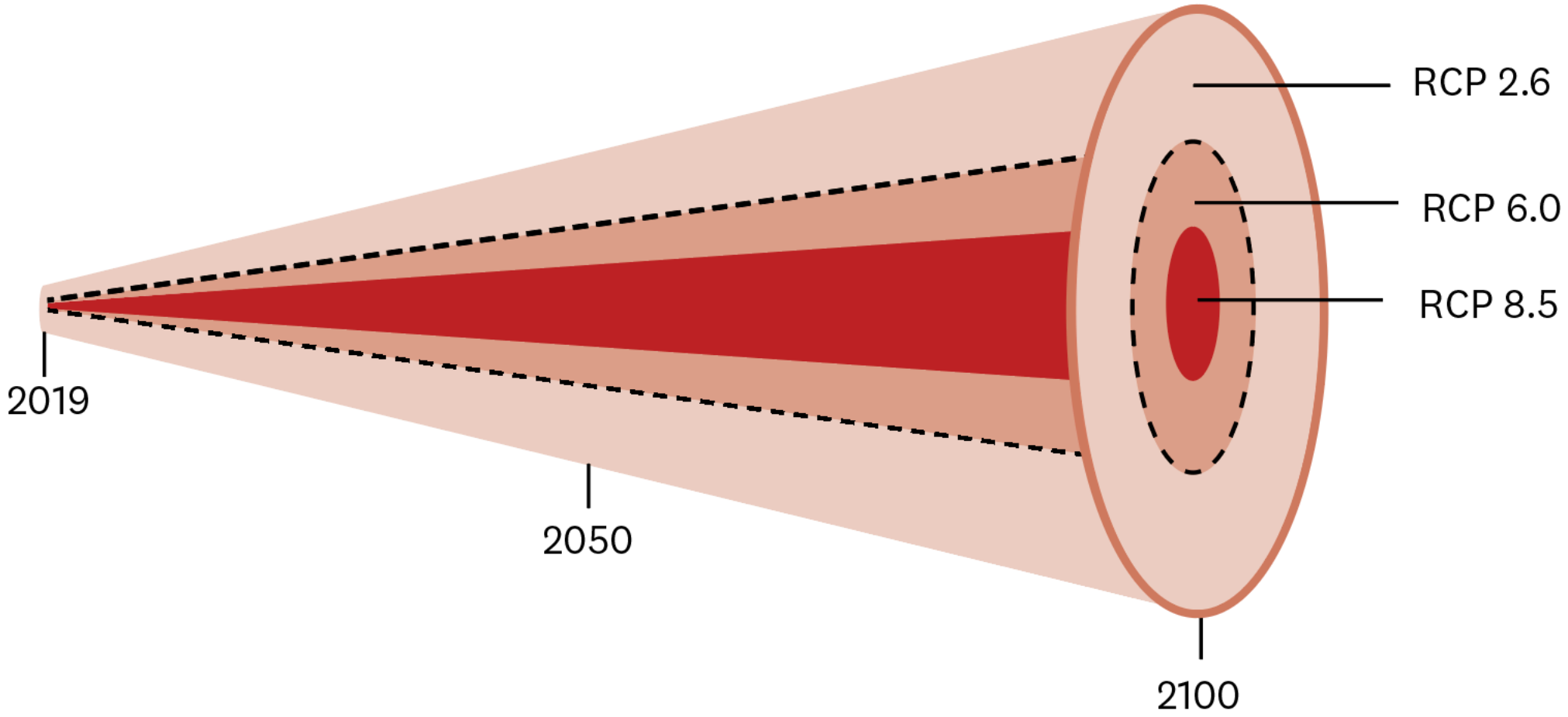
The TCFD report finds common characteristics of good scenario analysis:

1. *Using multiple climate-related scenarios to assess strategic resilience*
2. *Describing assumptions and parameters specific to the company*
3. *Identifying potential impacts of climate-related risks or opportunities*
4. *Disclosing potential strategic resilience under different climate-related scenarios.*

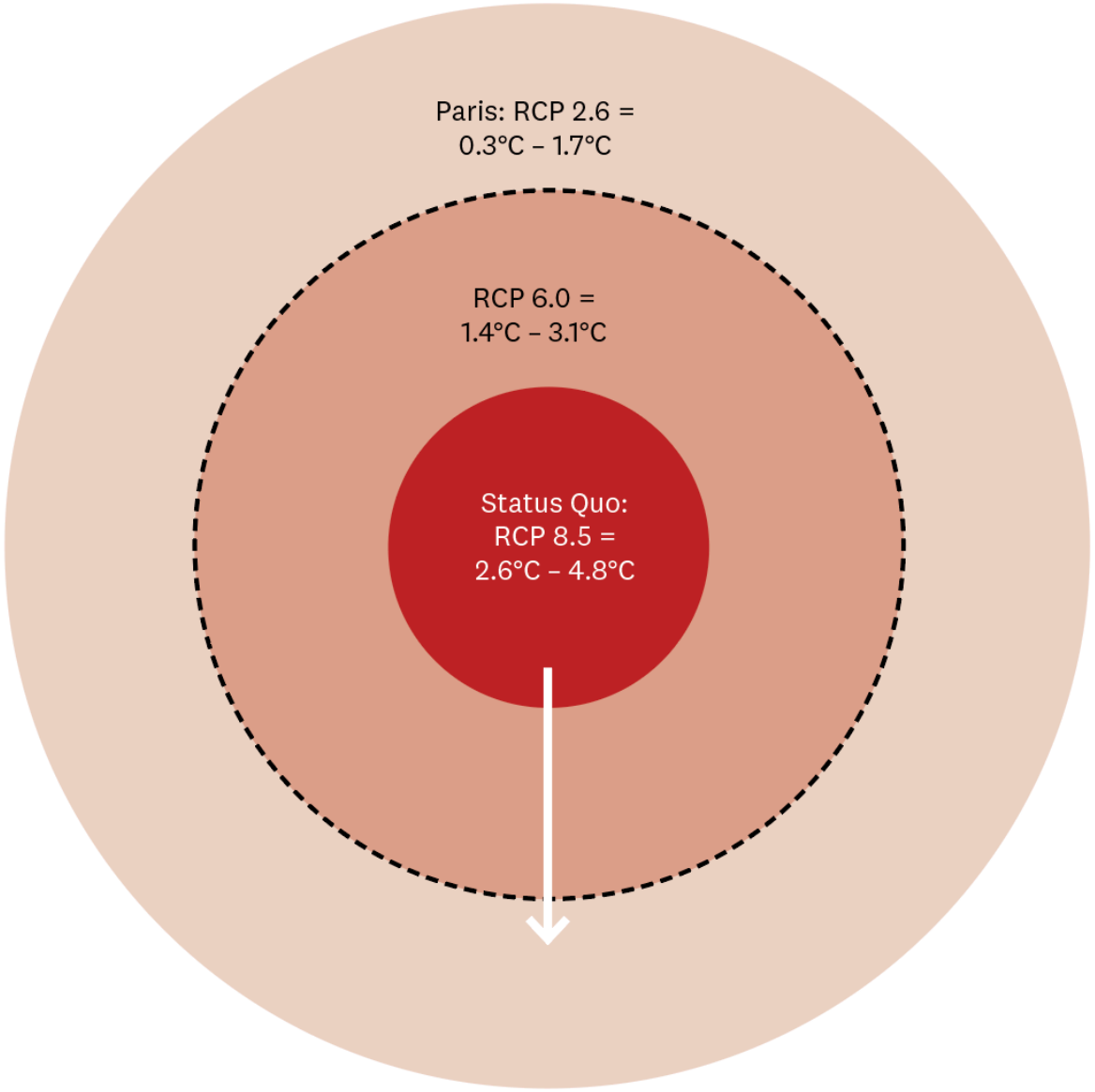
Looking ahead, the TCFD is currently considering how to:

- *Provide additional guidance on how to conduct scenario analysis;*
- *Publish business-relevant scenario templates to lower implementation costs; improve understanding and improve comparability; and*
- *Start a work stream on how to roll out these approaches to portfolio measurement to more asset owners.*

Trajectories as indicated in the Cone of Plausibility



Cone of Plausibility as at 2050



Scenario RCP 8.5 (2.6°C – 4.8°C)

Scenario RCP 6 (1.4°C – 3.1°C)

Scenario RCP 2.6 (below 2.0°C)

The white arrow indicates the general direction of the transition from the status quo to the Paris Agreement.

TCFD ‘Strategy’ Exercise

Resources:

A brief overview for each of the three climate scenarios that we will be using for this exercise. These scenarios are based on three IPCC RCP* trajectories: RCP 2.6, RCP 6.0 and RCP 8.6.

Hard copies of New Zealand business strategies published in the public arena.

Method:

Task 1 (Worksheet 1): Exploring worlds

On the A2 sheet provided, redraw Figure 2. In each band within the circle list the opportunities (left) and risks (right) which arise from the three different scenarios. Use Resource 1 (scenario overviews) to become familiar with the characteristics of each scenario. [15 minutes]

Task 2 (Worksheet 2): Disclosures

Choose an industry from the ones provided (Resource 2). Become familiar with your chosen industry and then prepare a material disclosure which addresses points (a), (b) and (c). [15 minutes]

Task 3:

Discuss and share observations with the rest of the group and then report back to the workshop. [30 minutes]

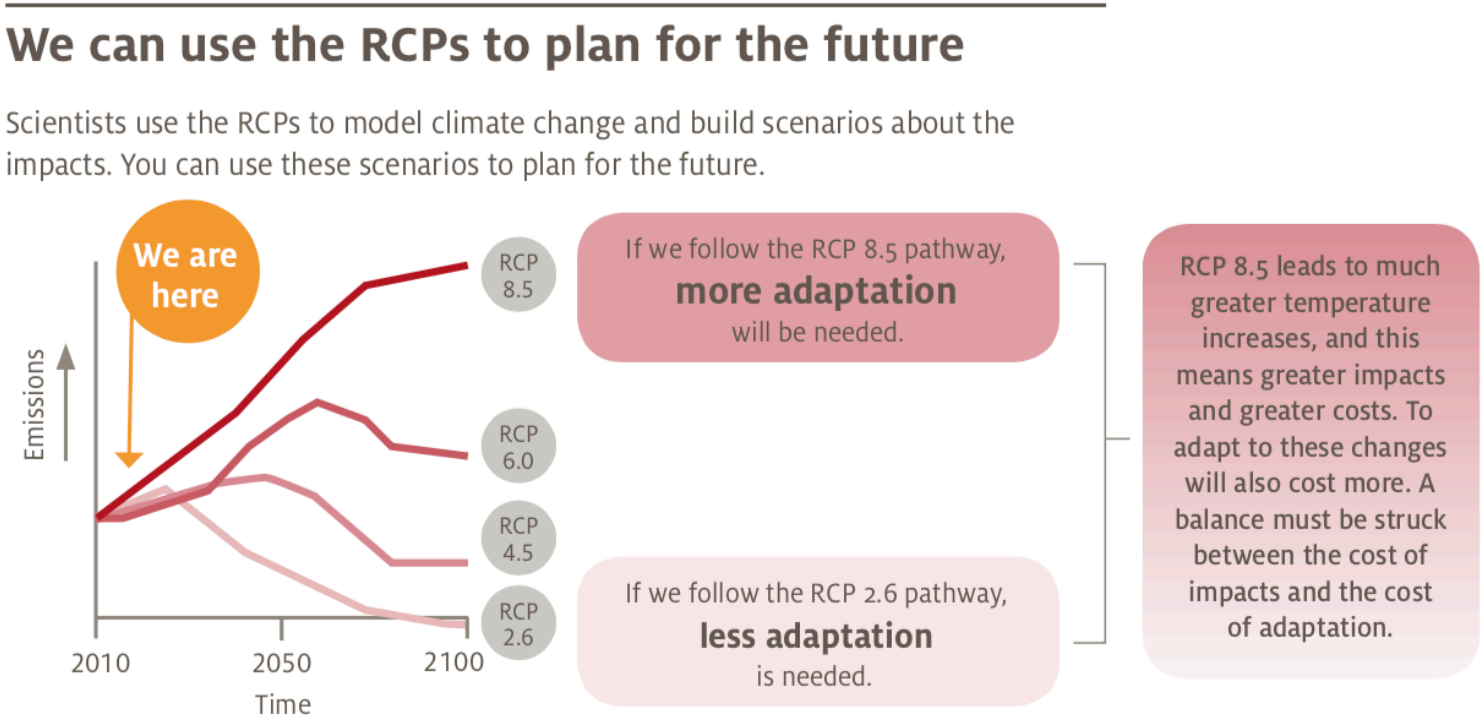
RCPs

'The name "representative concentration pathways" was chosen to emphasize the rationale behind their use. RCPs are referred to as pathways in order to emphasize that their primary purpose is to provide time-dependent projections of atmospheric greenhouse gas (GHG) concentrations'.

Source: IPCC Expert Meeting Report, Towards New Scenarios For Analysis Of Emissions, Climate Change, Impacts, And Response Strategies, IPCC 2007)

'The goal of working with scenarios is not to predict the future but to better understand uncertainties and alternative futures, in order to consider how robust different decisions or options may be under a wide range of possible futures.'

Source: IPCC Scenario Process for AR5



RCP Primary Characteristics

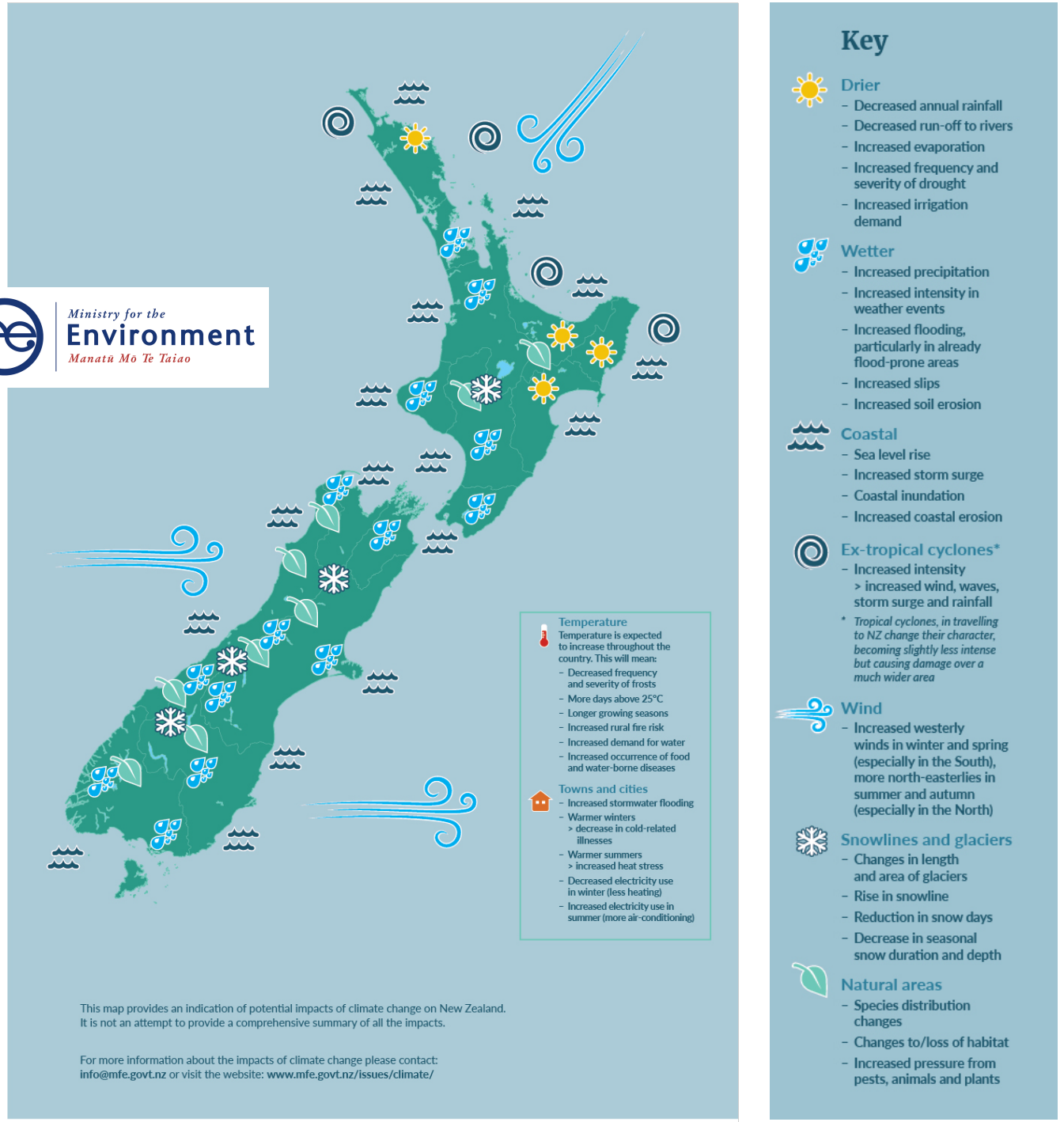
RCP 8.5 was developed using the MESSAGE model and the IIASA Integrated Assessment Framework by the International Institute for Applied Systems Analysis (IIASA), Austria. This RCP is characterized by increasing greenhouse gas emissions over time, representative of scenarios in the literature that lead to high greenhouse gas concentration levels (Riahi et al. 2007).

RCP6 was developed by the AIM modeling team at the National Institute for Environmental Studies (NIES) in Japan. It is a stabilization scenario in which total radiative forcing is stabilized shortly after 2100, without overshoot, by the application of a range of technologies and strategies for reducing greenhouse gas emissions (Fujino et al. 2006; Hijioka et al. 2008).

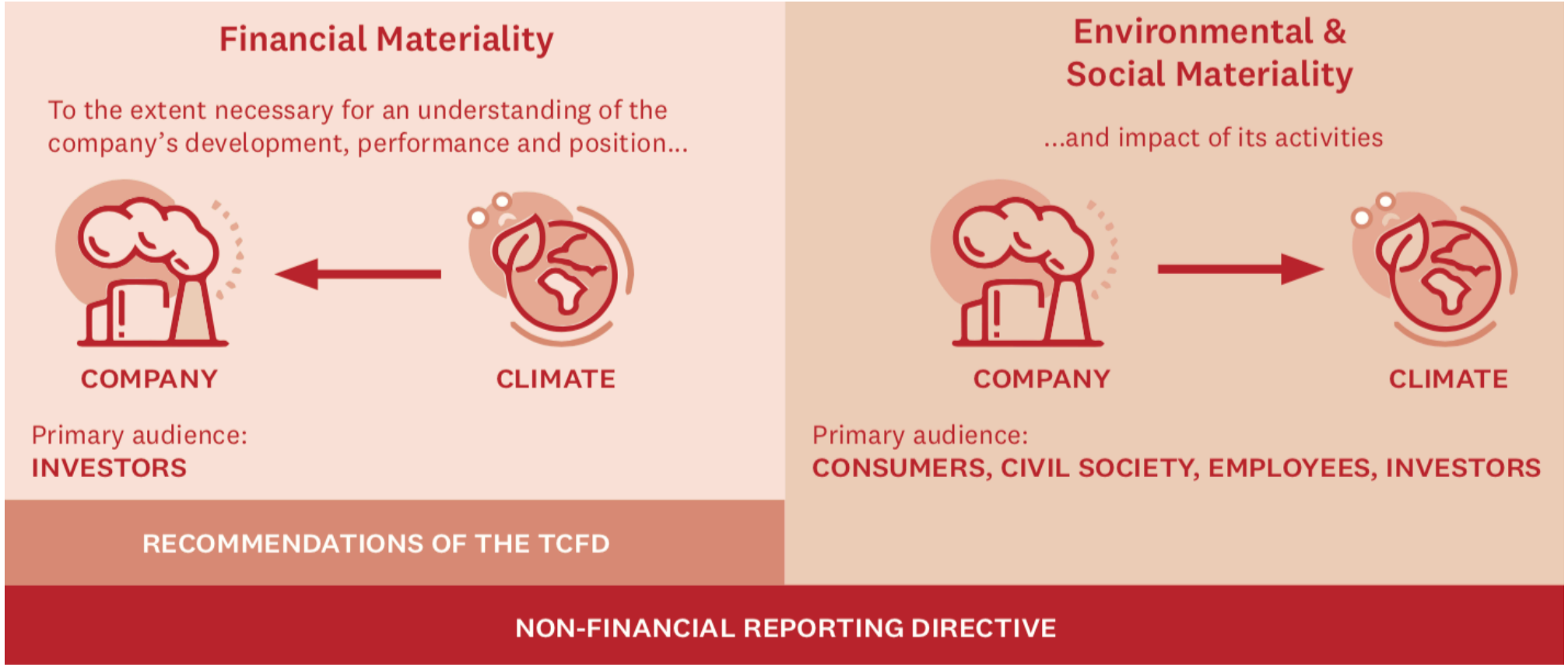
RCP 2.6 was developed by the IMAGE modeling team of the PBL Netherlands Environmental Assessment Agency. The emission pathway is representative of scenarios in the literature that lead to very low greenhouse gas concentration levels. It is a "peak-and-decline" scenario; its radiative forcing level first reaches a value of around 3.1 W/m2 by mid-century, and returns to 2.6 W/m2 by 2100. In order to reach such radiative forcing levels, greenhouse gas emissions (and indirectly emissions of air pollutants) are reduced substantially, over time (Van Vuuren et al. 2007a). (Characteristics quoted from van Vuuren et.al. 2011)

Climate change impacts

TCFD Core Element: Strategy	Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning, where such information is 'material'.
a) Describe the climate-related risks and opportunities the organisation has identified over the • short-term, • medium-term and • long-term.	
b) Describe the impact of climate-related risks and opportunities on the organisation's • businesses, • strategy and • financial planning.	
c) Describe the resilience of the organisation's strategy taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	



The double materiality perspective



Thank you

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