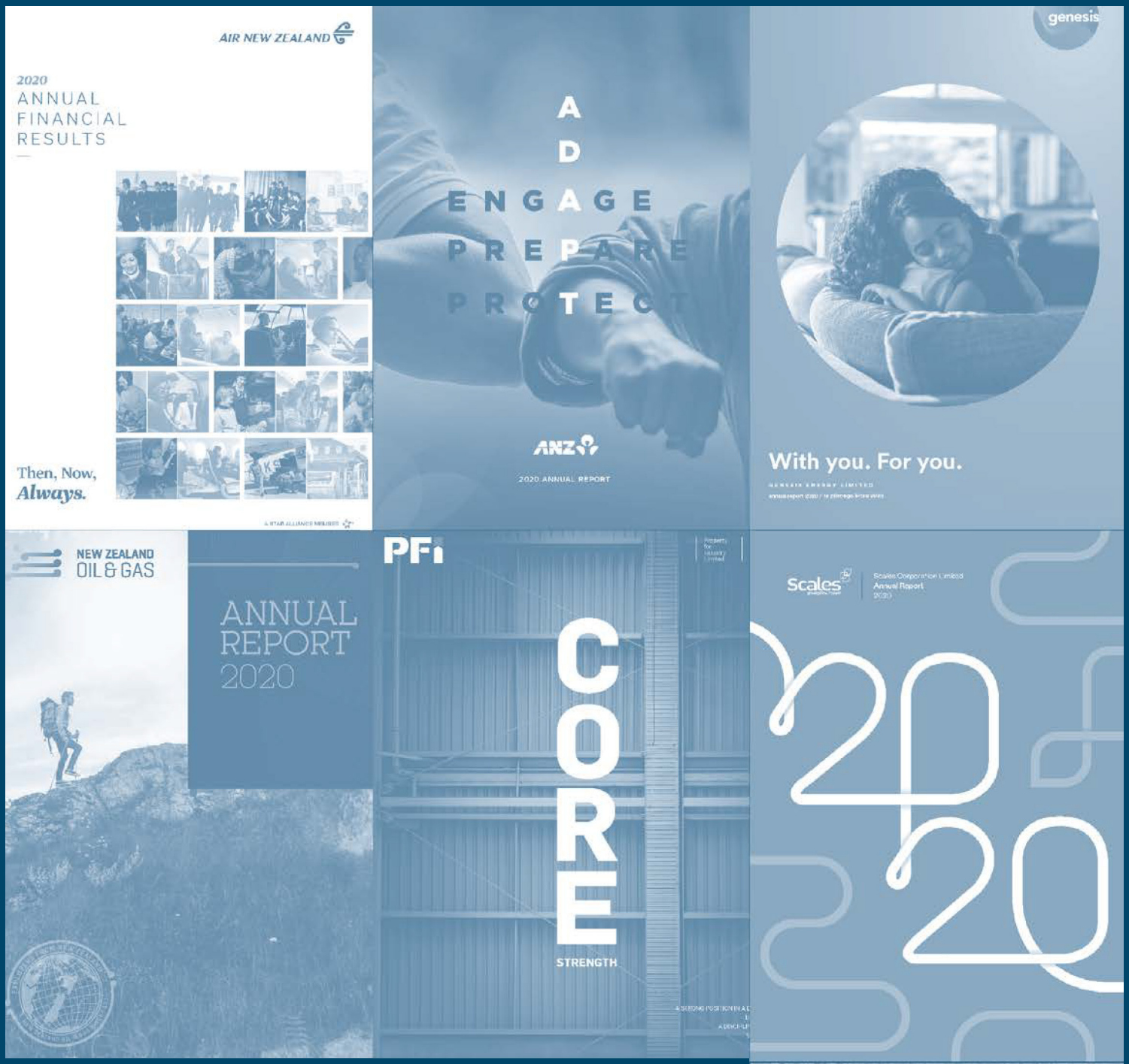

Working Paper 2021/06 – Reviewing TCFD information in 2017–2020 Annual Reports of NZSX-listed companies

MCGUINNESS INSTITUTE
TE HONONGA WAKA

Working Paper 2021/06

Reviewing TCFD information in 2017–2020 Annual Reports of NZSX-listed companies

Thank you

The Institute would like to especially thank all the preparers who have taken the time to engage early with climate reporting. It shows a commitment to our climate and our country. The resulting annual reports show that climate reporting can be achieved in a timely and effective manner. The challenge is to develop useful, relevant and timely climate reporting and assurance standards to enable decision-makers, such as investors, customers, employees and suppliers, to make informed decisions.

Title *Working Paper 2021/06 – Reviewing TCFD information in 2017–2020 Annual Reports of NZSX-listed companies*

Published

ISBN 978-1-990013-32-4 (paperback)
ISBN 978-1-990013-33-1 (PDF)

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1.0 Purpose

This working paper aims to contribute to research on how New Zealand might better report and manage climate risks and maximise opportunities in the transition to a low-carbon economy. In particular, this paper is designed for members of the Economic Development, Science and Innovation Select Committee (who are currently hearing the Financial Sector (Climate-related Disclosures and Other Matters) Amendment Bill, as well as those working on New Zealand's Emissions Reduction Plan (ERP). It might also be helpful for report preparers, standard setters and assurance providers.

2.0 Methodology

This quantitative research is intended to show how the *Recommendations of the Task Force on Climate-related Financial Disclosures* are being applied by the different NZSX-listed companies in a voluntary manner.

The intention of the Financial Sector (Climate-related Disclosures and Other Matters) Amendment Bill, mentioned above, is for a small number of entities to move from the existing voluntary climate reporting regime to a mandatory climate reporting regime.

This working paper provides a quantitative assessment of the state of climate reporting in New Zealand through the lens of NZSX-listed companies that have published annual reports that (i) mention climate-related information in the years 2019 and 2020 or (ii) mention the Task Force on Climate-related Financial Disclosures (TCFD) between the years 2018 and 2020. Benchmarking data sets over time showcases emerging trends.

2.1 Background to TCFD

In 2017, the *Recommendations of the Task Force on Climate-related Financial Disclosures* report was published to provide 'voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders' (TCFD, 2019a). The 2017 report is the TCFD's key document.[1,2]

The 2017 report states:

> The Task Force structured its recommendations around four thematic areas that represent core elements of how organizations operate—governance, strategy, risk management, and metrics and targets. The four overarching recommendations are supported by key climate-related financial disclosures—referred to as recommended disclosures—that build out the framework with information that will help investors and others understand how reporting organizations think about and assess climate-related risks and opportunities. (TCFD, 2017, p. 13)

See Figure 1 (overleaf) for a breakdown of TCFD's four core elements and eleven recommended disclosures.

1 Task Force on Climate-related Financial Disclosures. (2017). *Recommendations of the Task Force on Climate-related Financial Disclosures*. Retrieved 21 May 2021 from https://assets.bbhub.io/company/sites/60/2020/10/FINAL-2017-TCFD-Report-11052018.pdf

2 The TCFD Secretariat is based in New York in Michael Bloomberg's offices. The operational arm of TCFD is likely to be led by a combination of the CDSB (Climate Disclosure Standards Board) and SASB (Sustainability Accounting Standards Board). TCFD has also released a practical document showcasing best practice: the TCFD *Good Practice Handbook* (TCFD, 2019b), which was jointly launched by CDSB and SASB in New York in September 2019. The Climate Disclosure Standards Board (CDSB) is an international consortium of business and environmental NGOs, based in Europe. The Sustainability Accounting Standards Board (SASB) is an independent non-profit organisation that sets standards to guide the disclosure of financially material sustainability information by companies to their investors, based in the United States.

Figure 1: TCFD core elements and recommended disclosures

Source: TCFD, 2017 (p. 14).

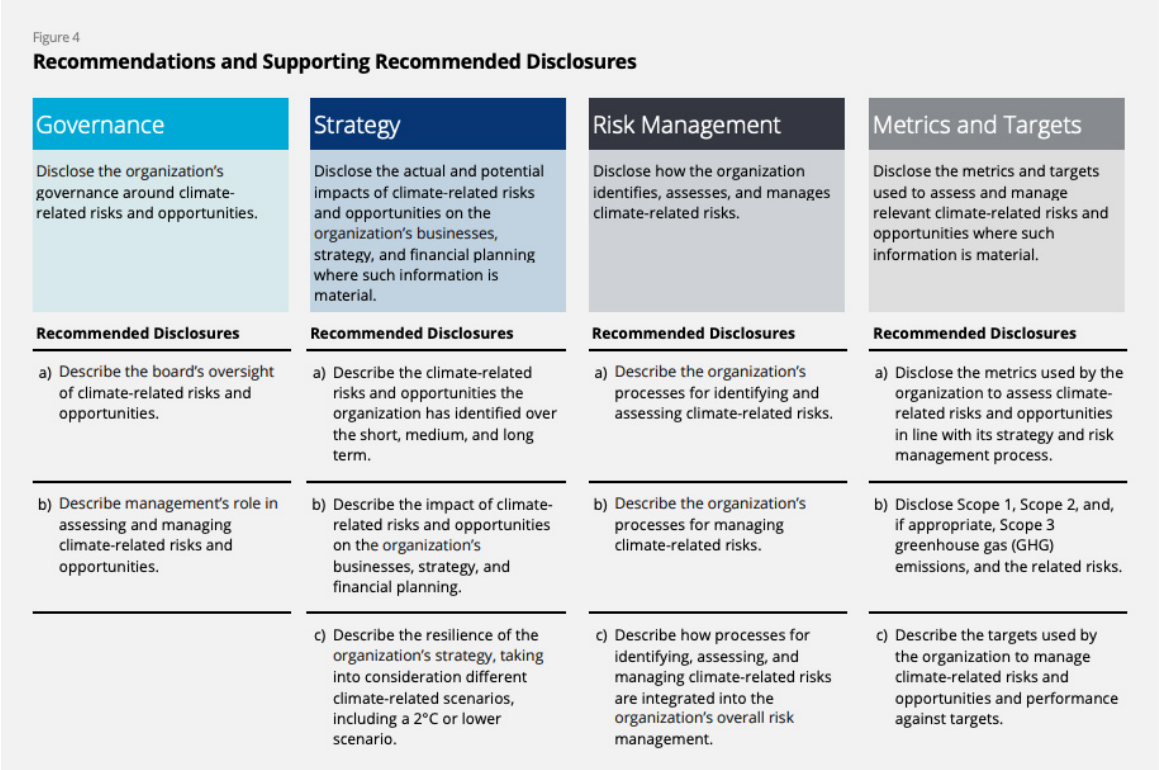


Figure 4

Recommendations and Supporting Recommended Disclosures

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Disclose how the organization 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.
Recommended Disclosures	**Recommended Disclosures**	**Recommended Disclosures**	**Recommended Disclosures**
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization 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 organization's businesses, strategy, and financial planning.	b) Describe the organization'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 organization'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 organization's overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

2.2 Method

The research method was made up of two key steps:

Step 1: Find a soft copy of each NZSX-listed entity's annual report.

Annual reports were grouped by the date of the data. For example, a report that was dated 31 December 2018 but published in 2019 was grouped in the 2018 data set (see Table 1 below).

Annual reports were found on the NZX website (under each entity). NZSX-listed company data sets are taken directly from the NZX Main Board website (NZSX). The Institute removed trusts and funds by only including companies with the term 'Limited' in the company name.

Given that the NZSX changes over time as companies choose to list and de-list, the data set is derived from the calendar year-end. For example, when looking at the 2020 annual reports of NZSX-listed companies, the list of companies was derived from the list of NZSX-listed companies as at 31 December 2020.

If a company's annual report was not found, it was excluded from step 2. This occurred in two cases; one company was in receivership and the other was only listed on the NZSX on 21 December 2020. This means 130 annual reports went through to step 2.

The data sets found for each year are set out in Table 1 as follows:

Table 1: Data sets of NZSX-listed companies, 2017–2020

Data sets	2017		2018		2019		2020	
	No. of entities	No. of available annual reports	No. of entities	No. of available annual reports	No. of entities	No. of available annual reports	No. of entities	No. of available annual reports
NZSX-listed companies	129	126	124	123	132	130	132	130

Step 2: Use the search tool in Adobe Acrobat Pro to find key information.

All annual reports 'found' were searched for mentions of: (i) climate-related information, (ii) any of the 21 predetermined voluntary reporting frameworks, and (iii) 'TCFD'. The results were recorded in an Excel spreadsheet, with each sheet referring to each year (listing the company name and the relevant page number/s in the annual report).

(i) Climate-related information mentions

Climate-related information was classified into six categories (using previous McGuinness Institute research[3]) and aligned closely with information identified in TCFD reporting. See Table 3 overleaf.

The number of mentions of climate-related information in annual reports can be found in Figure 2 and only relate to 2019 and 2020 data sets.

(ii) Voluntary reporting frameworks mentions

The Institute identified 21 voluntary reporting frameworks (see list on pages 12 and 13). The number of mentions of selected voluntary frameworks in annual reports can be found in Figure 2 and relate to 2017–2020 data sets.

(iii) TCFD mentions

The number of mentions of TCFD reporting in annual reports can be found in Table 4 and relate to 2018–2020 data sets. The six categories were determined after scoping the results and identifying the most useful categories for sorting and analysing the data going forward (see list in Table 2). Appendices 1–5 provide excerpts from 2020 annual reports.

2.3 Background to publishing an annual report

There is an obligation in the Financial Markets Conduct Regulations 2014 for an FMC reporting entity to make its annual report public on the entity's website and ensure it remains 'available for at least 5 years after it is first made available':

> The report must be available, free of charge, on an Internet site maintained by, or on behalf of, the entity in a way that ensures that—
> (a) the report is prominently displayed on the site; and
> (b) members of the public can easily access the report at all reasonable times. (Clause 61D)[4]

Listed issuers, being an e-reporting entity, are also obliged under the NZX Listing Rules (see Rule 3.6) to prepare and deliver an annual report 'within three months after the end of each financial year'. The annual report is then published on NZX's website against each entity.[5]

However, many entities make their annual report public on the Companies Register. This is an anomaly. Companies are only required to publish their financial statements on the Companies Office website (managed by the Ministry of Business, Innovation and Employment [MBIE]).[6] About 66% of NZSX-listed companies lodge their annual report (not just their financial statements) as a matter of good practice. This means that many companies are actively making their annual reports easier for the public to access for reputation and branding benefits – not for compliance purposes.

3 See explanation on p. 6 of McGuinness Institute. (2020). *Working Paper 2020/04 – Analysis of Climate Reporting in the Public and Private Sectors*. Retrieved 14 June 2021 from https://www.mcguinnessinstitute.org/publications/working-papers/

4 See Financial Markets Conduct Regulations 2014, clause 61D Annual report to be publicly available.

5 See NZX. 'NZX Listing Rules'. Retrieved 14 June 2021 from https://www.nzx.com/regulation/nzx-rules-guidance/nzx-listing-rules

6 Financial statements only are required to be delivered to the Registrar for lodgement (at the Companies Office). See Financial Markets Conduct Act 2013, s 461H Lodgement of financial statements: '(1) Every FMC reporting entity must ensure that, within 4 months after the balance date of the entity, copies of the financial statements or group financial statements that are required to be prepared under any of sections 460, 461, and 461B, together with a copy of the auditor's report on those statements, are delivered to the Registrar for lodgement.'

Table 2: 2020 annual reports found on the Companies Register of NZSX-listed companies

Source: McGuinness Institute. (2020). *Report 17: ReportingNZ: Building a Reporting Framework Fit for Purpose*, Table 6 (p. 57).

NZSX-listed companies			
Year (as at 31 December)	Company found on the Companies Register		
	(i) Annual report filed (including financial statements)	(ii) Financial statements only filed (no annual report)	(iii) No report or financial statements filed (e.g. in receivership or liquidation)
2019 [132]	96 [73%]	30 [23%]	6 [5%]
2020 [132]	87 [66%]	36 [27%]	9 [7%]

2.4 Limitations and assumptions

1. A key assumption is that it is good practice for all four core TCFD elements to be contained in an entity's annual report.
2. The research looks at the type and quantity of information available (e.g. TCFD information). It does not assess the quality of information available. Hence the extent to which information is accurate or informative is outside the scope of this research.
3. There may be instances where NZSX-listed companies have published other reports (i.e. other than annual reports) that specifically mention climate-related risks and opportunities or even TCFD. In order to be collected and analysed as part of this research, a reference to a TCFD report or some other report (e.g. a sustainability report) must be specifically mentioned in the entity's annual report.
4. The research did not look at whether the TCFD-based reports were assured or not.

3.0 Research results

3.1 Mentions of climate-related information

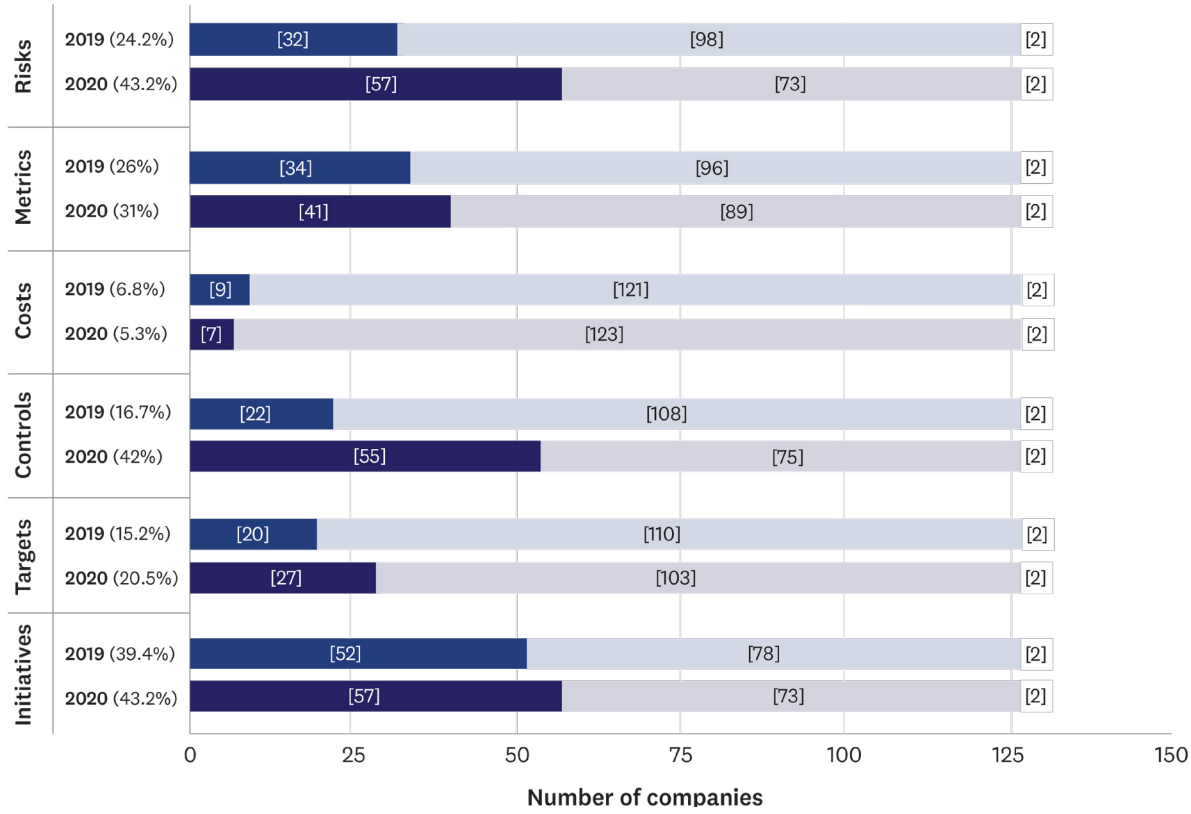
Table 3 shows the categories and Figure 2 illustrates the results.

Table 3: Six types of climate-related information mentions

Type	
1: Climate change risks	Any possible impact that climate change may have on the future of the entity, country and/or world. The company may have a response to these impacts as part of its discussion of risk.
2: Emission metrics	Existing carbon emissions data stated in tonnes, percentages or CO_2/m_2 produced and/or abated.
3: Emission costs	Existing carbon emission offsets stated in financial figures and/or the number of carbon units used (usually found in financial statements).
4: Emission controls	Reference to existing measures that were put in place to control or abate carbon emissions.
5: Emission targets	Specific goals to reduce future carbon emissions. Emission targets refer to a specific numerical value (in contrast to initiatives, which are broader and less specific).
6: Climate change initiatives	A statement, reference to an action, or similar that shows the entity is taking action or planning to take action to curb its emissions or reduce its vulnerability (or that of a country or the world)

Figure 2: Climate-related information mentioned in the 2019 and 2020 annual reports of NZSX-listed companies

Note: See a detailed list in *Working Paper 2021/09 – Analysis of Climate Change Reporting in the Public and Private Sectors*, Appendix 1: NZSX-listed companies by mentions of climate-related information in 2019 and 2020 annual reports.



3.2 Mentions of voluntary reporting frameworks

Pages 12–14 describe the voluntary reporting frameworks and Figure 4 illustrates the results. Section 3.3 takes a closer look at the 27 companies whose annual reports refer to TCFD.

Figure 3: Voluntary reporting frameworks mentioned in 2017–2020 annual reports of NZSX-listed companies

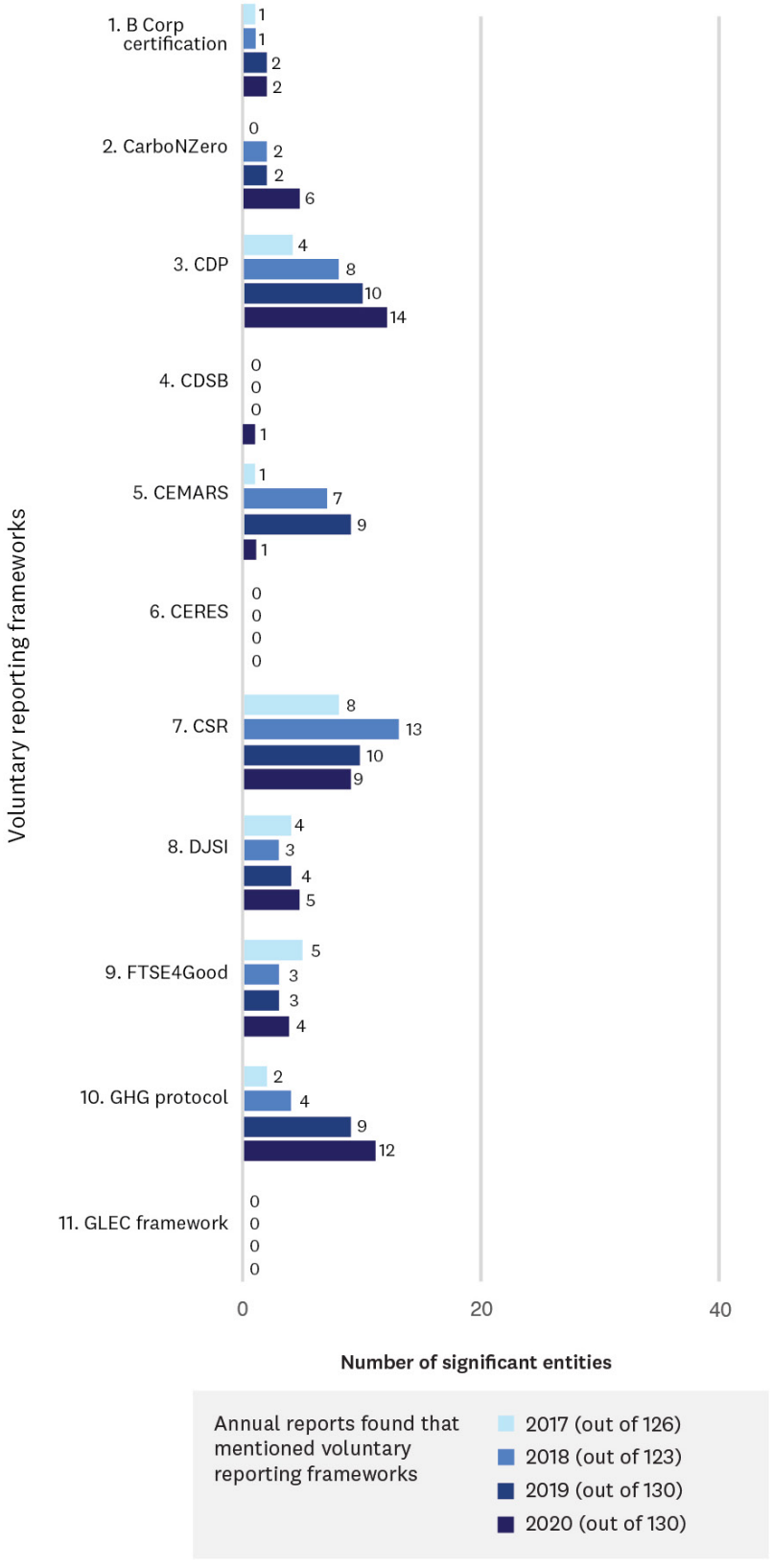
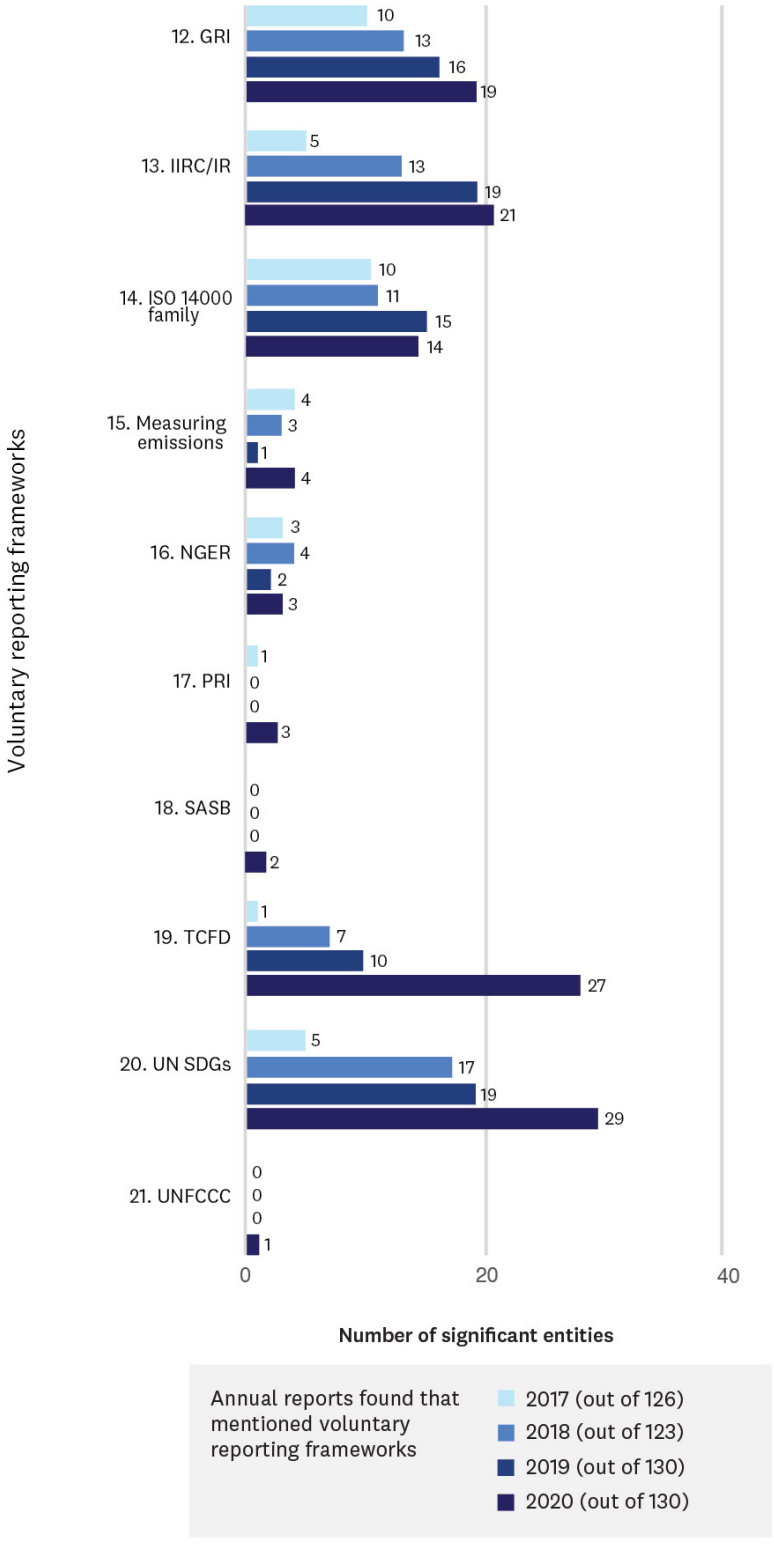


Figure 3: Voluntary reporting frameworks mentioned in 2017–2020 annual reports of NZSX-listed companies (continued)



The 21 different voluntary reporting frameworks that were analysed are briefly described[7] as follows:

1. **B Corp (B Corporations)**
   B Corp is a certification available to businesses that meet the highest standards of social and environmental performance, public transparency, and legal accountability to balance profit and purpose.
2. **CarboNZero**
   This certification assists entities with accurately measuring greenhouse gas emissions and putting in place strategies to manage and reduce climate impacts. The programme then helps entities offset their remaining emissions to achieve net zero.
3. **CDP (formerly Carbon Disclosure Project)**
   CDP is a registered charity that runs a 'global disclosure system that enables companies, cities, states and regions to measure and manage their environmental impacts'. The initiative is also intended to help investors and policy-makers by providing a data base for decision-making.
4. **CDSB (Climate Disclosure Standards Board)**
   The CDSB is made up of businesses and NGOs working to 'provide decision-useful environmental information to markets via mainstream corporate reports'. They do this by providing a framework to preparers that allows them to report environmental information, with the same rigour as financial information, with the ultimate goal of 'advancing and aligning the global mainstream corporate reporting model to equate natural capital with financial capital'.
5. **CEMARS (Certified Emissions Measurement and Reduction Scheme)**
   This certification is linked to the carboNZero initiative. Similarly, it aims to enable accurate measurement of greenhouse gas emissions and help put in place strategies to manage and reduce climate impacts.
6. **Ceres**
   Ceres is a sustainability not-for-profit organisation that works 'with the most influential investors and companies to build leadership and drive solutions throughout the economy'. Their work centres around the 'business case for sustainability' and mostly involves forming networks and building leadership.
7. **CSR (Corporate Social Responsibility)**
   Corporate social responsibility is related to the idea of 'corporate citizenship' and provides a 'self-regulating business model that helps companies be socially accountable – to itself, its stakeholders, and the public'.
8. **DJSI (Dow Jones Sustainability Indices)**
   This index family 'tracks the stock performance of the world's leading companies in terms of economic, environmental and social criteria'.
9. **FTSE4GOOD (FTSE Russell Index Series)**
   This index family is 'designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices'. It mainly serves investors.
10. **GHG Protocol (Greenhouse Gas Protocol)**
    The GHG Protocol provides standards, guidance, tools and training for a range of public and private sector entities to measure and manage climate-warming emissions by establishing 'comprehensive global standardized frameworks'.
11. **GLEC framework (Global Logistics Emissions Council)**
    This framework is targeted at 'shippers, carriers and logistics service providers' as a way of developing 'harmonized calculation and reporting of the logistics GHG footprint across the multi-modal supply chain'. It is aligned with the GHG Protocol and CDP reporting.

7 See explanation on pp. 6–9 of McGuinness Institute. (2020). *Working Paper 2020/06 – Reviewing Voluntary Reporting Frameworks*. Retrieved 14 June 2021 from https://www.mcguinnessinstitute.org/publications/working-papers/

12. **GRI (Global Reporting Initiative)**
    The GRI has pioneered sustainability reporting since 1997. Their reporting standards are 'rooted in the public interest' and are intended to help 'businesses and governments worldwide understand and communicate their impact on critical sustainability issues such as climate change, human rights, governance and social well-being'.

13. **IIRC (International Integrated Reporting Council)/International Framework**
    The IIRC, which administers the International Framework, is 'a global coalition of regulators, investors, companies, standard setters, the accounting profession and NGOs' that promotes 'communication about value creation as the next step in the evolution of corporate reporting'. The process of integrated reporting is outlined in the International Framework, which broadly outlines the content of an integrated report, applying 'principles and concepts that are focused on bringing greater cohesion and efficiency to the reporting process, and adopting "integrated thinking" as a way of breaking down internal silos and reducing duplication'.

14. **International Organization for Standardization (ISO) 14000 family – Environmental management)**
    This family of standards 'provides practical tools for companies and organisations of all kinds to manage their environmental responsibilities'. The standards are as follows:

    a. ISO 14001 Environmental management systems – Requirements with guidance for use
    b. ISO 14004 Environmental management systems – General guidelines on implementation
    c. ISO 14006 Environmental management systems – Guidelines for incorporating eco-design
    d. ISO 14015 Environmental management – Environmental assessment of sites and organisations
    e. ISO 14020 to 14025 Environmental labels and declarations
    f. ISO/NP 14030 Green bonds – Environmental performance of nominated projects and assets; discusses post-production environmental assessment
    g. ISO 14031 Environmental management – Environmental performance evaluation - Guidelines
    h. ISO 14040 to 14049 Environmental management – Life cycle assessment; discusses pre-production planning and environment goal setting
    i. ISO 14050 Environmental management – Vocabulary; terms and definitions
    j. ISO/TR 14062 Environmental management – Integrating environmental aspects into product design and development
    k. ISO 14063 Environmental management – Environmental communication - Guidelines and examples
    l. ISO 14064 Greenhouse gases; measuring, quantifying, and reducing greenhouse gas emissions.

15. **Measuring Emissions: A Guide for Organisations**
    This guide, prepared by the Ministry for the Environment (MfE), 'sets out how to quantify and report GHG emissions and provides methods to apply emission factors to produce a GHG inventory'.

16. **NGER (National Greenhouse and Energy Reporting scheme)**
    The NGER provides a single national framework in Australia for 'reporting and disseminating company information about greenhouse gas emissions, energy production, energy consumption and other information'.

17. **PRI (Principles of Responsible Investment)**
    The United Nations PRI is the world's leading proponent of responsible investment. It 'encourages investors to use responsible investment to enhance returns and better manage risks, but does not operate for its own profit; it engages with global policymakers but is not associated with any government'.

18. **SASB (Sustainability Accounting Standards Board)**
    The SASB establishes and maintains 'disclosure standards on sustainability matters that facilitate communication by companies to investors of decision-useful information'.

19. **TCFD (Task Force on Climate-related Financial Disclosures)**
    TCFD develops 'voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders'. The TCFD Secretariat is based in New York in Michael Bloomberg's offices. The operational arm of TCFD is likely to be led by a combination of CDSB and SASB (both organisations have had funding from Bloomberg in the past). The TCFD *Good Practice Handbook* has been jointly launched by both organisations in New York in September 2019.

20. **UN SDGs (United Nations Sustainable Development Goals)**
    The Sustainable Development Goals are intended to help 'achieve a better and more sustainable future for all'. They address global challenges, 'including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice'.

21. **UNFCCC (United Nations Framework Convention on Climate Change)**
    The UNFCCC is a convention adopted at the Rio Earth Summit that now has near-universal membership of 197 countries. The ultimate aim of the convention is to prevent '"dangerous" human interference with the climate system'.

3.3 Mentions of TCFD

Tables 4 and 5 summarise our analysis of TCFD reporting by NZSX-listed companies. As noted in Figure 3, 27 of the 130 2020 annual reports mentioned TCFD – almost 21%. This is three times the 2019 figure. The next step was to review the 27 annual reports that did mention TCFD. Table 4 illustrates the six categories that were identified, which are further grouped into three types of mentions: strong mentions, medium mentions and light mentions (see bottom of Table 5). Table 5 shows how reporting by entities has evolved over the last three years.

Table 4: Six types of TCFD mentions

Category	2018	2019	2020	Refer to
1: Dedicated section (all four core elements)	1	3	7	Appendix 1
2: External link (to a separate TCFD report)	0	1	4	Appendices 2, 5
3: Indexed throughout (TCFD information)	1	2	3	Appendix 3
4: Partial (some but not all of the four core elements)	3	0	2	Appendix 4
5: Intent to publish (TCFD information)	1	3	9	NA
6: Casual reference (in an informal manner)	1	1	2	NA
Total number	**7**	**10**	**27**	**NA**
Annual reports searched	**123**	**130**	**130**	

Table 5: TCFD mentioned in annual reports of NZSX-listed companies, 2018–2020

	NZSX-listed companies	2018	2019	2020	Number of pages	See page
1	Air New Zealand	Intent to publish	Intent to publish	Dedicated section	2	21
2	AMP Limited	Partial	No mention	Casual reference	NA	NA
3	ANZ Bank	No mention	Dedicated section	Dedicated section	1	23
4	A2 Milk	No mention	Intent to publish	Intent to publish	NA	NA
5	Contact Energy	Indexed throughout	Indexed throughout	Indexed throughout	1	80
6	Downer Group EDI	Partial	Dedicated section	External link	1	71
7	F&P Healthcare	No mention	No mention	Indexed throughout	1	81
8	Genesis Energy	No mention	No mention	Dedicated section	12	24
9	Mercury	No mention	Indexed throughout	Indexed throughout	1	82
10	Meridian Energy	Partial	External link	External link	1	72
11	Napier Port Holdings	No mention	No mention	Intent to publish	NA	NA
12	New Zealand King Salmon	No mention	No mention	Intent to publish	NA	NA
13	NZ Oil and Gas	No mention	No mention	Dedicated section	20	36
14	Refining NZ	No mention	No mention	Intent to publish	NA	NA
15	New Zealand Exchange	No mention	No mention	Intent to publish	NA	NA
16	Precinct Properties NZ	No mention	No mention	Intent to publish	NA	NA
17	Property for Industry	No mention	No mention	Dedicated section	5	57
18	Port of Tauranga	No mention	No mention	Partial	1	84
19	Sanford	No mention	Intent to publish	Intent to publish	NA	NA
20	Scales Corporation	No mention	No mention	Dedicated section	2	62
21	Spark	No mention	No mention	Partial	1	85
22	Summerset	No mention	No mention	Intent to publish	NA	NA
23	Telstra	No mention	No mention	External link	1	73
24	Vector	Casual reference	Casual reference	Intent to publish	NA	NA
25	Westpac	Dedicated section	Dedicated section	External link	5	74
26	Warehouse Group	No mention	No mention	Casual reference	NA	NA
27	Z Energy	No mention	No mention	Dedicated section	5	64
	Total companies that mention TCFD	**7**	**10**	**27**	**NA**	**NA**

Strong mention – reports on all core elements

- 1: Dedicated section
- 2: External link
- 3: Indexed throughout

Medium mention

- 4: Partial
- 5: Intent to publish

Light mention

- 6: Casual reference

Specific observations include:

1. **Dedicated TCFD sections of annual reports were between 1 and 20 pages.**

   The longest was NZ Oil and Gas. The median was five pages and the average was seven pages.

2. **The number of mentions of TCFD has increased in annual reports over time.**

   The number of NZSX-listed companies that include any mentions of the TCFD framework in their annual reports has increased between 2018 and 2020 (see Tables 2 and 3). In 2018, 6% (seven out of 123) of annual reports included TCFD mentions. In 2019, 8% (ten out of 130) of annual reports included mentions. By 2020, 21% of annual reports (27 out of 130) included some mention of TCFD (see Table 2).

3. **The number of companies that include a dedicated TCFD section in their annual report has increased.**

   In 2018, only one company out of 123 had a dedicated TCFD section in their annual report. In 2019, 2% (three out of 130 companies) provided dedicated TCFD sections in their annual reports. In 2020, 5% (seven out of 130 companies) provided these dedicated TCFD sections in their annual reports (see Table 2).

4. **The most common type of 'TCFD mention' in 2020 was a statement that the company intended to provide TCFD information in the future.**

   In 2018, 1% (one out of 123) of companies' mention of TCFD was part of a statement that they were intending to provide TCFD reporting in the future. In 2019, the appearance of this statement of intent increased to 2% (three out of 130). In 2020, 7% (nine out of 130) of all TCFD mentions in annual reports were a statement of this kind (see Table 2) .

   An intention to report often delivers an action. For example, in Air New Zealand's 2018 and 2019 annual reports, the company indicated its intent to report against TCFD and in 2020, it published a dedicated TCFD section in its annual report (see Table 3).

5. **The number of companies that provide an external link to TCFD information outside their annual report has increased.**

   In 2018, no companies provided external links to separate documents, such as specific sustainability reports, in their annual reports. In 2019, one company provided this information in its annual report. In 2020, three companies provided external links to these separate documents (see Table 2).

   In 2018, Downer Group EDI provided a partial TCFD disclosure. By 2019, Downer Group EDI had progressed to providing a dedicated TCFD section in its annual report to demonstrate its engagement with the framework. In 2020, Downer Group EDI did not provide a dedicated section within the annual report, but instead provided a link to its TCFD response which sat outside of its annual report (see Appendix 2).

6. **Companies that initially provided a detailed index to help users find a range of TCFD information consistently continue with this practice over consecutive years.**

   Three entities provided a detailed index for users. In 2018, 2019 and 2020, Contact Energy responded to the TCFD in its annual reports by providing an index to each of the four core TCFD elements: governance, strategy, risk management and metrics & targets (see Appendix 3).

   Similarly, F&P Healthcare (2020) and Mercury (2019 and 2020) provide users with an index to each of the four core reporting TCFD elements in their annual reports (see Appendix 3).

7. **Within the 27 annual reports:**

- Eight are energy companies (30%): Contact Energy, Genesis Energy, Mercury, Meridian Energy, NZ Oil and Gas, Refining NZ, Vector and Z Energy.
- Four are banks, insurance or finance related (15%): AMP Limited, ANZ Bank, New Zealand Exchange and Westpac.
- Two are property companies (7%): Precinct Properties NZ and Property for Industry.
- In addition to the above companies, eight (30%) arguably have a business model which may have a significant emissions profile: Air New Zealand, A2 Milk, Napier Port Holdings, New Zealand King Salmon, Port of Tauranga, Sanford, Scales Corporation and Warehouse Group.
- The other five (19%) arguably are large companies that know their investors, customers and/or suppliers will be interested in this information going forward. This group includes Downer Group EDI, F&P Healthcare, Spark, Summerset and Telstra.

4.0 Observations

Climate-related information

In their 2020 annual reports, 43% of NZSX-listed companies were reporting on climate-related risks and climate-related initiatives (see Figure 2). However, in contrast, reporting on climate-related costs in 2020 was almost non-existent at 5.3%, and had decreased (down from 6.8% in 2019). Importantly, Figure 2 illustrates that the reporting of climate-related information is uneven and patchy, which in turn explains why many preparers, users (such as investors, bankers and insurers) and regulators are looking to implement a standardised climate-related reporting framework. Furthermore, supply of certain types of climate-related information is on the increase, such as information on how the business model might be impacted. Based on recent trends, we expect 50% of 2021 annual reports of NZSX-listed companies will contain some form of climate-related information.

Voluntary reporting frameworks

Historically, it has been evident that very few companies are choosing to use a voluntary international framework (see Figure 3). This is possibly because there are too many frameworks for entities to choose from or that additional reporting is expensive and/or complex.

Currently, no single voluntary reporting framework is used consistently by all entities to report on environmental information. Instead of a single dominant framework, there are a range of popular frameworks, many with similar aims to each other. Some can be either combined with others or used in isolation. The problem with such a wide variety of frameworks is that this saturates the market, and any impacts of effective reporting are siloed and diluted. Presently, there is a lack of information around which frameworks are applicable and useful for particular entities (based on their type, industry or size, for example). This presents a barrier to entry. Furthermore, there is little alignment between frameworks, making it difficult for preparers to select and for users to draw comparisons between entities and across sectors.

However, preparers are looking specifically to TCFD to meet new and emerging climate reporting requirements. Figure 3 shows the result of searches of the annual reports of NZSX-listed companies for mentions of 21 voluntary reporting frameworks. In 2017, TCFD was mentioned in only one annual report; however, by 2020, TCFD was mentioned in 27 annual reports. In 2020, the only other framework that had more mentions than TCFD was the UN SDGs (at 28); however, in 2017, this framework was mentioned in five annual reports. This means TCFD is by far the fastest mover in terms of voluntary reporting frameworks – outpacing UN SDGs and other well-known frameworks such as GRI and IIRC. Based on recent trends alone, we expect TCFD to exceed all other voluntary reporting frameworks in 2021 annual reports.

TCFD

As noted above, TCFD is voluntary. This means the framework has been applied in a piecemeal and uneven manner by a wide range of preparers. There are advantages in this approach to both the preparer and the user. It enables preparers to explore a framework in a relatively safe and non-judgemental way, and enables users to learn more about the business model and most importantly, to have confidence that the board and staff are both current and committed to providing good quality information in a timely manner using the latest reporting frameworks. However, there is a point at which a voluntary approach becomes unnecessarily complex for both the preparer and the user. In our view, the tipping point has, as evidenced in this research, been reached. Examples include:

- The core elements are not always disclosed in the same order. This order is outlined in Figure 1: governance, strategy, risk management, followed by metrics and targets. Genesis Energy presents the core elements in the order of strategy, metrics and targets, governance, and risk management. In our experience, the order matters. See Appendix 1.
- The narrative that is disclosed before the specific core elements are discussed can be quite extensive and, in a few cases, confusing. See, for example, NZ Oil and Gas and Z Energy in Appendix 1.
- Some TCFD reports are very long, while others are very short. For example, NZ Oil and Gas is 20 pages while ANZ (admittedly in progress) is one page. See Appendix 1.
- Some combine summary data followed by indexes. See Z Energy in Appendix 1.
- There is little clarity over what is best practice in terms of whether the annual report should contain all, some, or no climate-related information. See the six types of mentions in Table 2. This is further supported by the detailed analysis in Table 3, which shows that some entities, such as Downer Group EDI and Westpac, believe moving from a dedicated section in an annual report to an external link in an annual report is more appropriate, while others, like ANZ, prefer the dedicated section.
- Two entities have annual reports with partial TCFD information: Port of Tauranga and Spark.

There is inconsistent use of the terms 'modelling' and 'scenarios'. The Institute would like to see some common reference scenarios created and published for all preparers to apply and consider, so that there is a consistent approach and language for report preparers, report users and regulators. We believe the preferred provider of the reference scenarios, and possibly reference megatrends, should be the Climate Change Commission. In which case:

- The XRB (the standard-setter) sets the standards that refer to New Zealand's reference scenarios and makes a provision for entity-specific scenarios to be developed and used when reporting against the new TCFD-aligned standards.
- The FMA reviews the resulting annual report (and TCFD-aligned reports), along the lines of this working paper, to showcase examples of good or poor practice, showing how the standards have been applied in practice and, where appropriate, making suggestions to both the preparers and the standard-setter – to guide improvements.

It is important to emphasise that New Zealand is fortunate to have these 27 NZSX-listed companies collect new data, engage, consult, experiment and disclose against the TCFD reporting framework. This bodes well not just for the market (in terms of more informed buyers and sellers), but also for building our skills and capabilities (and our understanding of what skills and capabilities are needed) so that we can adapt our existing reporting framework to deliver better quality information and, therefore, improve decision making.

All seven companies with dedicated sections in their annual report (see Table 3) provide new information that will be novel for users to consider and reflect upon. A selection from each is as follows:

- Air New Zealand's 2020 annual report notes: '[u]ltimately, extreme weather frequency and intensity may cause sustained operational disruption and network growth limitations, which may adversely affect Air New Zealand's cost base, future revenue, customer experience and reputation' (p. 72). This information may lead to investment in electric train networks (but not along the coast).
- ANZ Bank notes that their goal, in terms of risk management, is to focus on 'supporting 100 of our largest emitting customers to develop and disclose their transition plans' (p. 35).
- Genesis Energy's observation in the energy space is: 'In all scenarios modelled Genesis's strategy proved resilient. A key aspect is that with many risks, a corresponding opportunity is also created' (p. 18).

- NZ Oil and Gas's annual report states, in anticipation of higher carbon prices, that the company is looking to 'apply a shadow carbon price ... [but this] ... appears to offer little analytical advantage' and an 'internal levy to fund carbon mitigation projects' is under way (p. 38).
- Property for Industry's annual report notes: '[d]ue to increasing climate-related claims, insurance for climate events may become more difficult to obtain or increasingly expensive' (p. 92).
- Scales Corporation's annual report states that it found 'water availability and accessibility as the primary climate change risk to the business' (p. 24).
- Z Energy's annual report states that the company 'carries out the risk assessment from a "top-down" (or enterprise perspective) and from a "bottom-up" perspective' (p. 159).

New Zealand reference scenarios will make provision for entity-specific New Zealand scenarios

To produce concise and useful information, we believe three to five reference scenarios should be developed (possibly by the Climate Change Commission) that are designed for New Zealand by New Zealanders. These must be specific to New Zealand and updated as new information becomes available. These reference scenarios could voluntarily be applied by each entity as they develop their own entity-specific scenarios. As noted earlier, the Institute considers that the scenarios should not be part of the work of the XRB, and if mentioned in the new XRB standards, they should only be referred to as New Zealand climate reference scenarios (or equivalent).

Climate-related reporting and assurance standards

It will be challenging for entities to discuss climate change impacts in a clear, concise and accurate manner but it is what users need to make better decisions going forward. Climate-related standards must be well designed to help preparers navigate the tension between too little (resulting in information gaps) and too much information (in order to prevent information overload).

Existing reporting and assurance standards

In the future, it would be interesting to review each company's financial statements to assess whether TCFD-based reporting led to any changes in the content of the financial statements. Under the existing framework, each preparer (and assurer) is obliged to apply the existing standards against any new information. For example, NZ IAS 37 (Provisions, Contingent Liabilities and Contingent Assets) and/or NZ IAS 38 (Intangible Assets) might lead to new financial information and/or notes to the financial statements.

There is a need to provide information that users can trust and rely on, leading to some entities stating that they are now working on ways to provide assured information going forward. The research did not look at whether the TCFD-based reports were assured or not. Going forward, we believe it will be beneficial for the FMA and/or NZX to look more closely at assurance and at the extent of reporting on each of the core TCFD elements. A good example of this type of approach can be found in 'Chapter V: The state of TCFD reporting in Taiwan and Asia-Pacific', in *Trends of Sustainability in Taiwan and APAC 2021*.[8] This comprehensive report analysed a large number of reports across many countries.

In our view this research shows a common framework is necessary to help create certainty for both preparers and users of climate-related information. It should also help increase the reporting of climate-related risks and opportunities. Our research shows that the TCFD-based regime has increasingly become the preferred framework for climate reporting.

To learn more about how this working paper shaped the Institute's recommendations to the Economic Development, Science and Innovation Select Committee (who are currently hearing the Financial Sector (Climate-related Disclosures and Other Matters) Amendment Bill), see the Institute's submission.[9] In particular, the Institute notes (p. 23) that only 48 of 200 Deloitte Top 200 entities would be required to report under this Bill. This means 152 large private companies would not be able to voluntarily lodge a climate statement on the proposed public register (as the Bill stands). For reasons of preparers' equity and users' accessibility, we propose that all non-FMC reporting entities should be able to lodge a climate statement on the same climate statements register (managed by MBIE) on a voluntary basis, on the proviso that the statement is assured.

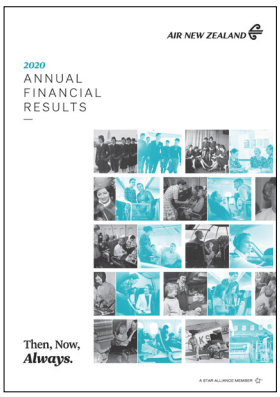
8 CSRone. (2020). *Trends of Sustainability in Taiwan and APAC 2021.* Retrieved 10 June 2021 from https://www.tcfdhub.org/resource/trends-of-sustainability-in-taiwan-and-apac-2021

9 See our submission at www.mcguinnessinstitute.org/publications/submissions

Appendix 1: NZSX-listed 2020 Annual Reports – Dedicated section

Note:

1. To be considered a dedicated section, all four core elements of the TCFD recommendations should be included.



Appendix 1:
NZSX-listed 2020 Annual Reports –
Dedicated section

Air New Zealand
Annual Report 2020

CLIMATE-RELATED DISCLOSURES

Taskforce on Climate-related Financial Disclosures (TCFD)

Air New Zealand committed to supporting the TCFD in 2019. For the 2020 financial year, the following disclosures summarise how Air New Zealand aligns with TCFD recommendations.

Governance of Climate-Related Risks and Opportunities	
Board's oversight of climate-related risks and opportunities	The Board is ultimately responsible for the Company's response to the risks and opportunities presented by climate-related issues. Board oversight is through its Audit and Risk Committee, which oversees key risks including climate change. This Committee meets quarterly and, amongst other things, considers updates and assurance on management of strategic risks. The Board is updated following each Committee meeting. Matters meriting Board-level consideration are highlighted or dealt with as standalone Board agenda items. Strategic climate-related risks are also considered by the Board as part of the Company's Enterprise Risk Management Framework and its Group Risk Profile. Where applicable, climate risk also forms part of the Board's evaluation of material projects and capital investments.
Management's role in assessing and managing climate-related risks and opportunities	Management has day-to-day responsibility for identifying and managing climate-related risks and opportunities. Climate-related risks are identified through the Company's divisional risk registers. Climate-related workstreams are the responsibility of the full Executive team, the Executive Climate Committee (ECC) and the Sustainability Team. Management focus is given to risk identification, ensuring consistency in approach, and that the climate-related activities are adequately resourced (for example, fuel monitoring/reporting, carbon reduction programme, offsetting, regulatory compliance). The ECC reports key issues to the Audit and Risk Committee. Environmental sustainability is affirmed as a business principle within the Company's Code of Conduct and its Supplier Code of Conduct, which set expectations of employees and of those the Company does business with.
Strategy	
Climate-related risks and opportunities identified over the short, medium, and long-term	Air New Zealand has identified the impact of climate change as one of its top strategic risks. These risks (and opportunities) manifest as either: - 'physical' risks which are those risks arising from changes in the regional and global climate and the consequential impacts and events. These may include acute physical damage from variations in weather patterns (for example severe storms, coastal/ tidal flooding, drought) or chronic impacts (for example sea level rise and temperature increase); or - 'transitional' risks which are those risks related to the transition to a lower carbon economy. These include the impact of policy, legal, technological, reputational or market measures associated with climate change. **Physical risks** Short, medium and long-term physical risks (both acute and chronic) to the Company include: - In the short-term, higher rainfall and storm frequency and intensity, and, in the long-term, sea level rise and tidal/coastal intrusion causing network disruptions and loss of access to airports as well as other aviation support facilities, critical infrastructure, and supply chains; - Increase in the frequency of extreme weather events altering flight dynamics and operational planning requirements. Ultimately, extreme weather frequency and intensity may cause sustained operational disruption and network growth limitations, which may adversely impact Air New Zealand's cost base, future revenue, customer experience and reputation. **Transitional risks** The most likely and impactful transitional effects for the Company include: - Increased regulatory constraints associated with carbon emissions, resulting in higher operating costs. These in turn can impact revenue outcomes. Air New Zealand is cognisant of potential threats and opportunities arising if policy measures are not equivalent across different jurisdictions. - Changing demand for discretionary air travel due to individuals or businesses seeking to reduce their carbon footprint. This can also create opportunities for the most carbon-efficient airlines to enhance their competitive advantage.

Air New Zealand
Annual Report 2020 (continued)

CLIMATE-RELATED DISCLOSURES (CONTINUED)

Strategy continued	
Actual and potential impacts of climate-related risks and opportunities on the Company's strategy and financial planning	Climate-related risks and opportunities are considered as part of Air New Zealand's annual and longer-term business planning and financial planning processes, including decisions on fleet investment and aircraft weight as well as consideration of the regulatory impacts of carbon pricing. The Company's recognition of climate-related risks and opportunities helps shape the sustainability strategy, in turn guiding decisions to invest in modern and fuel-efficient fleet, development of an operational carbon reduction programme and a voluntary carbon offsetting scheme, and long-term carbon credit supply to meet compliance obligations under the New Zealand Emissions Trading Scheme. The Covid-19 crisis has had a significant and ongoing impact on Air New Zealand and on the global aviation industry. While there has been a temporary reduction in air travel, the Company acknowledges the continued need for urgent action to reduce carbon emissions. It has commenced a strategic review of its current and future operations, and the related climate change impacts, with a goal of establishing new emissions reduction targets and defining a roadmap of decarbonisation levers and actions to achieve these targets by 2050.
Resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	Prior to the Covid-19 outbreak, Air New Zealand engaged third-party experts to undertake scenario modelling to quantify the impact of several physical and transitional climate-related risks, and to assess the resilience of the Company's strategy (including against three IEA Energy Technology Perspective (ETP) scenarios which were 1.5, 2 and 3-4 degree aligned). This engagement has been paused until such time as there is greater certainty over the Company's and the industry's post-Covid-19 context.
Risk Management	
Processes for identifying and assessing climate-related risks	Climate-related risks and opportunities are primarily identified, assessed, and managed, by each business unit in accordance with Air New Zealand's Enterprise Risk Management Framework (see page 68). These processes are supplemented with specialist input from functional experts, including the Sustainability, Strategy, Corporate Finance, Legal, and Risk teams, to promote consistency and completeness.
Processes for managing climate-related risks	Risks are identified at various levels of the organisation, including a "bottom up" review involving the identification of key risks by business units, review of top Divisional risks by each Executive in respect of their portfolio of functions, a collective review by the Executive team of the top risks for the Company, and periodic workshops with the Board to seek "top down" input. Risk activity is largely driven by a Risk Operating Rhythm which sets a cadence for the review of risks. Key risks identified are entered into Risk Registers, and a formal assessment process then determines the materiality of the risk.
Processes for identifying, assessing and managing climate-related risks and integrating them into overall risk management	All risks identified through the Enterprise Risk Management Framework are assigned to a responsible manager (Risk Owner), so that mitigation or minimisation actions are developed and implemented to reduce the risks to an acceptable level. These actions are also recorded in the Risk Register, tracked for progress, and reported to senior management. Significant climate-related risks are brought to the attention of the ECC and/or the Audit and Risk Committee as part of the process of reporting to those bodies, and where appropriate are escalated to the Board.
Metrics and Targets	
Metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process **Reporting greenhouse gas emissions** **Targets used by the organisation to manage climate-related risks and opportunities and performance against targets**	The minimum current targets for the Company include those established by the International Air Transport Association: - an average annual efficiency improvement of at least 1.5% between 2009 and 2020 - carbon-neutral growth post 2020 (to be achieved through CORSIA) - and 2050 net emissions being 50% of 2005 emissions levels Air New Zealand also supports the New Zealand Government's goal (enshrined in legislation) of net-zero emissions by 2050. New emissions reduction targets will be finalised by management and the Board in the 2021 financial year. Air New Zealand discloses its Scope 1 and 2 emissions on an annual basis (see **2020 Greenhouse Gas Inventory** on the Air New Zealand website for further detail), its carbon emissions efficiency – measured in tonnes of emissions for every tonne of passenger and cargo carried (CO2 per Revenue Tonne Kilometre) and the Company also discloses volumes of carbon offset through voluntary carbon offsetting programme FlyNeutral. The impact of Covid-19 on the Company's operations has resulted in emissions for the 2020 financial year being significantly lower than normal, and inconsistent with both prior year trends and long-term expectations. The Covid-19 impacts are expected to continue at least through the 2021 financial year.

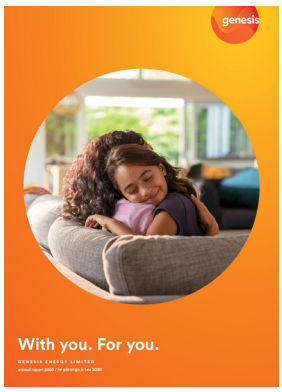
Appendix 1:
NZSX-listed 2020 Annual Report –
Dedicated section

ANZ Bank
Annual Report 2020

This is the fourth year we have reported using the TCFD. For detailed information see 'ANZ 2020 Climate-related Financial Disclosures' on anz.com/annualreport

Our progress on the TCFD

	OUR PROGRESS TO DATE	FOCUS AREAS – 2021/22	BEYOND 2020 VISION
GOVERNANCE	• Board Risk Committee oversees management of climate-related risks • Board Ethics, Environment, Social and Governance Committee approves climate-related objectives, goals and targets • Ethics and Responsible Business Committee (executive management) oversees our approach to environment, social and governance (ESG) and reviews climate-related risks and opportunities	• Align with regulatory guidance on climate-related risk governance, including stress testing of selected portfolios	• An enhanced risk management framework that anticipates potential climate-related impacts, and associated regulatory requirements
STRATEGY	• Climate Change Statement (available on anz.com) reaffirms support for the Paris Agreement goals and transition to a net zero carbon economy • Managing the net zero carbon transition focuses on an orderly and just transition that gives careful consideration to the impacts on communities • Participated in a United Nations Environment Program Finance Industry (UNEP FI) working group on TCFD scenario analysis that issued recommendations and methods to assess portfolio transition and physical risks • Low carbon products and services within our Institutional business focused on climate-related opportunities • Analysis of flood-related risks for our home loan portfolio in a major regional location of Australia • Test-pilot of socio-economic indicators showing financial resilience of home loan customers with respect to flood risk	• Extending analysis of flood-related risks to incorporate bushfire and other risks relating to retail customers • Include climate risk reference in lending guidance documents for relevant industry sectors, used by our front line bankers	• ANZ business strategy more closely aligned to a resilient and sustainable economy that supports the Paris Agreement and UN Sustainable Development Goals
RISK MANAGEMENT	• Climate change risk added to Group and Institutional Risk Appetite Statements • Climate change identified as a Principal Risk and Uncertainty in our UK Disclosure and Transparency Rules (DTR) Submission • Guidelines and training provided to over 1,000 of our Institutional bankers on customers' transition plan discussions • Enhanced financial analysis and stronger credit approval terms applied to agricultural property purchases in regions of low average rainfall or measured variability • New agribusiness customers assessed for financial resilience and understanding of rainfall and climate trends in their area, and water budgets considered if irrigating	• Supporting 100 of our largest emitting customers to develop and disclose their transition plans • Customer engagement to identify customer or sector-specific transition or physical risks, focused on corporate and Institutional customers • Develop an enhanced climate risk management framework that strengthens our governance and anticipates potential climate-related impacts and associated regulatory requirements	• Further integrate assessment of climate-related risks into our Group Risk management framework • Standard discussions with business customers include climate-related risks and opportunities • Assessment of customer transition plans part of standard lending decisions and portfolio analysis
METRICS AND TARGETS	• Support 100 of our largest emitting customers to establish or strengthen low carbon transition plans by 2021, with metrics developed to track progress • New metrics to enable our progress to be tracked in reducing 'financed emissions', beginning with two key sectors: commercial property and power generation. Metrics are tailored to each sector (eg. carbon emissions per square metre of net lettable space for commercial property) and disclosed every 12 months • $50 billion target to fund and facilitate sustainable solutions by 2025 • Target to procure 100% renewable electricity for ANZ's operations by 2025 • Ongoing emissions reduction targets for ANZ energy use aligned with the Paris Agreement goals	• Complete transition plan engagement with high emitting customers and consider how to integrate into customer assessments • Set targets to reduce metrics for 'financed emissions' for key sectors towards a net zero goal by 2050 • Consider expanding new metrics for measuring impact of our progress on environmental sustainability to other key sectors	• Continue to evolve our reporting with leading practices to measure the alignment of our lending with the Paris Agreement goals • Reduce ANZ's operational emissions in line with the decarbonisation trajectory of the Paris Agreement goals



Appendix 1:
NZSX-listed 2020 Annual Report –
Dedicated section

Genesis Energy
Annual Report 2020

Introduction

The Task Force on Climate-related Financial Disclosures (TCFD)

The Task Force on Climate-related Financial Disclosures (TCFD) was created in 2015 to develop a set of voluntary recommendations for companies and investors to report the risks faced to their organisations by climate change.

It was formed by the Financial Stability Board (FSB) as a means of coordinating disclosures among companies impacted by climate change all over the world. A key goal of the TCFD is to encourage sustainable investments and build an economy which is resilient in the face of climate-related uncertainties.

The TCFD consists of 31 members selected by the FSB. Members are made up of both users and preparers of disclosures and represents members of the G20 across numerous sectors and industries. The TCFD's recommendations are widely regarded as best practice for climate-related financial disclosures.

TCFD Recommendations

1. Strategy Page 14	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, medium, 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.
2. Metrics and Targets Page 20	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	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)	Disclose Scope 1, Scope 2, and if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	c)	Disclose the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.
3. Governance Page 23	Disclose the organisation's governance around climate-related risks and opportunities.	a)	Describe the board's oversight of climate-related risks and opportunities.	b)	Describe management's role in assessing and managing climate-related risks and opportunities.		
4. Risk Management Page 24	Disclose how the organisation identifies, assesses, and manages climate-related risks.	a)	Describe the organisation's processes for identifying and assessing climate-related risks.	b)	Describe the organisation's processes for managing climate-related risks.	c)	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.

Genesis Energy
Annual Report 2020 (continued)

1. Strategy

He rautaki

Climate change risks

TCFD requirement

a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

Genesis has a comprehensive risk identification and assessment process, further detail of which is provided in the risk management disclosures on page 24. These processes result in a comprehensive register of risks that are actively managed.

Physical climate impacts can be 'acute' arising from extreme weather events (such as floods or droughts) or 'chronic' arising from the longer-term shifts in climate patterns (i.e. increasing temperatures and changes to hydro lake inflows). These changes may result in financial risks or opportunities due to the direct and indirect impacts they can have on business operations, assets, markets or supply chains.

Transitional climate impacts refer to risks and opportunities resulting from the policy, legal, technology and market changes occurring in the transition to a low-carbon economy. Depending on the nature, speed and focus of these changes, transition impacts may pose varying levels of financial and reputational risk or opportunity.

Opportunities arising

Many of the transitional risks represent an evolution or change in the market. Some are an expected transition and some are less predictable, such as the speed of technology advancement. In all cases these changes also reflect opportunities that Genesis is well positioned to capitalise on.

An overview of Genesis' highest rated climate-related risks and opportunities are included below.

Each category has been assessed according to the most relevant timeframe and level of potential impact. Recognising that the climate scenario is dynamic and unknown to a certain extent, the classification represents Genesis' current assessment of the risk landscape.

Category description	Risk/Opportunity	Category	Timeframe	Impact rating*
Regulatory changes that impact thermal generation	Risk & some opportunity	Transitional	Short term (1-10 years)	Moderate
Environmental and physical changes that impact thermal generation	Risk	Physical	Short term (1-10 years)	Moderate
Consumer and investor preference impacting our operating landscape	Risk & some opportunity	Transitional	Short to Medium term (1-20 years)	Moderate
Technological disruption	Risk & opportunity	Transitional	Short to Medium term (1-20 years)	High
Long-term climate changes that impact hydro generation	Risk & opportunity	Physical	Long term (gradual increase in likelihood over next 20-30 years)	High
Acute climate events causing damage to critical infrastructure and assets	Risk	Physical	Long term (gradual increase in likelihood over next 20-30 years)	High

*Note: Impact rating corresponds to a defined Genesis risk management matrix. For example, 'high' impact risks or opportunities have the potential to materially impact the business and require significant action across multiple business units.

For greater detail on the risks and opportunities presented above, refer to TCFD Strategy Appendix on page 88.

Genesis Energy
Annual Report 2020 (continued)

1. Strategy

He rautaki

Building a renewable future

TCFD requirement

b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

All climate-related risks and opportunities affect the Company's short-medium term strategy and financial planning. These strike a balance between several key objectives, and are underpinned by extensive scenario mapping, including those that span different carbon transition pathways.

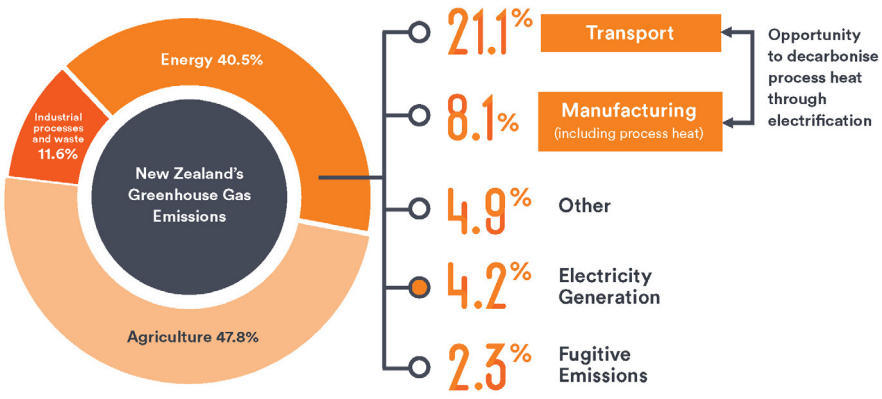
Genesis recognises the impact climate change is already having and supports meaningful, economy-wide planning to reduce emissions and transition New Zealand to a low-carbon future.

Genesis, along with the wider electricity sector, must play a critical role in driving decarbonisation through electrifying the more carbon-intensive parts of the economy, in particular industrial processes and transport. With one of the most renewable electricity systems in the OECD, New Zealand has an opportunity to lead the world in electrification. However, this transition is subject to its own climate-related risks. For example, poor regulatory or policy settings could have the opposite effect and disincentivise electrification through a higher-cost and less reliable electricity system.

Genesis has a plan to transition its thermal generation assets away from baseload, while still providing backup options for renewable generation. The economics of renewable baseload electricity generation have now reached the tipping point where it is cost-effective to build geothermal, wind and solar. Consumers have also stated that they want secure and low-cost electricity[1]. Currently, there are limited commercially feasible zero-carbon options to manage the seasonal challenges in New Zealand. The wholesale electricity market will become increasingly tested as the country becomes more reliant on renewable generation, which is subject to seasonal and intra-day weather conditions that could intensify with climate change.

This does not take away from the fact that as New Zealand's largest thermal electricity generator, Genesis is very aware of the role it plays – and the responsibility it has – in supporting New Zealand's transition to a low-carbon future.

1. Reference: UMR/Genesis Research: Coal, gas and renewable energy, February 2020.

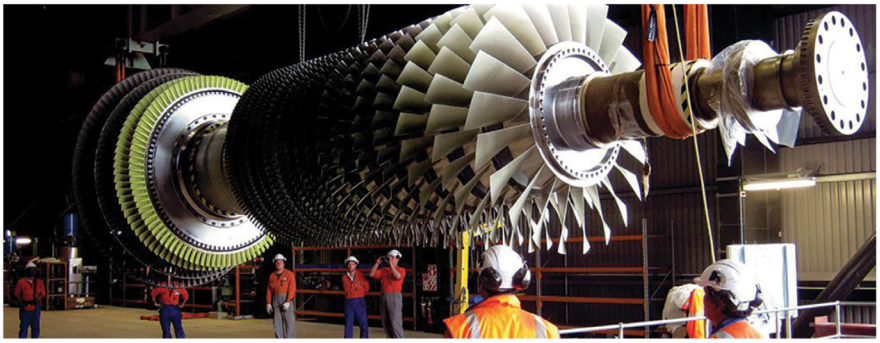


Source: Ministry for the Environment, Gross Greenhouse Gas Emissions 2018 (published: April 2020).
Note: these figures may not add up to exactly 100% due to rounding

1. Strategy

He rautaki

Transitioning baseload thermal generation to renewables



Transitioning thermal baseload to a backup role is necessary as the electricity sector as a whole decarbonises and in order for New Zealand to reach its carbon obligations.

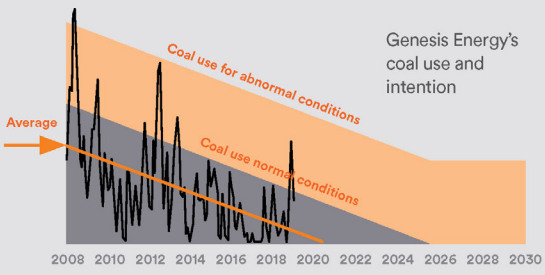
Careful consideration is required to ensure the 'energy trilemma' elements of sustainability, reliability and affordability are balanced to the maximum benefit of consumers and the economy.

The electricity sector is responsible for approximately 4.2 per cent of New Zealand's annual emissions and is already largely decarbonised, with approximately 84 per cent of electricity generated annually from renewable sources[2]. This decarbonisation is set to continue, with renewable electricity generation anticipated to increase to around 90 per cent by 2035 and around 95 per cent by 2050 under all the Ministry of Business, Innovation and Employment's modelled scenarios[3]. The costs of new wind and geothermal generation are already comparable to those of gas baseload generation.

Already Genesis has removed 1.8 million tonnes of carbon from its generation activities across the last ten years and aims to remove a further one million tonnes across the next ten.

Genesis has made a commitment to cease coal use at Huntly Power Station by 2025 under normal market conditions and has stated an intent to end coal use altogether by 2030. Gas will still be required to support thermal backup generation for many years to come.

The transition away from coal is under way
- A ten-year window points to exit



2. Reference: Ministry of Business, Innovation and Employment – Energy in New Zealand 2019.

3. Reference: Ministry of Business, Innovation and Employment, Electricity Demand and Generation Scenarios July 2019.

Genesis Energy
Annual Report 2020 (continued)

1. Strategy

He rautaki

Seasonal and dry year storage challenges

The increasing proportion of electricity from renewable generation will not solve New Zealand's fundamental challenge of seasonal storage. New Zealand currently requires about 7,000 GWh of deep energy storage to deal with the seasonal shifts in demand – in which 2,000 GWh more energy is needed in winter than summer. In dry years inflows can be as much as 5,000 GWh or more below average. This effect may be exacerbated by climate change over time.

Existing hydro lakes provide about 4,000 GWh of that storage, leaving a 3,000 GWh gap. For scale, 3,000 GWh is about five times what Lake Taupō currently stores for generation[4] or 140 Tesla Powerwall batteries for every household in New Zealand. The Tesla option would cost in the order of $2 million per dwelling. That storage gap is currently met by thermal electricity generation, particularly at Huntly Power Station.

New Zealand has 60 per cent of electricity generated from hydro-power stations, yet only six weeks of hydro storage at any given time (this assumes ideal hydrological conditions and full lake storage).

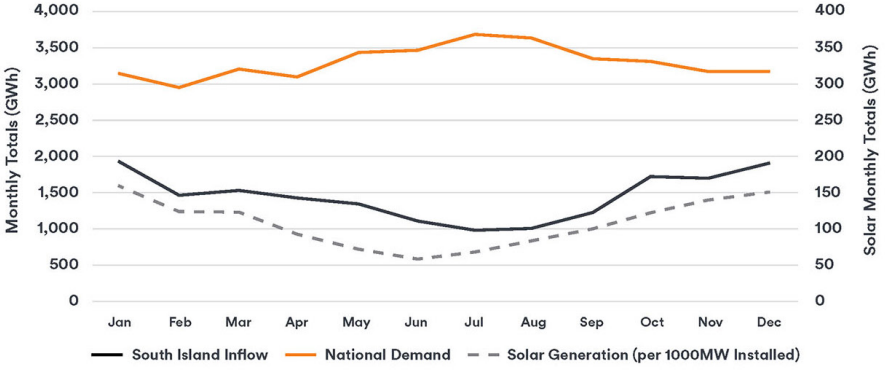
As an island, New Zealand does not have any international interconnect backup options when renewables aren't available. There are also additional risks from the North Island/South Island split and how supply/demand is managed via transmission over the HVDC Inter-Island link.

Thermal electricity generation (including at times coal) provides the crucial backup support that has allowed New Zealand to enjoy such a high level of renewable electricity. The multi-month seasonal risk we face when the lakes are low is unique to New Zealand and will require longer-term technology solutions that are currently uneconomic, particularly if we are to keep electricity prices low enough to encourage other sectors to decarbonise through electrification.

In addition, the wholesale electricity market will become more volatile as New Zealand further increases electricity generation from renewable sources, given the intermittent nature of wind generation in particular and as the cost of owning the remaining thermal plant that runs less and less becomes unsustainable. These risks are all exacerbated by long-term effects of climate change.

4. At the currently consented operating range of 1.4 metres.

New Zealand's Unique Winter Challenge



Genesis Energy
Annual Report 2020 (continued)

1. Strategy

He rautaki

Climate change scenario mapping

TCFD requirement

c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

- Genesis stress tests its strategy against a number of scenarios, these include (but are not limited to) three scenarios specifically modelled to align to climate-related risks. These scenarios contribute towards a comprehensive climate-related risk assessment.
- The first two scenarios involve global efforts to heavily reduce emissions and limit global temperature increase to below 2°C (ideally 1.5 °C). These two scenarios differ in their methods needed to reach this target. The first scenario is driven primarily by stringent government legislation. The second is energy sector transformation via the private sector, such as innovative technological advances and change in consumer choices. Both potentially succeed in being the main driving force in keeping climate change within the 2°C goal of the Paris Agreement.
- The third scenario defined, is where greenhouse gas concentrations continue unabated (the IPCC's Representative Concentration Pathway (RCP) 8.5) and includes greater climate change and associated physical impacts.
- These scenarios were selected to provide integrated scenarios with a mix of factors but also allowed a stress test against extremes from both a transitional and physical perspective. Specifics of the scenarios were created from published climate-risk related models, including work published by NIWA and the Ministry for the Environment for physical risks. This is supported by long-term scenarios mapping the supply and demand balance in the New Zealand electricity system from internal subject matter experts.
- The scenarios used to test company strategy have differing timescales applied. For the three climate-specific scenarios, the timeframes applied are:
  - » Short Term: one to 10 years
  - » Medium Term: 10 to 20 years
  - » Long Term: 20+ years
- In all scenarios modelled Genesis' strategy proved resilient. A key aspect is that with many risks, a corresponding opportunity is also created. Genesis' strategy seeks to identify these opportunities, while also providing a level of risk mitigation where executed successfully.
- An example would be the entrance of new types of renewables into the market. While this is needed to reduce the reliance on thermal generation, and potentially diversify away from hydro-dominated renewables, this also creates a financial risk of displacement for Genesis' thermal assets. However, this also places the Company in a strong position to make informed and structured investment in renewables in the long term.

Genesis Energy
Annual Report 2020 (continued)

1. Strategy

He rautaki

Future-gen

Genesis' Future-gen strategy identifies renewable opportunities to transition away from baseload thermal generation, while seeking to ensure that reliable and affordable electricity continues to enable electrification.

Genesis' partnership with Tilt Renewables for the $277 million, 133MW Waipipi Wind Farm, is currently under construction and scheduled to be operational in the second half of FY21. This demonstrates the Company's ongoing commitment to proactively displace its baseload thermal generation with new renewable generation.

Genesis will buy Waipipi's entire output of zero emissions, renewable electricity, and it is anticipated that this will displace about 20 per cent of the Company's baseload thermal generation.

The Company is also considering other renewable opportunities, including new solar, wind and geothermal generation projects.

The announcement of the closure of the Tiwai Point aluminium smelter in Southland is an opportunity for New Zealand to accelerate the electrification of industrial processes. It also removes a layer of market uncertainty and allows for clearer long-term planning.

This surplus of renewable energy will accelerate our Future-gen strategy, which in the long term will lead to thermal generation displacement. This also falls in line with our 2030 coal commitments (see 'Metrics and Targets' on page 20).

Renewable energy has a different role in the market to thermal generation

Generation Role	Thermal (Gas)	Thermal (Coal)	Hydro	Geothermal	Wind & Solar	Batteries
Baseload Runs 24/7	●	●	●	●	○	
Daily Flex Can turn it on/off (or up/down) for a few hours	○	●	●			●
Baseload Can turn it on/off (or up/down) for a few days	●	●	●			
Baseload Has fuel storage to run in droughts (c. 3000 GWh)	○	●				

Always ● Sometimes ○

Future-gen can be broken down into three key focus areas:

More renewables

As transport and industrial heating sectors look to electrify in the coming years, wind, solar and geothermal projects will meet the increased demand with affordable, renewable generation.

Manage the transition

Genesis is working to mitigate our existing emissions through partnerships such as Drylandcarbon, a partnership between Genesis, Contact Energy, Z Energy and Air New Zealand. This partnership will establish forests that will help offset carbon emissions from the partner companies.

New technologies

Genesis will actively seek new technologies that could contribute to a more renewable future. Genesis supports Government initiatives exploring advances in energy, such as hydrogen. We are also driving efficiencies across our generation fleet.

2. Metrics and Targets

Ngā Whāinga

TCFD requirement

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) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

Goal:
Reduce generation emissions by one million tonnes

- In the past 10 years (2009-2019) Genesis has removed more than 1.8 million tonnes of CO_2 from its generation activity (a reduction of 42 per cent).
- Genesis aims to reduce its net carbon emissions by one million tonnes over the next ten years.
- As part of the Science-based Targets Initiative, Genesis has committed to set a Science-based Target covering generation emissions by the end of FY21.
- Genesis has committed to cease coal use at Huntly Power Station by 2025 under normal market conditions, and its intention is to phase out coal use completely by 2030.
- Genesis has reduced coal use by 72 per cent since the 2006 peak (2006: 54.8PJ, 2019: 15.2PJ).

Goal:
Identify 2,650GWh of renewable opportunities to transition away from baseload thermal generation

- Genesis' Future-gen Strategy presents a pathway to economically displace baseload thermal generation with renewable alternatives, with a long-term goal of an additional 2,650GWh of incremental renewables development.
- Genesis has partnered with Tilt Renewables to buy the entire output of Waipipi Wind Farm (133MW, 450GWh per annum) for 20 years. This will enable a reduction of 250,000 tonnes of carbon per annum.
- Genesis is currently evaluating a number of additional geothermal, solar and wind generation opportunities to reduce its carbon footprint.

Genesis Energy
Annual Report 2020 (continued)

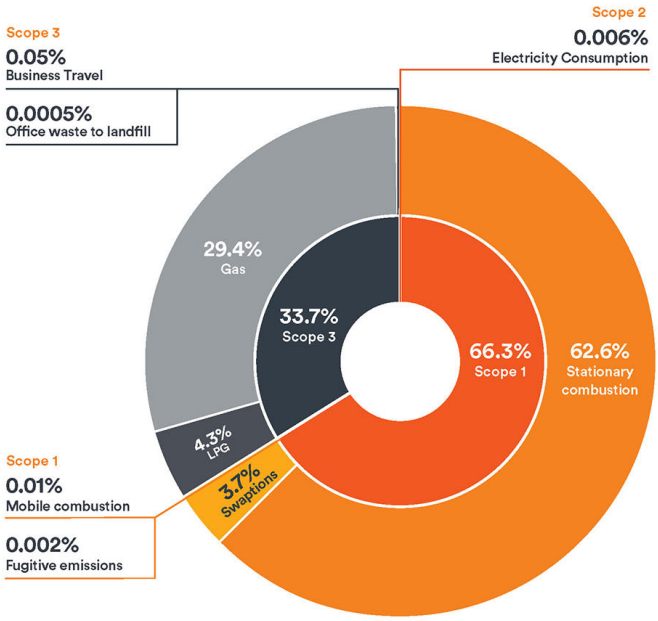
2. Metrics and Targets

Ngā Whāinga

Goal:
Report Scope 1, 2 and 3 emissions

- This is the first time as a publicly listed company that Genesis has reported its Scope 1, 2 and 3 emissions in the Annual Report. To ensure data accuracy, limited assurance has been provided by EY (see page 93).
- Genesis also breaks out Scope 1 emissions into those attributable to supply contracts (swaptions) with our generation partners, further enhancing transparency about the carbon footprint of the New Zealand electricity market.

Genesis' Scope 1, 2 and 3 emissions (FY20) (tCO_2e)



Scope	Category	tCO_2e
Direct emissions (Scope 1)	Stationary combustion attributable to thermal generation	2,539,863
	└ Attributable to supply contracts (swaptions)	149,491
	Subtotal Stationary scope 1	**2,689,354**
	Mobile combustion	579
	Fugitive emissions	80
Scope 1	**Subtotal scope 1**	**2,690,013**
Indirect emissions (Scope 2)	Electricity consumption (location based)	240
	Subtotal scope 2	**240**
Indirect emissions (Scope 3)	Business Travel	1,975
	Use of sold products - LPG[1]	174,622
	Use of sold products - Gas	1,192,230
	Office waste to landfill[2]	19
	Subtotal scope 3	**1,368,846**
Scope 1, 2 and 3	**Total**	**4,059,099**

1. Calculated using NZ Emissions Trading Scheme (ETS) emission factors, not the Ministry for the Environment's emission factors.
2. Data incomplete, to be revised in FY21.

Genesis Energy
Annual Report 2020 (continued)

2. Metrics and Targets

Ngā Whāinga

Goal:
Transition the Company vehicle fleet to electric vehicles

- Genesis is a member of the Climate Group's EV100 commitment to transition its car fleet to 100 per cent electric vehicles. The goal is to transition 100 per cent of passenger vehicles to EV/hybrid by the end of FY21 and 50 per cent of commercial vehicles by 2025:
  - » Light vehicles: Genesis had originally committed to achieving this by the end of 2020 but this target will not be reached due to the lack of EV/hybrid ute options in New Zealand. The Company currently has 42 EV/hybrids in its light fleet (18 Full EV and 24 Hybrid), yet still needs to transition eight light passenger vehicles and aims to do this by the end of calendar year 2020.
  - » Heavy vehicles: Genesis currently has four hybrid LPG trucks and a further three available shortly. Genesis will begin testing full EV trucks in 2021.

Goal:
To support a more sustainable New Zealand, we need to inspire the energy innovators of tomorrow

- Genesis will also encourage low-carbon public transport use as part of its new Auckland office in Wynyard (no staff car parking will be available), a building which has also been designed to the highest green/sustainability standards, including its own solar power management and battery system run by Genesis.
- Genesis has invested 40 per cent into Zilch EV car share to encourage zero emissions electric car sharing. As part of the new Auckland office (see page 10), Zilch will be made available to all businesses in the Wynyard Quarter. This encourages Genesis staff and other companies in the area to make use of zero emissions transport options and leave their fossil fuel-powered vehicles at home.
- Genesis also helps manage Emirates Team New Zealand's America's Cup base as official energy partner, building and managing its roof-based solar panels and battery system. This is the first install of curved solar panels in New Zealand (see page 9).
- Genesis has a partnership with Air New Zealand, Contact Energy and Z Energy called Drylandcarbon, to plant forests on marginal land to help offset carbon emissions. The fund as a whole is forecast to sequester nearly 30 million tonnes of carbon by 2050. This is Genesis' first direct investment to meet its ETS carbon obligations. The Company is continually evaluating new opportunities to engage the carbon market.

Goal:
Caring for water and wildlife

- Working in partnership with iwi on projects that positively influence waterways and their ecosystems.
- Engaging with Genesis customers to raise awareness of Whio and the importance of all New Zealanders playing a role in predator control efforts. Whio breeding pairs have risen by 151 per cent since the beginning of the partnership in 2011.
- Genesis and its partners oversaw the installation of the Whakapapa Intake passive elver pass for winter 2020. So far, the 2020 tuna/eel season was the third best year since our records began, with 2,167 elvers transferred upstream (see page 26 for more detail).

Goal:
Create at least two new products that help customers make sustainable choices by 2020

- Genesis' customer engagement app, EnergyIQ, allows users to forecast their energy usage over seven days (based upon machine learning algorithms) so they can adjust their energy use accordingly.
- EnergyIQ provides 'Energy Saving Tips' and home comparison functionality: snippets of advice that help users be more energy efficient in their homes, reducing their power bills and their carbon footprints.
- Genesis launched a new feature in EnergyIQ – EcoTracker, which allows users to view New Zealand's electricity generation emissions in real time. This enables customers to make decisions on when best to perform energy intensive tasks, such as running dryers and dishwashers. As of May it had 55,000 unique users.
- Genesis will announce new tools in FY21 to ensure suppliers that work with Genesis are committed to operating in sustainable ways.

Genesis Energy
Annual Report 2020 (continued)

3. Governance

He mana whakahaere

Oversight and accountability

TCFD requirement

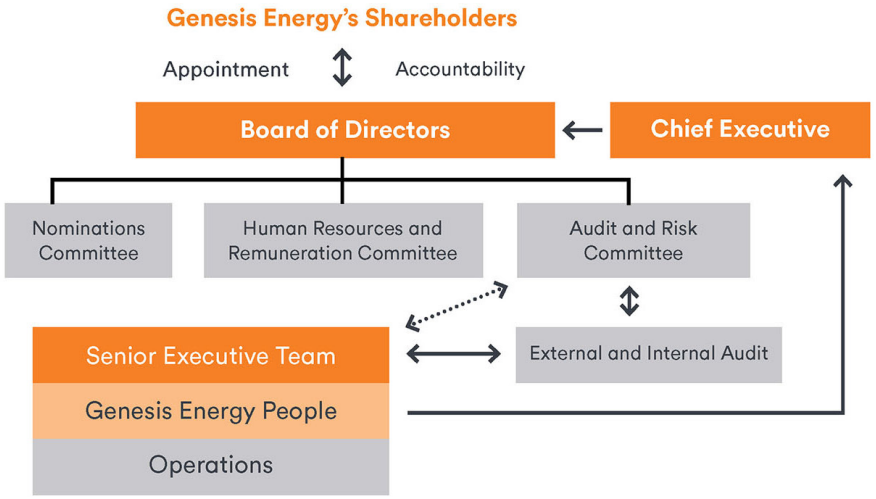
a) Describe the Board's oversight of climate-related risks and opportunities.

b) Describe management's role in assessing and managing climate-related risks and opportunities.

Genesis' Board is ultimately accountable to shareholders for the long-term stewardship of the Company, including any long-term risks, such as climate change. As part of its core governance function, the Board takes an active role in the Company's executive oversight and sets the Company's overall strategic direction. As part of its focus on long-term value creation for shareholders, this means ensuring the Company's long-term resilience in the face of climate-related risks.

All key risks and opportunities are considered by the Board as appropriate when reviewing and guiding strategy and the operations of the Company, including as part of its Risk Management Policy and Framework. This is additionally managed by delegation to the Audit and Risk Committee.

▶ For greater detail on the above, please refer to TCFD Appendix (Governance) on page 91.



Genesis Energy
Annual Report 2020 (continued)

4. Risk Management

Whakatūpato Tūraru

Proactively managing the risks around climate change

TCFD requirement

a) Describe the organisation's processes for identifying and assessing climate-related risks.
b) Describe the organisation's processes for managing climate-related risks.
c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management

Climate-related risks are a key component of Genesis' long-term risk management and factor into all of its risk-based policies and frameworks.

As New Zealand's largest energy retailer and owner of some of New Zealand's largest hydro and thermal generation assets, Genesis has a responsibility to be transparent about climate change and the related risks it poses to the business and the opportunities afforded by a decarbonised and electrified New Zealand. This affects almost every aspect of the business and these risks are managed in a 'waterfall' effect from senior leadership down through the business.

Acute Physical Risks

The process of managing acute ('event-driven') physical climate-related risks aligns to other similar event-driven risk. For example, extreme weather events present a physical risk of catastrophic failure of infrastructure and generation assets, similar to seismic or volcanic risks.

Management is primarily through mitigation. Although financial risks are transferred through insurance, the primary focus is ensuring the highest level of safety. Assets are proactively managed to ensure the continued resilience of these assets in the face of potential events, such as the Tekapo intake gate works (see page 12).

Genesis constantly assesses and reviews these assets and their management plans, leveraging engineering best practice and evaluating new technologies to identify any opportunities to improve their resilience.

Chronic Physical Risks

A small number of 'chronic' risks (gradual long-term shifts), such as sea level rise, align to 'acute' event-driven risks, with the only key difference being that this will be gradual rather than sudden.

Many risks associated with long-term shifts in climate patterns align to pre-existing risk management processes. Weather patterns, such as El Niño and La Niña, produce high seasonal variation and impact the seasonal shortfalls in electricity generation.

Additionally, changed rainfall patterns and water inflows affect hydro generation, changes in winds impact wind turbines and sunlight patterns impact solar farms' efficiencies. A number of these risks therefore underpin the Company's overarching generation strategy.

These could potentially all be exacerbated by future climate change effects and need to be managed accordingly.

Transition Risks

The nature of Transition risks aligns to other 'strategic risks' and as such climate-related transition risks are managed through existing strategic risk management processes.

Genesis proactively manages these risks as part of its long-term strategy.

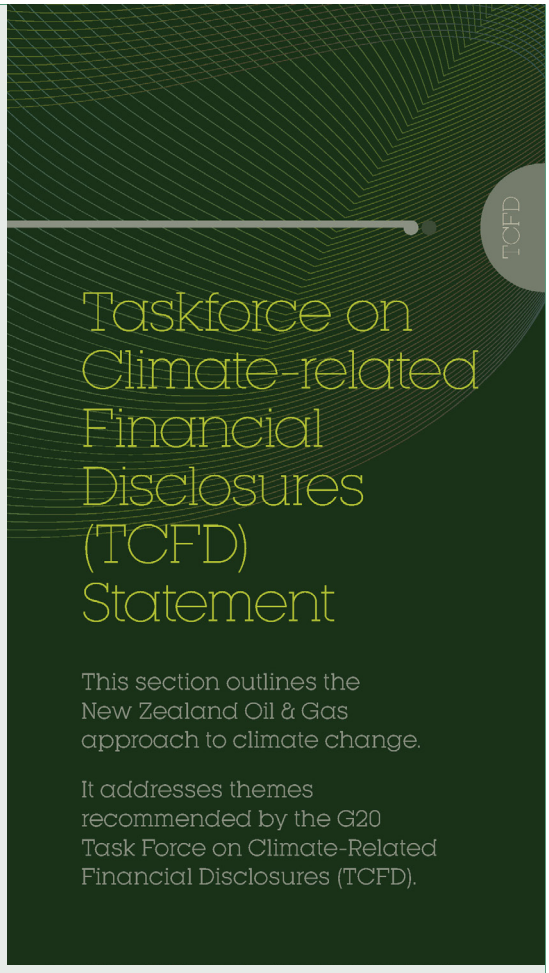
This management includes regular monitoring against key risk indicators, designed to proactively identify associated risks.

This macro-level monitoring best positions Genesis to detect, prepare and adapt to shifts in the wider business landscape (such as the introduction of a standardised emissions trading platform, or a ban on coal mining) while also ensuring potential opportunities are fully considered.

▶ For greater detail on the above, please refer to TCFD Appendix (Risk Management) on page 92.

Appendix 1:
NZSX-listed 2020 Annual Report –
Dedicated section

New Zealand Oil and Gas
Annual Report 2020



New Zealand Oil and Gas
Annual Report 2020 (continued)

TCFD

Statement from the managing director on TCFD and sustainability

New Zealand Oil & Gas is guided in everything we do by our values. We believe we can help to meet New Zealand's energy needs and run our business in a responsible, ethical way.

We are proud to set a standard for our industry among smaller cap companies, responding to climate challenges, and working on relationships in our community to develop our energy needs for the future.

This report sets out our progress.

In 2019 we completed a review of Taskforce on Climate related Financial Disclosures (TCFD) recommendations. As result, we have made changes to our governance approach to climate-related risks and opportunities. These changes have resulted in key climate risks and opportunities being considered in a structured way. We now provide for review at board-level through the board Operational Risk and Sustainability Committee (ORS).

New Zealand Oil and Gas
Annual Report 2020 (continued)

Specific changes made as a result of this review include:

- Staff regularly consider climate issues in monthly HSSE meetings;
- Climate risk and opportunities are a standing item on the ORS Committee agenda;
- Executive management received TCFD specific training
- Changes were made to the corporate risk register to more clearly identify climate-related risk.
- We made reporting more transparent by changing to follow the TCFD structure where applicable.

The changes are outlined in more detail below following the TCFD structure: Governance, Strategy, Risk Management and Metrics and Targets. The structure is set out in the accompanying table.

New Zealand Oil & Gas accepts the science of climate change, and the role we have in helping to reduce global emissions. The world needs us to reduce the emission of carbon dioxide and methane from human activity.

In our own operations, we are taking steps to reduce our environmental footprint, but there is limited difference we can make. Direct emissions are produced from our small head office in Wellington, where we have reduced our carbon footprint, and we paid for 3,564 trees to be planted - enough to remove about 811 tonnes of carbon.

The broader challenge is around emissions from production of oil and gas, and use of the products themselves. The division between our use, and use by others are known in climate policy as Scope 1, 2 and 3 emissions. We can affect our Scope 1 emissions; we have less influence over ultimate uses, and less visibility over whether emissions are offset by the consumer and which alternative fuels are displaced. For example, gas exported to Asia as methanol may substitute for coal in the manufacture of petrochemicals or electricity generation, or it might be purchased because it provides cheaper baseload than a renewable alternative. Some of our production is re-sold in international markets, which sets a boundary to emissions reporting in this document.

New Zealand Oil and Gas
Annual Report 2020 (continued)

We are pleased to set out in this section of our annual report the targets we adopted this year for climate-related performance and our performance metrics.

Our review of climate risk indicated that relevant risks were already carefully considered as part of our previous risk management framework. For example, risks of increasingly severe and frequent weather events are routinely considered in asset management risk plans. Risks of long term changes in demand and prices, access to investment capital and risks of regulatory responses to climate, have long been a standard feature of sensitivity testing in our economic models. However, as a result of the TCFD process, we have explicitly identified these risks as climate-related.

Caution is needed in giving undue weight to specific causes of risk. A couple of examples

- A pandemic was a predictable (and predicted) event, even if the particular covid-19 outbreak was not. The resulting general impact on demand is predictable as well. However, unlike climate-related risk, there is no clamour to highlight health-related risks within our risk reporting.
- As there is no feasible path to transition without gas substituting for coal in global energy systems, this strategy offsets financial risk, if any, from disinvestment in the sector.

We weigh risks methodically, and we caution readers that the introduction of a special section emphasising climate-related risk in this report reflects regulatory trends more than changes in the underlying weighting of particular categories of risk for our Company.

We have responded to climate risk also by supporting our industry and business groups to promote economically efficient carbon trading because a trading scheme is the fairest, most effective and responsible policy for reducing carbon emissions.

New Zealand Oil and Gas
Annual Report 2020 (continued)

In forecasting demand, we have been guided by International Energy Agency reports, which find the demand for natural gas is growing and will reach a market share of about a quarter of all global energy demand.

Natural gas and LNG are crucial to reducing carbon emissions. Emerging economies are looking to substitute lower carbon alternatives like natural gas for higher emission coal. To illustrate: If we can locate more natural gas at Ironbark in Western Australia later this year, and develop a discovery, we may be able to export LNG into Asian markets. Experts believe Australian LNG exports could reduce global emissions of CO^2 by up to 300 million tonnes a year. That's three times as much as Australia's annual emissions reduction target under the Paris Agreement. A big natural gas discovery could materially reduce global carbon emissions.

Natural gas is the best form of thermal back up for renewables - renewable energy systems literally cannot meet modern energy needs without them.

Just as importantly, plants such as Kupe in south Taranaki, New Zealand, produce natural gas as ethically as just about anywhere on Earth. Labour standards and environmental performance compare favourably to third world coal mines, or the world's lithium and cobalt sources (key ingredients in batteries).

Unlike some of the oil that comes from the world's largest producing jurisdictions, revenues from Kupe do not fund terrorism, criminal enterprises or political corruption. We pay our taxes and we observe the rules and laws of the places we work.

Our activities help to make the world a better place. We do our work by a set of values that make us proud, and which contribute to a healthier, wealthier, more sustainable world. I am pleased to commend our activities to you and set out our approach below.

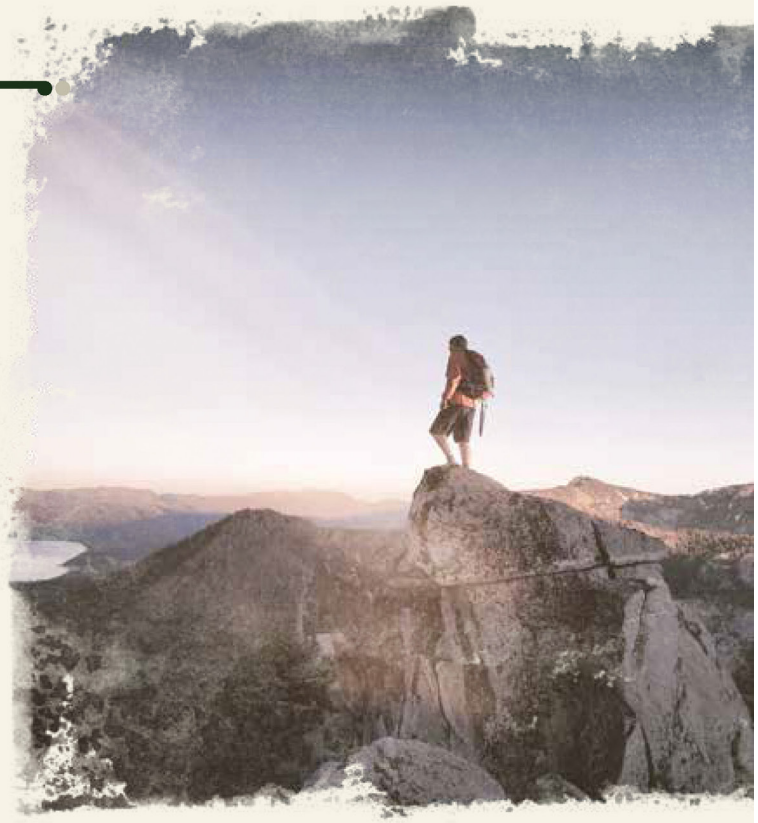
Andrew Jefferies
Chief Executive

New Zealand Oil and Gas
Annual Report 2020 (continued)

TCFD

Executive Summary

TCFD report



Our Climate Commitment

We recognise that climate change is a significant issue affecting society, which demands a transition to a low-carbon economy, global political collaboration and citizen action.

We believe that we help the world move towards a low-carbon economy by being part of the energy mix that is required to deliver secure, reliable, sustainable and affordable energy.

We recognise and support global efforts to reduce climate change through clear and meaningful policy and market settings.

Our Climate Change policy

</> www.nzog.com/dmsdocument/493

New Zealand Oil & Gas Annual Report 2020

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New Zealand Oil and Gas
Annual Report 2020 (continued)

Our Action

WE WILL

Actively identify, manage and mitigate material climate risk to our business, and report our governance, strategy, risk management and targets and metrics transparently

Meet the carbon reporting requirements of the regions we operate in

Actively promote the benefits of gas as a lower-emitting transition fuel that supports energy reliability and affordability, and is a strong companion for the uptake of renewables

Actively review and implement opportunities to reduce the carbon impact of our own operations

Support our joint venture partners to look for and implement low carbon solutions

Respond meaningfully to stakeholder views and expectations around climate change as it pertains to our activities

WHAT WE HAVE DONE

Aligned risk management processes, governance and reporting with Taskforce for Climate Financial Disclosures framework. Include TCFD statements in Sustainability/ Annual Report

Commenced analysis of an internal price on carbon to inform TCFD risk and commercial decisions

Developed and adopted a climate policy

We planted 3,564 trees to offset our Scope 1 emissions

New Zealand Oil and Gas
Annual Report 2020 (continued)

TCFD

Governance

Disclose the organisation's governance around climate-related risks and opportunities.

Recommended Disclosures

A Describe the board's oversight of climate-related risks and opportunities.

B Describe management's role in assessing and managing climate-related risks and opportunities.

See our response **pages 36—37**

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.

Recommended Disclosures

A Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

B Describe the impact of climate-related risks and opportunities on the organisation's business, 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.

Our responses **pages 38—40**

New Zealand Oil & Gas Annual Report 2020

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New Zealand Oil and Gas
Annual Report 2020 (continued)

TCFD

Risk Management

Disclose how the organisation identifies, assesses, and manages climate-related risks.

Recommended Disclosures

A Describe the organisation's processes for identifying and assessing climate-related risks.

B Describe the organisation's processes for managing climate-related risks.

C Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.

See pages 41–43 →

Metrics & Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunitieswhere such information is material.

Recommended Disclosures

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 Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

C Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

Pages 44–47 →

New Zealand Oil and Gas
Annual Report 2020 (continued)

Governance

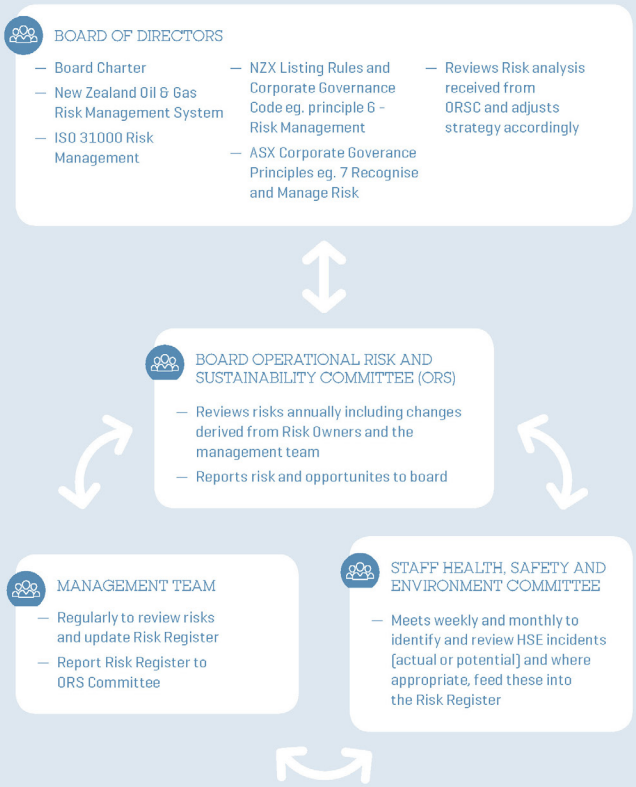
Climate risks are understood and managed.

Ultimately, the board has responsibility for reviewing all risks, including climate-related risk and opportunities, and ensuring these are appropriately managed to support delivery of our business strategy. The board's charter requires it to:

"Understand the material risks faced by the Company and ensure the Company has appropriate risk management strategies and control measures in place and is actively managing these."

The process for considering risks is set out in the risk management system framework. The framework aligns with International Standard ISO 31000 Risk Management - Principles and Guidelines and meets the requirements of the ASX Corporate Governance Principles and Recommendations, Principle 7: Recognise and Manage Risk.

This governance process is outlined in the graphic below.



New Zealand Oil and Gas
Annual Report 2020 (continued)

TCFD

The board Operational Risk and Sustainability Committee monitors risk and reviews the Company's policies, including its response to climate change, and climate-related risk.

A series of formal policies and risk management processes relate to climate issues, including the climate change policy, environment policy, risk management framework and sustainability framework.

The Company's risk register assesses climate impacts, both as stand alone risks, and as risks embedded in individual management plans. For example, asset management plans assess risks of increased severe weather impacts and coastal erosion effects that are forecast effects of climate change.

As outlined here, the Company adopted specific measurable targets in support of climate policy. These include:

- Making climate risks that were implicit in the risk register identifiable as climate-related risks.
- Assessing the Company's emissions and purchasing trees that offset carbon emitted by the Company's activities.
- Emphasising natural gas and LPG in its strategy. As gas emits much less carbon than coal, the IEA and other forecasters expect robust demand for gas for decades.

Management is responsible for identifying, assessing and managing risk and reporting this to the board through the ORS committee. Management risk owners continuously identify and manage risks. Management reviews the corporate risk framework including the risk register, regularly. The ORS committee receives a report on updates to the register.

The Company Health, Safety and Environment committee meets weekly and more formally monthly to identify and review actual or potential HSE incidents, including those at partner operated facilities. These reviews are integrated into the risk register, where appropriate. Climate-related risks may be raised in these processes.

Members of the Management Team, including the Chief Financial Officer and General Counsel undertook TCFD training in 2019.

At an operational level, responsibility for day-to-day oversight of climate risk and opportunity (including managing climate objectives and targets that sit within the Sustainability Framework), rests with the General Counsel.

All corporate charters and policies are available in the corporate governance section of the Company's website.

The Operational Risk and Sustainability Committee charter
</> www.nzog.com/dmsdocument/370

Environment policy
</> www.nzog.com/dmsdocument/491

The risk management system framework
</> www.nzog.com/dmsdocument/1-risk-management-procedure

Checklist

Recommendation	✔ | ✗	Explanation of non-compliance
Disclose the organisation's governance around climate-related risks and opportunities	✔	
Describe the board's oversight of climate related risks and opportunities	✔	
Describe management's role in assessing and managing climate-related risks and opportunities	✔	

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TCFD

Strategy

Low carbon opportunity for the Company.

The TCFD requires a description of climate-related risks and opportunities that the organisation has identified over the short, medium and long term, and a description of the impact of these risks on businesses, strategy and financial planning;

The relevant risks are shown in the table below, on Pages 42–43.

The main strategic impact of the risks and opportunities identified is that the Company has a preference for natural gas in its strategic planning processes. There is consensus across reputable modelling and projections, including the well-regarded World Energy Outlook produced by the International Energy Agency (IEA), that global energy demand will increase by a quarter to a third over the next 20 years. This demand will be met by renewables increasing quickly, along with a slower, but still increasing, supply of gas in the global energy supply.

The IEA World Energy Outlook projects more than two-thirds of global oil and gas imports will flow to Asia by 2040. The market for natural gas exported from New Zealand or Australia would be expected to be Asia. Imports of gas into China, India, Japan and South Korea will replace coal-fuelled electricity, or coal used to create methanol. A large gap in energy supply for Asia will not be filled with renewables, even with massive growth expected in renewable energy. Natural gas is therefore likely to avoid an expansion of coal use, which would be likely in the absence of natural gas availability.

This opportunity is a strategic focus for the Company. We anticipate increasing regulation, a higher price on carbon, and other limits to emissions and incentives for renewable energy uptake.

In anticipation of higher carbon prices, the Company is looking at these measures:

1. Applying a shadow carbon price to understand the potential impact of a carbon charge; and
2. The application of an internal levy to fund carbon mitigation projects

Initial investigation of a shadow carbon price appears to offer little analytical advantage, as price sensitivity is already a fundamental feature of the Company's economic models.

Some carbon mitigation is underway. The Company is offsetting its own travel emissions and some other office-related emissions. Few efficient policy mechanisms exist for offsetting Scope 3 emissions, which are emissions of carbon from use of the oil and gas that the Company sells. As carbon prices are applied to production of hydrocarbons (or to the import of oil in destination markets), further emissions offsets would double count the emissions impact.

New Zealand Oil and Gas
Annual Report 2020 (continued)

Resilience of the organisation's strategy in different climate related scenarios.

The TCFD requires a description of the resilience of the Company's strategy, taking into consideration different climate related scenarios including a 2°C or lower scenario.

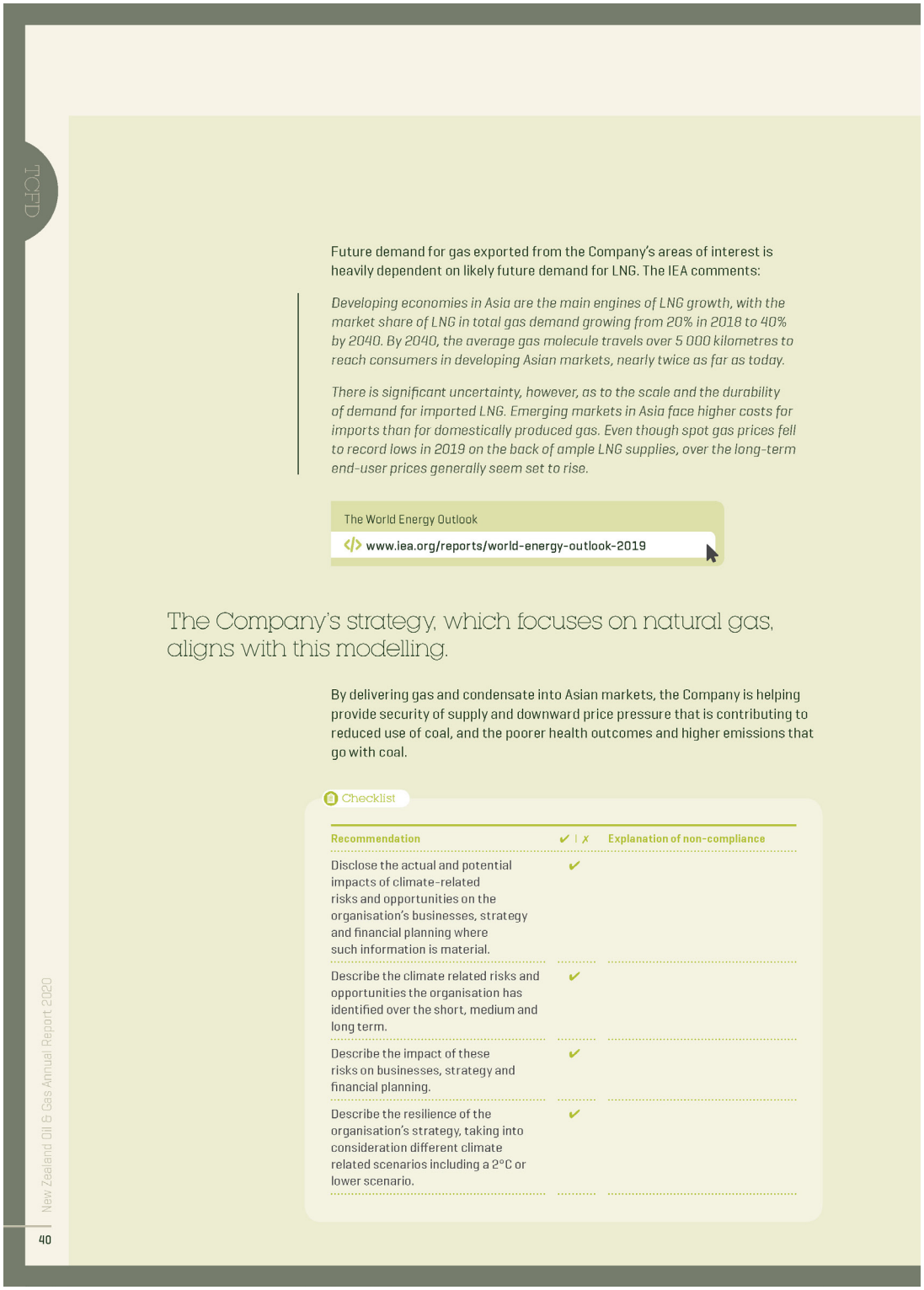
The Company keeps up to date with the International Energy Agency's World Energy Outlook, and models produced by other industry leaders such as the BP Energy Outlook. To further support our modelling assumptions, we seek information from our JV partners and potential commercial opportunities relating to management of climate change risk, including scenario analysis where undertaken, following the structure of TCFD. This investigation should alert us to climate change risk and opportunities across the jurisdictions we are active in.

Domestically, the Company applies analysis from the Business Energy Council of New Zealand's energy outlook scenarios.

Sensitivity testing is applied by checking outlooks against the IEA 'sustainable energy' scenario. In that model, policy mechanisms would be sufficient to reduce carbon emissions to a point where temperature increases would be limited to 1.5 degrees above long term natural averages). It states:

> *The Sustainable Development Scenario maps out a way to meet sustainable energy goals in full, requiring rapid and widespread changes across all parts of the energy system. This scenario charts a path fully aligned with the Paris Agreement by holding the rise in global temperatures to "well below 2°C ... and pursuing efforts to limit [it] to 1.5°C", and meets objectives related to universal energy access and cleaner air. The breadth of the world's energy needs means that there are no simple or single solutions. Sharp emission cuts are achieved across the board thanks to multiple fuels and technologies providing efficient and cost-effective energy services for all.*
>
> *...*
>
> *In the Sustainable Development Scenario, natural gas consumption increases over the next decade at an annual average rate of 0.9% before reaching a high point by the end of the 2020s. After this, accelerated deployment of renewables and energy efficiency measures, together with a pickup in production of biomethane and later of hydrogen, begins to reduce consumption.*
>
> *By 2040, natural gas demand in advanced economies is lower than current levels in all sectors apart from transport, where demand remains broadly similar to the level reached in the Stated Policies Scenario. In developing economies, gas growth in the power sector rises to 2030 but falls back due to a growing share of renewables, while growth in industrial demand is half the level of the Stated Policies Scenario. Although absolute consumption falls, natural gas gains market share at the expense of both coal and oil in sectors that are difficult to decarbonise, such as heavy-duty transport and the use of heat in industry. Even though natural gas-fired power generation declines, capacity grows compared with today as a consequence of the role of gas in providing power system flexibility.*

New Zealand Oil and Gas
Annual Report 2020 (continued)



TCFD

Future demand for gas exported from the Company's areas of interest is heavily dependent on likely future demand for LNG. The IEA comments:

> *Developing economies in Asia are the main engines of LNG growth, with the market share of LNG in total gas demand growing from 20% in 2018 to 40% by 2040. By 2040, the average gas molecule travels over 5 000 kilometres to reach consumers in developing Asian markets, nearly twice as far as today.*
>
> *There is significant uncertainty, however, as to the scale and the durability of demand for imported LNG. Emerging markets in Asia face higher costs for imports than for domestically produced gas. Even though spot gas prices fell to record lows in 2019 on the back of ample LNG supplies, over the long-term end-user prices generally seem set to rise.*

The World Energy Outlook

</> www.iea.org/reports/world-energy-outlook-2019

The Company's strategy, which focuses on natural gas, aligns with this modelling.

By delivering gas and condensate into Asian markets, the Company is helping provide security of supply and downward price pressure that is contributing to reduced use of coal, and the poorer health outcomes and higher emissions that go with coal.

Checklist

Recommendation	✔ | ✗	Explanation of non-compliance
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.	✔	
Describe the climate related risks and opportunities the organisation has identified over the short, medium and long term.	✔	
Describe the impact of these risks on businesses, strategy and financial planning.	✔	
Describe the resilience of the organisation's strategy, taking into consideration different climate related scenarios including a 2°C or lower scenario.	✔	

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New Zealand Oil and Gas
Annual Report 2020 (continued)

TCFD

Risk Management

An integrated and active risk management approach

The TCFD requires the Company to disclose how climate-related risks are identified, assessed, and managed, and how the processes for climate risk are integrated into wider risk management processes.

The Company's Risk Management System Framework applies consistent and comprehensive risk management practices.

Risks, including climate risks, are recorded in the central risk register, which considers the risks, reviews the controls, assigns ownership of a risk and tracks treatment plans. Risk assurance and oversight of climate risk management is provided through internal review by the board Operational Risk and Sustainability Committee. The full climate risks are considered as part of the normal risk management process. See the discussion under Governance, at page 36–37 in this section, and the discussion of the Risk Management System Framework in the corporate governance section on page 76.

Responsibility for identifying, documenting and managing risks and opportunities is delegated to the appropriate level of management. The General Counsel has responsibility for climate risk. Asset managers are responsbile for risks to individual assets, and the Chief Financial Officer has management responsibility for financial and investment risks associated with climate change.

Climate risks are identified on an ongoing basis. Consideration is given to industry and peer discussion, shareholder and community feedback, regulatory changes, and expertise of our own staff.

Primary risks to New Zealand Oil & Gas from climate change fall into the following broad categories: Policy and Legal, Physical (acute and chronic), Financial, Social/Political/Regulatory, and Technological. All these risks have potential financial and operational implications due to lost profitability and increased delays.

A summary of the main risks and mitigations, their time horizon (categorised as short, medium or long-term), and the strategy response to these is included in table on the following page.

New Zealand Oil and Gas
Annual Report 2020 (continued)

TCFD

The table uses the following time horizon categroies (S) short 0-5 years (M) medium 5-10 years (L) long 10+ years

Risk Type		Description	Time	Control
Non physical risks	Policy and legal risks	Litigation against companies and/or directors on climate grounds (claiming causation or seeking greater action to mitigate effects) could have reputational, development and operating cost impacts.	S M L	Robust internal processes.
				Ensure board and management understand their fiduciary duties around climate change risk.
		Changing regulations including bans and restrictive regulations, taxes and emissions limits across all jurisdictions risk viability of projects		Update internal processes, including due diligence of commercial opportunities and joint venture processes to identify and manage climate risk.
				Monitor the jurisdictions where we undertake activities. Look to invest in a number of jurisdictions to mitigate changes to any individual regulatory environment.
				Actively participate in New Zealand's environmental regulation framework through our industry advocacy bodies PEPANZ, Business New Zealand and the Business Energy Council.
				Develop evidence for environmental business cases, including the role of natural gas in a net carbon-zero future.
	Reputational and social license risks	Increased stakeholder disengagement and oppositional activism. Loss of social license, leading to project delays or stoppages.	S M L	Strengthen corporate environmental performance through sustainability framework.
		Recruitment and retention risk.		Report value-add prominently, and engage skilled energy professionals in carbon response.
		Risk of partner misalignment from divergent approaches to carbon management.		Due diligence screening of commercial opportunities and joint venture processes to identify and manage climate risk.
	Financial risks	Divestment movement increases, affecting availability and cost of capital.	S M L	Consider whether an internal shadow price on carbon helps to mitigate carbon price changes, or affects investment decisions.
		Insurance premiums increase. Potential for classes of assets and locations to become uninsurable.	S M L	Seek to align with JV partner approaches to achieve consistency in analysis.
				Due diligence screening of commercial opportunities and joint venture processes to identify and manage climate risk.
		Capital cost increases if new environmental standards require more expensive supplies relative to alternatives).	M L	Undertake assurance relating to insurance forecasts.
		Carbon pricing adopted across jurisdictions, or inconsistently between them.	S M L	Have access to a range of funding options, including strong relationships with lending institutions, and access to liquid capital markets.
		Changes to price and cost forecasts result in stranded assets or reserves.	S M L	Robust reporting on ESG matters, including TCFD compliant reporting.
				Jurisdictional diversification to avoid impact of sudden, unilateral changes, confiscation or value destruction by regulation.

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TCFD

Risk Type		Description	Time	Control
Physical risks	Acute & Chronic	Physical assets, especially our coastally-located gas production plant, may be subject to increased frequency and intensity of extreme weather events such as storms, flooding, coastal inundation, lack of water availability, or slips. Offshore drilling and production delayed or shut in by increased weather events.	M L	Robust engineering for anticipated environmental conditions. Embedding internal procedures to ensure potential climate impacts are considered in development design. Carbon policy provides for review of climate issues in strategic and operational decisions. Examples include mitigation of operational emissions (flaring, fugitive emissions, use of renewable sources on site).
Opportunities	Commercial	Global reduction in high carbon sources such as coal is increasing demand for natural gas as a lower carbon partner to renewables.	S M L	Strategic preference for natural gas. Our role as non-operator but active JV partner presents opportunities to partner with and provide greater support for our joint venture partners in pursuing low carbon innovations on site, including addressing fugitive emissions. Review opportunity set to broaden exposure to lower emission possibilities, where New Zealand Oil & Gas has, or could realistically develop, competitive strengths. Further develop, evidence and communicate the environmental business case for gas displacing coal in Asia.
	Reputational	Partnering with local communities to support low carbon initiatives.	S M L	Maintain local relationships and discussions about contributing to socially desirable low carbon outcomes.

Checklist

Recommendation	✔ | ✗	Explanation of non-compliance
Disclose how the organisation identifies, assesses and manages climate-related risks	✔	
Describe the process for identifying and assessing climate risks.	✔	
Describe processes for managing climate risks.	✔	
Describe how processes for identifying, assessing and managing are integrated into overall risk management.	✔	

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New Zealand Oil and Gas
Annual Report 2020 (continued)

TCFD

Metrics & Targets

Our targets reflect our current level of activity and the current size of the business

The TCFD requirement is to disclose the measures we use to assess climate-related risks and measure them, disclose emissions (by Scope 1,2 and 3), and describe the targets that we use to manage climate-related risk.

Risk management systems are described above.

Scope 1 emissions relate to New Zealand Oil & Gas-operated activities. Currently these include corporate office activities only.

Kupe emissions are included because they are material. Cue Energy emissions are the subject of Cue's reporting, and are not included in this statement.

Scope 2 emissions from power purchased for our head office are at such a low scale we consider a reduction target for this aspect would not be a meaningful use of resources. The Company intends to review an appropriate basis for an emissions targets if it commences significant exploration or other operational activity.

The Company has not reported **Scope 3** emissions.

However, air travel by our people prior to covid-19 was significant. Accordingly, we attempt to offset emissions from corporate air travel.

Read about tree planting carbon offsets

</> grow.treesthatcount.co.nz/funders/nzog#plantings

At reporting date

NEW ZEALAND OIL & GAS

TREES THAT COUNT TE RAHI O TĀNE

funded **10** planters | to plant **3,564** trees | estimates **811** tonnes of carbon will be removed

The Trees That Count marketplace provides a place for all New Zealanders to fund or gift native trees. This support is matched with planters throughout the country who are restoring, and growing, precious wildlife corridors or pockets of native forest, turning small projects into mighty ones.

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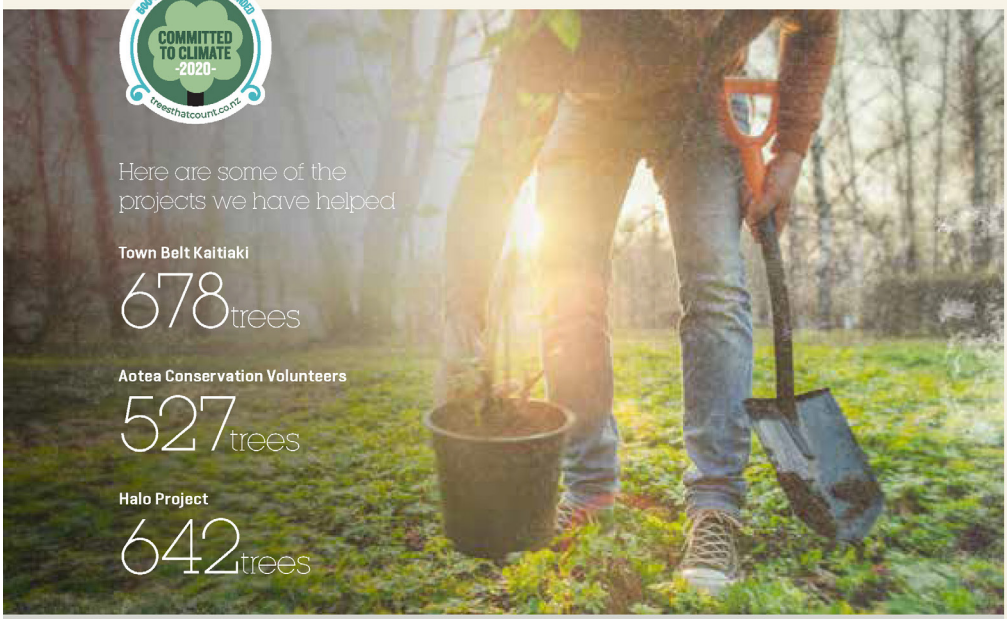
Annual Report 2020 (continued)



Town Belt Kaitiaki is a long-term, student-led education programme currently involving 14 Dunedin schools and early childhood centres (over 5000 young people). The space they have adopted is the 204 ha Dunedin Town Belt. The aim is to engage, inspire and empower young people so that they can make an active difference in their local community right now. Schools are involved in planting, predator control and raising the profile of the Town Belt, a vision that was set by the Student Leadership Team that runs the programme.

Read more about this project

</> grow.treesthatcount.co.nz/planters/townbeltkaitiaki#funding

Aotea Conservation Volunteers are retired active senior suburban residents transforming reserves from weeds to natives near Porirua in Wellington.

Read more about this project

</> grow.treesthatcount.co.nz/planters/aoteaconservationvolunteers#funding

The **Halo Project**, administered by the Landscape Connections Trust (LCT), is an umbrella project for a range of community-driven conservation and environmentally focused initiatives. Some of these include a predator control program, healthy streams educational program, and the Forest Restoration Project (FRP).

The FRP aims to increase the quantity, quality and connectivity of forest in the coastal Otago landscape from North Dunedin through to Karitane by working with both private and public landowners. Current restoration sites are highly varied and include bare pastureland, coastal ngaio forest, dryland kowhai forest and mature podocarp forest, among others. By increasing the number, size and connectivity of forest fragments, we are aiming to provide more habitat for indigenous species and allow them to move through the landscape more easily. In turn, this will integrate indigenous biodiversity into agricultural and residential landscapes, and into the daily lives of local residents.

Read more about this project

</> grow.treesthatcount.co.nz/planters/jamestweed#funding

TCFD

New Zealand Oil and Gas
Annual Report 2020 (continued)

Focus Area	Target	Impact	Measured by
Ensure internal processes account for carbon risk[1]	Investigate applying a shadow carbon price to understand the potential impact of a carbon charge. Investigate applying an internal levy to fund carbon mitigation projects. Undertake regular scan of regulatory and market impacts of climate change across operational jurisdictions, reported to the Operational Risk and Sustainability board committee. Ensure board and management understand duties around climate change risk.	Risks of carbon pricing reflected in financing and investment decisions.	Management reporting to Operational Risk and Sustainability board committee. Delivery of TCFD training module to ORS and Management in 2020
Ensure internal processes account for carbon risk[2]	Review risk management processes and governance.	Align risk management reporting with TCFD framework.	TCFD statements in Annual Report and posted online.
Mitigate the Company's operational emissions[3]	Environmental contribution through tree planting programme.	Helps to offset Scope 1 emissions from corporate air travel	Reporting of offset of annual emissions from flights. Carbon mititgation through Trees That Count methodology.
Provide alternative to energy sources associated with high emissions and poor human health outcomes (eg coal, heavy oil), especially in Asia.[4]	Deliver natural gas, LPG and condensate energy into New Zealand, Australia and Asian markets.	Baseload stability to support the uptake of renewables.	Public reporting of production, quarterly and annually.

[1] The potential purpose of an internal carbon price is to make more transparent the risks of long term changes in demand and prices, access to investment capital and risks of regulatory responses to climate such as carbon pricing. Risks to these factors are a standard part of the Company's economic modelling, which apply sensitivity testing to long-term prices, and market forecasts. Jurisdictional risk is a standard part of due diligence and risk management. Consequently, the Company has been able to identify little advantage from labelling a component of these risks as an internal carbon price. The issue is being kept under review, however, because further information is being collected.

[2] This report. Alignment commenced 9 March 2020, with the upload of initial TCFD statement, available here: www.nzog.com/assets/Uploads/TCFD-statement-NZOG.pdf

[3] See pages 44–45

[4] See Production data, pages 6–10

New Zealand Oil and Gas
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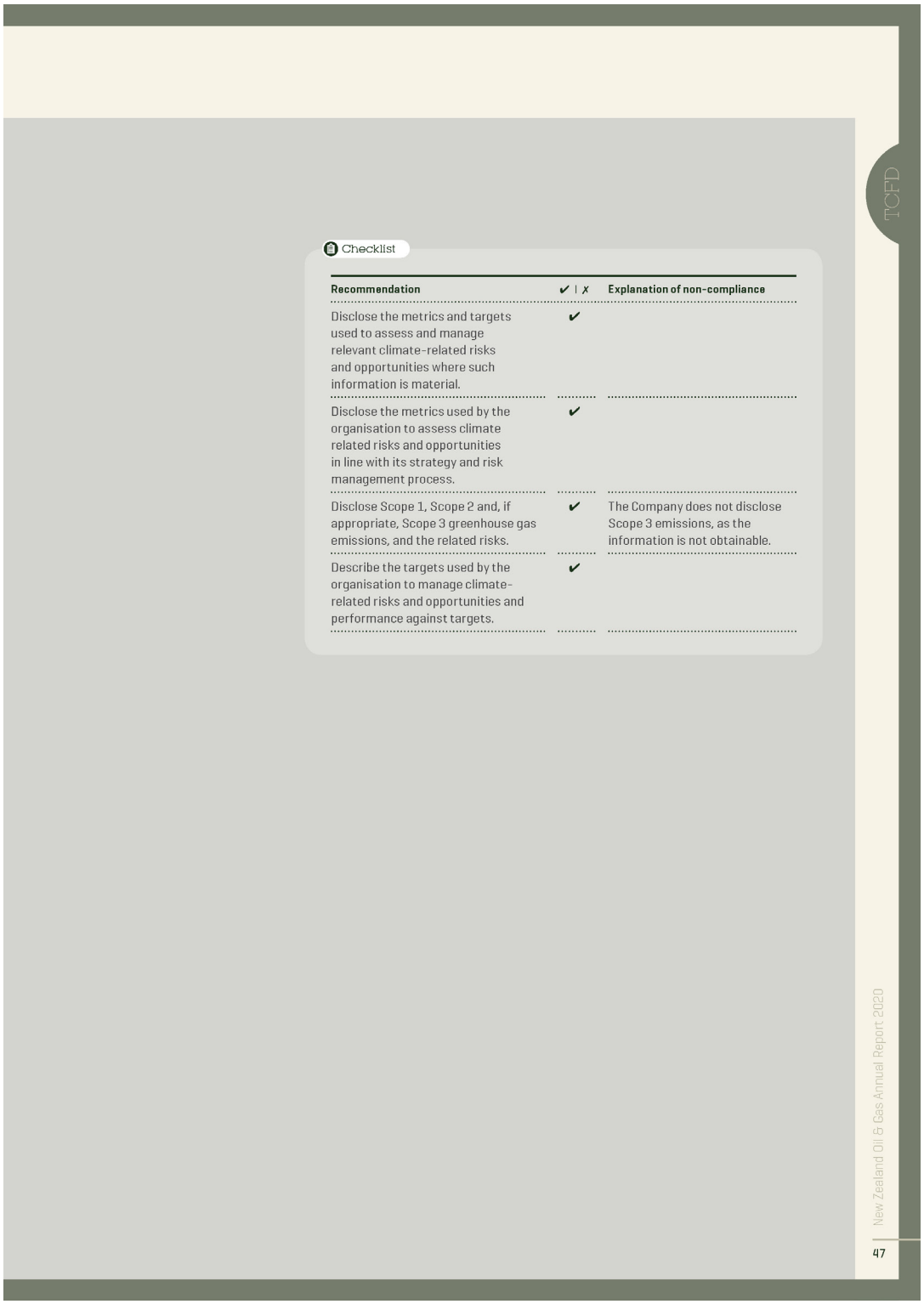

TCFD

Checklist

Recommendation	✔ | ✗	Explanation of non-compliance
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	✔	
Disclose the metrics used by the organisation to assess climate related risks and opportunities in line with its strategy and risk management process.	✔	
Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas emissions, and the related risks.	✔	The Company does not disclose Scope 3 emissions, as the information is not obtainable.
Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	✔	

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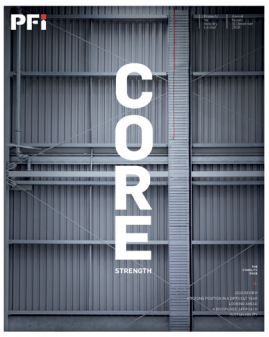

Appendix 1:
NZSX-listed 2020 Annual Report –
Dedicated section

Property for Industry
Annual Report 2020

CLIMATE-RELATED DISCLOSURES

2020 has been a challenging year globally, and provided an insight to the scale of effort that will be required to respond to climate change.

PFI recognises that we need to proactively manage the risks and opportunities that arise from climate change, just like we manage all other risks and opportunities facing our business.

This report provides information about the actions that we are taking to identify and manage climate change risks and opportunities. The following disclosures have been prepared in accordance with the recommendations of the Task force on Climate-related Financial Disclosures (TCFD) which provides a framework for climate-related financial disclosures across four core elements: governance, strategy, risk management and metrics and targets.

This is PFI's first report in line with the TCFD recommended disclosures. We are pleased with the progress that we have made during 2020 to strengthen our understanding of, and response to, our climate-related risks and opportunities. However, we acknowledge that we have further work to do, in particular:

- understanding the resilience of individual assets in PFI's portfolio to climate change in different climate change transition pathways; and
- introducing additional metrics and targets to provide a more complete measure of our performance.

We are also cognisant that we are still in the early stages of understanding how these risks will develop over time. We intend to evolve and expand on our TCFD disclosures as our depth of understanding and management of these risks matures.

We are committed to continue progressing our response to climate change during 2021 and beyond, and to report our progress to our stakeholders each year.

GOVERNANCE

Describe the Board's oversight of climate-related risks and opportunities.

PFI's Board has responsibility for our strategic direction along with oversight of our operations and risk management. PFI's Board receives quarterly reporting on sustainability and risk management, which includes PFI's response to climate change risks and opportunities. During 2021, we intend to strengthen this reporting with the use of metrics and targets.

The PFI Board's Audit and Risk Committee assists the Board in discharging its responsibilities with respect to risk management. Management's first assessment of PFI's climate-related risks and opportunities in line with TCFD guidance was presented to the Board's Audit and Risk Committee in a dedicated session during August 2020 (attended by all directors). We plan to update this assessment and present it to the Board's Audit and Risk Committee at least annually.

Describe management's role in assessing and managing climate-related risks and opportunities.

Under PFI's Risk Management Framework, the Chief Executive Officer and Chief Finance and Operating Officer are responsible for management of climate risk, along with all other risks. PFI has a dedicated Sustainability, Risk & Compliance Manager who leads the assessment of climate-related risks and opportunities, and coordinates our response as part of PFI's wider ESG programme.

A monthly ESG management meeting has been established that monitors sustainability market trends and regulatory change and makes decisions on our responses to climate-related risks. This is attended by the Chief Executive Officer and Chief Finance and Operating Officer. During 2020, the Chief Executive Officer and Chief Finance and Operating Officer oversaw PFI's first risk assessment in line with the TCFD recommendations through this forum.

Property for Industry
Annual Report 2020 (continued)

OTHER DISCLOSURES

STRATEGY

Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

A climate-related risk and opportunity assessment exercise was undertaken during 2020 with reference to PFI's Risk Management Framework and the time horizons below:

HORIZON	PERIOD	DESCRIPTION
Short term	1-5 years	Within our weighted average lease term
Medium term	6-20 years	The period within which most buildings will require major capital works
Long term	Greater than 20 years	The life of a building

This produced a list of 18 possible risks and opportunities across all of the TCFD categories. Most of the risks are expected to materialise in the medium to long term. However, as our real estate assets are typically long term investments we are taking steps now to ensure that our organisation is resilient to these future challenges.

A summary of the top five risks is provided below, along with a summary of how PFI is responding to them, and the related opportunities:

RISKS	EXPECTED TIME HORIZON	RISK RESPONSE	RELATED OPPORTUNITIES
Transition - Policy (regulatory) risk: The introduction of new regulations, for example on building materials and design, disclosure and governance, land use, and electricity or water use could lead to increased compliance risk, and a potential reduction in profitability.	This is a risk in the short term for PFI and is expected to remain a risk into the medium term.	PFI is closely monitoring climate-related regulatory change, and is working with industry bodies to provide feedback on proposed regulations where appropriate. We are also working to ensure that we are ready to respond to incoming legislative changes when they arise. Our Board receives quarterly reporting on how we are responding to upcoming regulatory change.	There may be an opportunity for us to work with tenants and create value, for example on renewable energy or water efficiency initiatives.
Transition - Market (property) risk: With increasing scrutiny of organisations' impact on the climate, we may experience increased tenant or purchaser demand for sustainable buildings. In the long term, this could result in difficulty re-letting buildings, devaluation of properties, or increased expenditure to bring properties up to higher sustainability standards.	This is a medium to long term risk for PFI, but we are taking steps in the short term to prepare for it.	Green buildings have not traditionally been a focus for industrial properties. However, as outlined in the Sustainability section (pages 20-29), PFI incorporates sustainable design features in new developments, and has joined the New Zealand Green Building Council during 2020 to build on our sustainable building capability.	While this is a longer term risk, shifting tenant demand may present us with near term opportunities to: ■ work with our tenants to help them meet their climate or environmental commitments; or ■ create value by developing green-certified buildings. We will be further investigating these opportunities during 2021.

Property for Industry
Annual Report 2020 (continued)

RISKS	EXPECTED TIME HORIZON	RISK RESPONSE	RELATED OPPORTUNITIES
Transition - Market (capital availability) risk: We could experience difficulty in obtaining capital from: ■ Shareholders due to increasing preference to invest in demonstrably sustainable companies; or ■ Funders due to increased scrutiny over climate risks and their management.	This is expected to materialise in the short term and remain a risk through all time horizons.	PFI sees execution of its ESG programme as being critical to managing this risk. PFI has used the climate-related risk assessment exercise to ensure that its ESG programme is set up to address our material risks and opportunities. This includes: ■ reducing our greenhouse gas emissions; ■ improving the sustainable design of our buildings; and ■ investigating the resilience of individual assets in our portfolio to climate-related events. Transparency will also be important, so our progress will be disclosed through PFI's annual report, and through CDP (Carbon Disclosure Project).	Strong ESG performance could present an opportunity for PFI to increase our capital availability (for example, through green financing) and promote our reputation.
Physical – Acute (damage) risk: We may experience damage or loss of access to PFI properties from climate-related events, such as storms or flooding.	These risks are expected to become heightened in the medium and long term.	We will be undertaking an exercise during 2021 to investigate which of PFI's properties may be most vulnerable to physical impacts from climate change. This will help us to develop a resilience strategy. Due to the time that it will take to prepare resilience plans for these physical climate risks, we will need to start planning and taking action in the short term, although our response may stretch beyond the first five years. During 2020, PFI started completing climate risk assessments as part of our due diligence checks for new property purchases. We will continue to expand on this during 2021. To ensure that we are well-placed to respond to a major climate event, we will continue to retain a strong balance sheet. We will also closely manage our insurance programme which provides cover in the event of damage from weather events.	A robust resilience strategy is not only a risk mitigation approach, but may deliver longer-term efficiencies by enabling us to appropriately plan and deliver changes at the most effective times. We also have an opportunity to embed resilience to climate impacts (rain, wind, heat) into the design of new buildings.

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Property for Industry
Annual Report 2020 (continued)

OTHER DISCLOSURES

RISKS	EXPECTED TIME HORIZON	RISK RESPONSE	RELATED OPPORTUNITIES
Physical – Acute (insurance) risk: Due to increasing climate-related claims, insurance for climate events may become more difficult to obtain or increasingly expensive.	This is considered a medium to long term risk.	As PFI relies on insurance to remediate damage to its properties, changes in insurer preferences will be carefully monitored. PFI reviews its insurance strategy annually, and is working to increase its sophistication in insurance management to ensure that we are best placed to address this risk should it arise.	–

Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

Recognising the challenges and opportunities presented by sustainability and climate change, PFI created a new Sustainability, Risk & Compliance Manager role in 2020. In a team of only 14 people, this new position plays an important role in ensuring that sustainability and risk management are embodied in the strategic direction of our business.

During 2020, we have worked to ensure that our ESG programme is set up to address our most critical climate risks. Going forward, our ESG programme will include completing a climate change resilience assessment of individual assets in our portfolio, which will inform a resilience strategy. This may in turn impact capital expenditure and portfolio decisions made in future years. In addition, in order to reduce our greenhouse gas emissions, PFI has already committed $2m to reducing the emissions from its refrigerants over the next three years.

Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Through our initial qualitative assessment, we have determined that PFI's high level strategy of investing in quality industrial property remains robust in either a warming scenario of lower than 2°C, or a more extreme warming scenario. PFI has a diversified portfolio, with a good spread of geographical locations and tenants in various industries. This reduces the impact of a single event, and the concentration risk from exposure to a particularly impacted industry. We also already maintain a strong balance sheet which, as demonstrated through the COVID-19 pandemic, helps us to remain resilient in difficult times. However, it is critical that we remain responsive to climate risks as they evolve (how we will do this is outlined in the Risk Management section below).

We also need to gain a more in-depth understanding of the potential physical impacts of climate change to individual assets in our portfolio in different climate-related scenarios, which will commence in 2021. While we don't expect our high level strategy to change, the findings of this exercise this could, for example, lead to a shift in our appetite for concentration in certain locations, divestment of selected properties or capital expenditure to improve building resilience.

RISK MANAGEMENT

Describe the organisation's processes for identifying and assessing climate-related risks.

Identification and assessment of climate-related risks has been led by PFI's Sustainability, Risk & Compliance Manager, with contribution from senior management. Key risks were assessed and prioritised against a risk matrix of consequence and likelihood in line with PFI's Risk Management Framework.

In line with TCFD guidance, PFI considered both the risks associated with the transition to a lower carbon economy (such as changes in regulation) and the risks associated with the physical impacts of climate change (such as damage to buildings). For the 2020 risk assessment, the physical risk to the portfolio as a whole has been assessed (rather than asset-level assessments), however we plan to refine this during 2021.

Property for Industry
Annual Report 2020 (continued)

Describe the organisation's processes for managing climate-related risks.

As described in the Governance section, a monthly ESG management meeting attended by the Chief Executive Officer and Chief Finance and Operating Officer has been established. This structure gives us flexibility to review and adapt our response to climate-related risks over time as there are new developments and the climate change trajectory becomes clearer.

PFI's most material risks have been identified based on the likely consequences of those risks materialising, and are set out in the Strategy section above. Actions being taken to respond to the most material climate-related risks include:

- completing a study of properties that are most vulnerable to climate impacts;
- increasing our capabilities in sustainable building design;
- disclosure to stakeholders on our ESG progress;
- annual reviews of our insurance strategy; and
- maintaining a strong balance sheet.

Many of these activities form part of PFI's ESG framework, which is overseen by the monthly ESG meetings. Quarterly reporting on sustainability and risk management is provided to the Board.

Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.

Due to its complexity, PFI completed a standalone climate risk assessment during 2020, adopting methodology from our Risk Management Framework. The findings were incorporated into PFI's risk register to provide a single view of risk for PFI. In most cases, climate risks are an extension of our existing risks (for example, physical damage to buildings), but we are updating our controls for those risks (such as acquisition due diligence and our insurance programme monitoring) to account for climate impacts. Assessment and management of climate risk is managed in the same way as our other risks, with oversight by senior management and the Board.

METRICS AND TARGETS

Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

PFI assesses its impact on the climate by measuring its Scope 1, 2 and 3 greenhouse gas emissions. PFI has expanded the range of Scope 3 emissions categories assessed during 2020.

We also use our CDP (Carbon Disclosure Project) score to understand how our climate performance compares to other corporations globally. PFI submitted to CDP for the first time during 2020 and achieved a score of C which is in the Awareness band. This is in line with the Oceania regional average of C.

During 2021, further metrics will be developed in order to monitor our progress on strategic climate-related initiatives such as replacing our refrigerant gases and assessing the climate resilience of our portfolio.

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

Please refer to pages 23-25 of our Sustainability report for details of PFI's 2020 GHG emissions. We recognise the importance of reducing our emissions and have committed $2m to emissions reduction initiatives over the next three years. While PFI has a relatively small carbon footprint, we are conscious that there are reputational and market risks associated with our GHG emissions if we do not take meaningful steps to decrease them.

Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

PFI is targeting an improvement in our CDP score from C to B by 2023. We are also targeting replacement of all HVAC systems currently in our portfolio and within our operational control that use R22 refrigerant gas by 2023.

Appendix 1:
NZSX-listed 2020 Annual Report –
Dedicated section

Scales Corporation
Annual Report 2020

Our TCFD Report

In this inaugural climate change report, we set out the 4 areas of the TCFD framework (which includes 11 disclosure recommendations) to explore what impacts climate change will have upon our business (risks and opportunities) and the direction in which we are going to address or adapt to them.

Over time our reporting will evolve to include scenario modelling, the strategies that we will wrap around those predictions and our increasing knowledge about our best future path.

THEME 1

Governance

Disclose the organisation's governance around climate-related risks and opportunities.

Our Board receives information on risks and opportunities via our Health & Safety and Sustainability Committee, through Board reports and via general updates. These are discussed at a Board level and also within the Audit and Risk Management Committee.

Climate change considerations are made at the risk-assessment level when evaluating strategy, budgets, KPI's, business plans, and mergers and acquisitions.

The Board also receives a copy of Toitū carbonreduce reports and the ongoing Environmental Plan in order to evaluate progress towards goals.

THEME 2

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.

We focused primarily on Mr Apple in 2020 due to our direct control over the supply chain and operations of the business. In future, we will more closely analyse the potential third-party effects of climate change upon the supply chains of our other businesses.

The initial scenario contemplated an increase in world temperatures of 2 degrees centigrade. In future years we will extend that to a more extreme change and test our strategy against those risks and opportunities.

Work has been undertaken to categorise risks and opportunities:

- Defined as short (less than 2 years), medium (2 to 10 years) or long term (over 10 years).
- Categorised as low, medium or high risk.
- Potential impacts have been identified.
- Potential opportunities have been identified.

From this assessment, water availability and accessibility has been identified as the primary climate change risk to the business. However, this is seen as a medium to long-term risk as New Zealand (and, in particular, Hawke's Bay) currently presents favourable growing conditions with a good supply of water. Accordingly, current conditions do not present any material issues, but this will be closely monitored for all risks and opportunities.

Our evolving climate change awareness and understanding will be factored into our annual internal audit programme to ensure that strategies remain relevant and timely.

Scales Corporation
Annual Report 2020 (continued)

THEME 3

Risk Management

Disclose how the organisation identifies, assesses, and manages climate-related risks.

Mr Apple conducted an in-house climate-related risk workshop, working through NIWA predictions for low to high climatic changes that had the potential to affect supply both within horticulture and agriculture. The workshop outcomes were based on assumptions with institutional knowledge and experience, and did not produce a forecast or prediction model.

Although the management of climate-related risks are factored into well established and embedded strategies such as irrigation management and redevelopment opportunities, the materiality matrix refresh undertaken with thinkstep-anz also highlighted further areas of focus within water management and climate change in general.

Goals, as detailed in the Toitū carbonreduce scheme and Environmental Plan process, are monitored and reported upon to minimise our effect upon climate change and its effect upon us.

THEME 4

Metrics & Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

As previously mentioned, our primary focus has been on Mr Apple and the organisational control we have over the growing, packing and storage environment. Going forward, our focus will be extended to the remaining Scales businesses.

Measurements within the business are validated by being part of the Toitū carbonreduce programme, for which we are independently audited annually against ISO 14064 (Greenhouse Gases)[1]. Through this, our Scope 1, 2 and 3 emissions are reported upon, together with targets for reduction, our progress in achieving those targets and acknowledgement of those that remain out of our control.

The following main risks, opportunities and anticipated impacts were identified at our in-house climate-related workshop.

	Risks	Current Strategies	Future Strategies	Opportunities
Water	Reduced access to sufficient, quality, water.	• Continued focus on water management, including maintenance of existing water rights. • Continued focus on our effect on water sources. • Active participation in water right negotiations and farm environmental plan development.	• Investigation of water storage possibilities. • Continued investment into more Sensortech and improved irrigation systems.	
Increased frequency and severity of weather events	Damage to crop and/or trees. Disruption to logistics chain.	• Geographical spread of orchards. • Investment in frost protection machines and optical grading technology. • Crop insurance providing cover for severe crop losses. • Use of canopy cover and planted shelter belts.	• Analysis of canopy covers. • Increased wind protection. • Canopy structure review.	
Rising average temperatures	Change in growing/ripening profile and orchard yields. Reduced crop quality due to sunburn and tree stress. Potential pest and disease profile change. Increased management costs e.g., additional sprays.	• Continued management focus on minimising sunburn and tree stress. • Continued targeted programme for pests and diseases. • Active membership on industry bodies.	• To understand extent of temperature change. • Review new growing regions for ideal climatic conditions.	• Reduced frosts. • Increased dry days improving pollination and potentially reducing pest and disease risk.
Reduced minimum / maximum temperature differences	Availability of overseas workers if climate-changes in their homelands impact thier ability to travel. Less fruit colour if nights are warmer.	• Continued engagement with the Government regarding the RSE scheme, and other work schemes. • Use of reflective cloth to increase fruit colour.	• To understand the extent of temperature differences and the impact on the crop.	

[1] https://www.iso.org/standard/66453.html

Appendix 1:
NZSX-listed 2020 Annual Report –
Dedicated section

Z Energy
Annual Report 2020

The Task Force on Climate-related Financial Disclosures (TCFD)

Reporting against the TCFD recommendations is a natural progression from the integrated sustainability reporting approach we have taken since 2017. As such, this report includes full disclosures against five of the recommended 11 disclosures in the four key areas: Governance, Strategy, Risk, and Metrics and Targets (see TCFD Index on page 158).

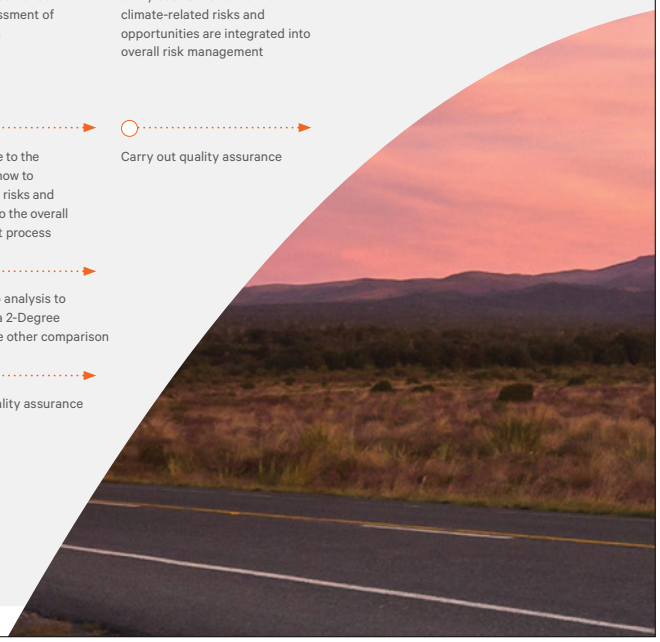
We have developed a staged approach for integrating and enhancing our assessment of climate-related risks and opportunities across the business. Our TCFD roadmap to FY23 outlines the key steps we will take to manage the physical and transitional risks and opportunities and effectively disclose the most material information.

Z Energy TCFD Roadmap

FY2020	FY2021	FY2022	FY2023
Conducted a gap analysis of the 11 TCFD disclosures. This gap analysis was used to inform the TCFD Index table on page 158	Identify, assess and manage physical risks using the findings of the natural hazard exposure review	Review performance against revised climate-related metrics and targets	Review results of scenario analysis and management of related risks and opportunities to fully integrate into strategic and financial plans
Achieved Executive alignment. Established a team across Governance, Finance, Risk & Sustainability to define scope, approach and roadmap for TCFD	Review climate-metrics and targets	Integrated the 2-degrees scenario analysis into business decision-making process	
Documented current approach to identify, assess and manage climate-related risk management into governance and risk processes, at Board and management level	Conduct and document a robust risk assessment of transitional risks	Carry out risk review of how climate-related risks and opportunities are integrated into overall risk management	
Formalised the impact of carbon on business decisions through making this an explicit consideration when planning initiatives	Provide guidance to the organisation on how to integrate climate risks and opportunities into the overall risk management process	Carry out quality assurance	
Used BEC Kea and Tūī Scenarios as proxy to inform decisions and Z's capital strategy	Expand scenario analysis to include at least a 2-Degree scenario and one other comparison		
Achieved Board approval of TCFD approach	Prepared for quality assurance		

Key

- Complete
- In Progress
- Planned



Z Energy
Annual Report 2020 (continued)

Backing change...

Z's position is that policy makers must set and drive the agenda in order for the New Zealand energy sector and the economy to transition in such a way that New Zealand's international climate change commitments are met.

We have seen some particularly promising developments over the last year, particularly in the bipartisan political support for the Zero Carbon Bill which sets up the frameworks for reducing New Zealand's carbon emissions. We welcomed this Bill and our submission in support of it is here: https://z.co.nz/assets/Uploads/Z-Energy-Submission-on-the-Climate-Change-Response-Act-2019-FINAL.pdf

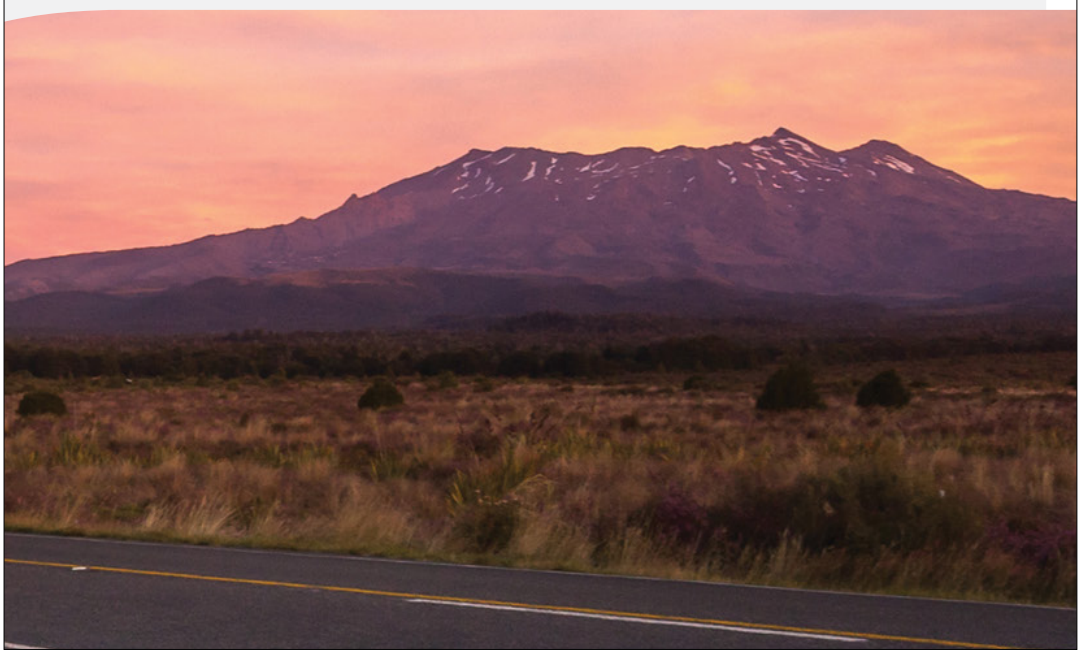
We also welcomed the appointment of the independent Climate Change Commission and supported a consultation process around amendments to the Emissions Trading Scheme which will likely result in increasing carbon prices across the economy.

While we support strong regulatory and policy frameworks to drive action on climate change, we also use our experience and resources to drive discussion and debate.

In the past, we have issued Z 'house views', or white papers, on emerging technologies such as electric vehicles. This year we published a paper exploring the potential for hydrogen to be widely harnessed in our transport energy mix: https://z.co.nz/assets/Uploads/Z-House-View-Hydrogen2.pdf

The paper found that while there are no technology barriers to the use of hydrogen in transport energy, it currently has significant economic and affordability challenges.

We also hosted international energy and climate change expert Michael Liebreich, and international climate scientist Professor Will Steffen to New Zealand for a series of public talks on climate change in June and October 2019 respectively.



Z Energy
Annual Report 2020 (continued)

TCFD Index

Te Kuputohu TCFD

Task Force on Climate-related Financial Disclosures (TCFD) Index

Disclosure	Page	Information
Governance		**Disclose the organisation's governance around climate-related risks and opportunities**
Describe the Board's oversight of climate-related risks and opportunities ●	79, 82-83, 84-85	The Z Board has committed to responding to the challenge of climate change in an integrated way and approved Z's Sustainability Stand in 2017. A core function of the Board is oversight of Z's Enterprise Risk Management System (ERMS), including monitoring all of Z's enterprise risks, including climate change, and systems of internal control. Monitoring of risks, controls and opportunities is performed through Board sub-committees, specifically the Audit and Risk Committee; the Health, Safety, Security and Environment Committee; and the People and Culture Committee.
Describe management's role in assessing and managing climate-related risks and opportunities ●	13, 26, 62, 112-113	Climate change is identified as a material topic that is important to internal and external Z stakeholders. The Chief Executive has overall responsibility for the management of Z. Day-to-day management of Z's operations are delegated to the respective General Managers who make up the Executive Leadership Team (ELT). The ELT is responsible for directing and assuring on Z's ERMS, with each principal risk assigned to an ELT member. Z's General Manager, Strategy and Risk, is the responsible Business Owner for managing climate-related risks and opportunities identified within the ERMS. The ELT as a whole approves climate-related risks and opportunities identified within Z's business strategy.

Key

● Complete disclosure
◐ Partial dislosure
○ On Road Map

Z Energy
Annual Report 2020 (continued)

Disclosure	Page	Information
Strategy		**Disclose the actual and potential impact of climate-related risks and opportunities on the organisation's business, strategy and financial planning where such information is material**
Describe the climate-related risks and opportunities the organisation has identified over the short-medium- and long-term ◐○	23, 27-29, 54-63	Z's climate-related risks and opportunities are outlined under its Sustainability Stand – specifically in its commitment to 'move from being part of the climate change problem to the heart of the solution'. Further, to help identify risks and opportunities across the energy sector, Z joined a cross-sector group alongside the Business NZ Energy Council (BEC) to map out scenarios for the future of energy in New Zealand. The resulting 'Tūī' & 'Kea' energy demand scenarios are used as a proxy from which to understand climate change risks (increasing carbon prices and declining demand for hydrocarbons) and opportunities (increasing demand for biofuels and EVs). The scenarios feed into Z's capital strategy analysis from 2020, 2040 and through to 2060 alongside its strategic objective to transition to a low carbon future.
Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning ◐○	45, 54-63, 125, 140	The overarching impact of climate-related risks and opportunities are encapsulated in Z's Strategy. The forecast increasing price of carbon is included in financial planning on an annual basis through our Emissions Trading Scheme (ETS) obligations in addition to our voluntary offsetting commitments. Partnerships with the Dryland Carbon Group and Permanent Forests NZ ensure our carbon exposure needs are planned for and met. The impact of increased extreme weather events resulting from climate change will be reviewed in FY21 under a Natural Perils Assessment to be carried out by Marsh Risk Consulting, a practice of Marsh Pty Ltd. The resulting information will assist in assessing the suitability of our current insurance limits, and will assist Z and Marsh with stability of access to Natural Hazard insurance cover.
Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2-degrees or lower scenario ○	60	Z uses the BEC scenarios to inform the organisation's strategies, which takes into account the impacts of climate change on the price of carbon and demand for various energy sources. Z's strategy does not specifically include a 2-Degree or lower scenario, which is planned for completion in FY21.
Risk Management		**Disclose how the organisation identifies, assesses and manages climate related risks**
Describe the organisation's processes for identifying and assessing climate-related risks ●	112-113	Z carries out the risk assessment process by identifying risks from a 'top-down' or enterprise perspective and from a 'bottom-up' perspective. For example, an enterprise risk assessment, in this case an 'Ineffective Response to Climate Change', would assess common risks across multiple business units, but also considers those material risks identified at a business unit or operational level to determine if, given their severity, they are an enterprise level concern. Z uses standardised risk terminology and categories to ensure emerging and currents risks are identified and assessed consistently across operational activities, business units and the enterprise. Risk terminology and categories are detailed within Z's Enterprise Risk Analysis Matrix (RAM) which is the tool for evaluating the severity of individual risks in terms of the consequences of the risk and likelihood of the consequences occurring. The identified climate-related enterprise risk has a residual risk rating of 'Likely' with a 'Major' severity and 'High' impact rating.

Z Energy
Annual Report 2020 (continued)

Te Kuputohu TCFD
TCFD Index (continued)

Disclosure	Page	Information
Risk Management (continued)		
Describe the organisation's processes for managing climate-related risks	26, 54, 57, 61, 112-113	The Chief Executive is responsible for promoting a culture of proactively managing risks. The principle underpinning Z's ERMS model is that risk management is an integral part of the management function across Z and, as such, is the clear responsibility of management. Management at each level have the responsibility to evaluate their risk environment, including their response to climate change, to put in place appropriate controls and to monitor the effectiveness of these controls. Approval pathways have been defined for the six different risk categories defined as part of Z's ERMS: • Strategic, Innovation and Beyond the Core; • Stakeholder and Customer Confidence/Reputation; • Financial/Commercial; • Operational/Performance of the core business; • Regulatory and Compliance; • Health, Safety, Security and Environment. These pathways are used in conjunction with Z's defined risk appetite and tolerance when a potential risk is being assessed. The pathway sets out the relevant key decision makers who needs to either accept or reject a risk or recommend further controls or treatments. Z's Risk and Assurance function also conducts a risk-based assurance programme to provide assurance that controls are well-designed and working effectively. The function reports independently to the Board's Audit and Risk Committee on the effectiveness of controls and any recommendations that are made for improvement.
Describe how processes for identifying, assessing and managing climate-related risk are integrated into the organisation's overall risk management	60	The integration of climate-related risks and opportunities into the ERMS process has been identified on Z's TCFD Road Map for FY21. This will be in the form of Risk and Assurance providing guidance to the organisation on how to consider climate risks and opportunities when making decisions.
Metrics and Target		**Disclose the metrics and targets used to assess climate-related risks and opportunities where such information is material**
Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process	17, 59, 140	Metrics highlighted in this report include a combination of quantitative data including greenhouse gas emissions, carbon intensity, litres of biodiesel produced and the cost of carbon for Z's obligatory and voluntary offsets; and qualitative data, including an assessment of Z's 'What is Next' strategy and risk management reviews. These are due for review in FY21 to more closely align with the risk management process.
Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks	17, 59	Scope 1, Scope 2, and Scope 3 greenhouse gas emissions are disclosed.
Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets	23, 56, 58-59	Z is targeting a 30 percent reduction in operational greenhouse gas emissions from FY17–FY21.

Z Energy
Annual Report 2020 (continued)

Te Kuputohu GRI
Global Reporting Initiative (GRI) Index

GRI Disclosures: Description	Page	Supporting Details
General Standard Disclosures		
102 - 1 Name of the organisation	Front cover	
102 - 2 Activities, brands, products, and services	11, 18-19, 28-51	
102 - 3 Location of headquarters	Inside back cover	
102 - 4 Location of operations	36-39, 40-41	Operates in New Zealand only
102 - 5 Ownership and legal form	126	
102 - 6 Markets served	28-51	
102 - 7 Scale of the organization	16-17, 43, 122	
102 - 8 Information on employees and other workers	94-99	
102 - 9 Supply chain	40-45	
102 - 10 Significant changes to the organization and its supply chain	2-5, 30-51, 123	
102 - 11 Precautionary principle or approach	54, 62	
102 - 12 External initiatives	53, 62, 72, 73, 90, 146, 152	
102 - 13 Membership of associations	58, 62	
Strategy		
102 - 14 Statement from senior decision-maker	8-15	
102 - 15 Key impacts, risks, and opportunities	22-29	
Ethics, Values & Integrity		
102 - 16 Values, principles, standards, and norms of behaviour	20-21	
Governance		
102 - 18 Governance structures	78-120	
Stakeholder engagement		
102 - 40 List of stakeholder groups	24-25	
102 - 41 Collective bargaining agreements	N/A	None
102 - 42 Identifying and selecting stakeholders	24-25	
102 - 43 Approach to stakeholder engagement	24-25	
102 - 44 Key topics and concerns raised	24-26	
Reporting practice		
102 - 45 Entities included in the consolidated financial statements	121, 126	
102 - 46 Defining report content and topic boundaries	6, 22-23	
102 - 47 List of material topics	26	
102 - 48 Restatements of information	17, 59	
102 - 49 Changes in reporting	24-26, 126, 155-156	
102 - 50 Reporting period	Front cover	
102 - 51 Date of most recent report	6	31 March 2019
102 - 52 Reporting cycle	6	Financial year from 1 April to 31 March
102 - 53 Contact point for questions regarding the report	Inside back cover	
102 - 54 Claims of reporting in accordance with the GRI Standards	6	
102 - 55 GRI content index	161-162	
102 - 56 External Assurance	152-157	
Material Topic Standard Disclosures		
Economic Sustainability: 103 - Management Approach	22-26, 103	Section 4.3 of Corporate Governance Statement
201 - 1 Direct economic value generated and distributed	122-151	
201 - 2 Financial implications and other risk and opportunities due to climate change	125, 140, 158-160	
Climate Change: 103 - Management Approach	22-26, 58	
305 - 1 Direct (Scope 1) GHG emissions	17, 59	
305 - 2 Energy indirect (Scope 2) GHG emissions	17, 59	
305 - 3 Other indirect (Scope 3) GHG emissions	17, 59	

Appendix 2: NZSX-listed 2020 Annual Reports – External link (to separate TCFD report)

Notes:

1. To be considered an external link, the annual report must provide a link to an additional document that reports against the four core elements of the TCFD recommendations. In situations where a company summarises their TCFD disclosures but also provides a link to an external report, this is considered an 'external link'.

2. See actual TCFD reports in Appendix 5.

Appendix 2:
NZSX-listed 2020 Annual Reports –
External link (to separate TCFD report). See Appendix 5 for the full report.

Downer Group EDI
Annual Report 2020

The outcomes of the scenario analysis contributed to the change in the overall strategy of the business. In February 2020, Downer announced it would shift investment in high-capital intensive activities to lower-intensive and lower-carbon activities. Climate change and sustainability was also elevated to retain market share and to secure new customers. This strategic shift will support Downer's decarbonisation pathway and market position in a low-carbon economy.

GHG emission reduction target

Downer acknowledges that climate change mitigation is a shared responsibility and to support the transition to a low-carbon economy in an equitable manner, Downer recognises the need to develop emissions reduction targets that align with the 2015 Paris Agreement goals to "pursue efforts to limit the temperature increase to 1.5°C" by the end of this century.

To demonstrate Downer's commitment, in 2019 Downer set an ambitious science-based target (aligned to a 1.5°C pathway) and committed to the decarbonisation of its absolute Scope 1 and 2 GHG emissions by 45-50 percent by 2035 from a FY18 base year and being net zero in the second half of this century.

Downer will track its progress towards its emissions reduction target and review its emission reduction approach in line with Intergovernmental Panel on climate change (IPCC) updated scientific reports, whilst considering other developments in low-emissions technology, to ensure a practical and affordable transition towards this commitment.

Downer recognises the uncertainties, challenges and opportunities that climate change presents and despite the recent impacts of COVID-19, Downer remains committed to partnering with its customers and supply chain to achieve its long-term GHG emission reduction target.

Refer to Downer's Sustainability Report located at **www.downergroup.com/sustainability** for further disclosures on Downer's response to climate change and how it has specifically addressed the TCFD recommendations.

Reducing our own carbon footprint

In FY20 our actions ranged from planting trees and electrifying our fleet to once again reporting on how climate change impacts our business.

Climate action remains the key focus of our sustainability efforts. As always, being a 100% renewable energy generator means that our emissions from generating electricity are zero, and our renewable generation is our most important contribution to climate action. But to make a meaningful difference we must also show leadership.

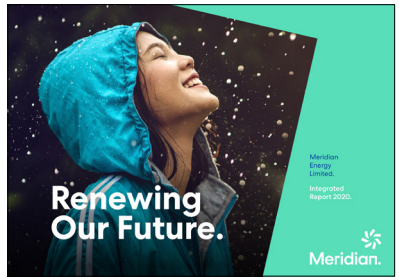
Understanding how climate change impacts us

In FY20 in our TCFD report (using the guidelines published by the TCFD), and in our submission to the CDP, we for the first time evaluated the potential financial impacts of climate change on our business – both the physical impacts and the impacts on electricity demand from climate action policy. It's important that we understand this information internally as we make plans for the future, and it's increasingly of value to investors as they seek to understand which companies have better long-term prospects than others in the context of climate change.

Overall, climate change isn't good for anyone's business. The pathway we're on globally at the moment, towards a 4-degrees-warmer world (or higher) will have devastating impacts on our societies, economies and natural resources. It's not hard to see how this will cause some significant problems for businesses, given that businesses can only thrive in societies and natural environments that are stable, resilient and sustainable.

Our analysis of how climate change affects us is undertaken out to 2050, as this is the horizon we use for making decisions on new investments. In that timeframe, the physical impacts of climate change are much the same, regardless of the temperature increase scenario chosen from the Intergovernmental Panel on Climate Change. For us as a generator from natural resources, these physical impacts are both positive and negative.

In the next 30 years we're likely to get more water in our hydro catchments, and that water may change in seasonality to better match demand (potentially lifting medium-term revenue by $12 million per year). Higher temperatures are likely to have a mild positive impact on electricity demand through increased air-conditioning requirements and increased irrigation, offset by reduced



Appendix 2:
NZSX-listed 2020 Annual Reports –
External link (to separate TCFD report). See Appendix 5 for the full report.

Meridian Energy
Annual Report 2020

Appendix 2:
NZSX-listed 2020 Annual Reports –
External link (to separate TCFD report). See Appendix 5 for the full report.

Telstra
Annual Report 2020

is not new. What is new is society's increased cyber-dependency, which allows crime, protests, espionage and errors to happen at an unprecedented pace, scale and reach.

We design, build and manage the security for our global network in three main ways:

Technology – we use a range of technologies and security controls to minimise the likelihood and impact of unauthorised access to our networks and systems. These include logging and monitoring capabilities to pre-empt and proactively prepare for internal and external threats and industry-standard infrastructure configuration. We continuously invest in our security capabilities, including maintaining and enhancing our existing technologies to continue to stay ahead of new security threats. We also deploy new technologies to ensure we can adapt to the range of changing security threats.

Process – our approach to cyber security risk management ensures appropriate ownership, oversight and ongoing risk management is applied to IT systems, data and risks. Cyber security subject matter experts provide oversight, and our risk and internal audit functions independently assure the process. We also have security processes that include technical reviews of projects and solutions; and due diligence of third parties, to test the presence and effectiveness of security controls at critical points.

People – cyber security is as much about people as it is about technology. We deliver programs designed to foster a strong cyber security culture. We invest in our people to prepare them against a range of different cyber threats. We have mandatory annual training for all employees and contractors and run regular drills on our employees to test its effectiveness.

We have also recently announced a Cleaner Pipes initiative, which focuses on further reducing instances of customer data being compromised through malware, ransomware and phishing.

We regularly update our privacy statement and procedures, ensuring we are compliant with our legal obligations and consider society's expectations in relation to collection, storage and use of our customers' personal information. Please refer to the Corporate Governance Statement for more detail on how Telstra manages privacy.

We also continue to work with the Australian Government as it executes its 2020 Cyber Security Strategy, with our CEO Andrew Penn chairing the Industry Advisory Panel.

Climate change

Telstra has publicly acknowledged climate change as one of the most important issues of the decade, and – as one of the largest consumers of power in the country – our responsibility in leading from the front in terms of climate action. As evidenced by the recent devastating bushfires, the threat of more and increased extreme weather events resulting from climate change is real and poses a significant challenge to society and business.

As part of our response we committed to being carbon neutral in our operations from 2020, enabling renewable energy generation equivalent to 100 per cent of our consumption by 2025, and reducing absolute emissions by at least 50 per cent by 2030.

While we are proud of these commitments, we acknowledge the risks of inaction and the broader challenge climate change poses. These include the ongoing threat of further extreme weather events and ensuing damage to lives and infrastructure, risks associated with the transition to a lower carbon economy and the reputational issues companies such as Telstra face for not showing leadership.

This year we have begun to align our reporting with the recommendations of the Taskforce on Climate Related Financial Disclosures (TCFD) which can be found in the climate change and energy section of our FY20 Sustainability Report.

Major regulatory change and stakeholder engagement

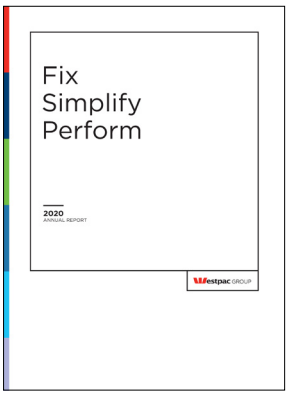
As the leading provider in a heavily regulated industry, Telstra's products and services and the way we deliver them are subject to constant scrutiny from a range of regulators and agencies. We continue to maintain proactive relationships with all relevant regulators, consumer and community groups, and policy makers in an effort to ensure fair, balanced and socially appropriate policy and regulatory decisions are made.

We recognise the importance of transparent and timely communications with our stakeholders, including customers, shareholders, investors and regulators, as well as the risks associated with not doing so, which may impact our ability to execute our strategy. This includes helping inform the community about the safety and benefits of new technology, such as 5G. We also recognise the importance of our relationships with partners and suppliers, and the need to ensure their actions meet our standards and our customers' standards in order to protect our reputation and deliver good customer experiences.

The key regulatory matters currently relevant to Telstra relate to regulatory compliance, responsible business practices, NBN Co regulation and policy, consumer safeguards and service standards, spectrum allocation, and universal service policy. These and other regulatory and policy matters may directly impact our strategy and business model as well as raise the risk of additional regulatory cost and complexity being imposed on our business. We have a strong framework to manage this risk and proactively engage with regulators, government bodies, industry and customer groups and other stakeholders.

Further detail about our risk management framework and how we manage our risks is provided in our 2020 Corporate Governance Statement available at **www.telstra.com/governance**.

Further information about our sustainability related risks is provided in our FY20 Sustainability Report, available at **www.telstra.com/sustainability/report**.



Appendix 2:
NZSX-listed 2020 Annual Reports –
External link (to separate TCFD report). See Appendix 5 for the full TCFD report.

Westpac
Annual Report 2020

BUILDING A SUSTAINABLE FUTURE

Climate change

Westpac recognises that climate change is one of the most significant issues that will impact the long-term prosperity of the global economy and our way of life.

Bomen Solar Farm in Wagga Wagga, NSW

Climate-related financial disclosure

We are committed to managing our business in alignment with the Paris Agreement and the need to transition to a net zero emissions economy by 2050.

There is continued development in the climate change agenda and increasing interest from investors, regulators, customers and the community in our approach to this issue. This year, we further integrated management of climate change impacts into our business.

Since 2018, the Group has published disclosures in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and our performance against these recommendations is summarised below.

Westpac
Annual Report 2020 (continued)

Climate change: Strategy

Key achievements from our 2020 Climate Action Plan over the year:

CLIMATE CHANGE SOLUTIONS

Provide finance to back climate change solutions

- Increased lending to climate change solutions, taking total committed exposure to $10.1 billion, exceeding our target[1] of $10 billion by 2020; and
- Facilitated $4.8 billion for climate change solutions, exceeding our 2020 target of $3 billion.

SUPPORT BUSINESSES

Support businesses that manage their climate-related risks

- Reduced the emissions intensity of our lending to the electricity generation sector from 0.36 tCO_2-e/MWh in 2017 to 0.25 tCO_2-e/MWh exceeding our 2020 target of 0.30 tCO_2-e/MWh;
- Maintained our commitment to stringent lending standards in the thermal coal mining sector;
- Supported customers' transition strategies through sustainable finance structures, such as sustainability-linked loans – see case study page 42; and
- Through BT[2], continued our involvement in Climate Action 100+, an investor-led initiative to engage systemically important greenhouse gas emitters and help achieve the goals of the Paris Agreement.

HELP CUSTOMERS

Help individual customers respond to climate change

- Provided over 3,400 natural disaster relief packages to assist customers affected by floods, bushfires and other disasters over the year – see page 31 for further details; and
- Westpac New Zealand launched a Warm Up Home Loan, offering up to NZ$10,000 interest-free, for five years, to make homes healthier and more energy efficient.

IMPROVE DISCLOSURE

Improve and disclose our climate change performance

- Reduced Scope 1 and 2 emissions by 27% since 2016[3] exceeding our reduction target of 9% by 2020;
- Commenced renewable electricity supply from Bomen Solar Farm in Q4 2020. We expect to source over 45% of our annual electricity requirement from renewables in 2021, and are on track to meet our commitment of 100% by 2025;
- Westpac New Zealand became New Zealand's first Toitū carbon zero certified bank in 2020; and
- Released our updated Climate Change Position Statement and 2023 Action Plan.

POLICY ADVOCACY

Advocate for policies that stimulate investment in climate change solutions

- Actively engaged in industry initiatives on key climate change themes, including through the UN Principles for Responsible Banking, Australian Sustainable Finance Initiative, Australian Business Roundtable for Disaster Resilience and Safer Communities, and Climate Measurement Standards Initiative (CMSI).

1 Progress and targets for lending to climate solutions are reported on an 'as-at', non-cumulative basis.
2 BT's annual climate-related disclosure can be found at bt.com.au/sustainability.
3 FY16 Scope 1 and 2 baseline: 147,620 tCO_2-e.

Westpac
Annual Report 2020 (continued)

Climate change update (continued)

Aim to provide $3.5 billion new lending to climate change solutions by 2023 and $15 billion by 2030

Strategy update

In May, we released our updated Climate Change Position Statement and 2023 Action Plan (Climate Action Plan)[1]. Our updated Climate Action Plan describes the principles that underpin our climate change strategy, recognising that:

- a transition to a net zero emissions economy is required by 2050;
- economic growth and emissions reductions are complementary goals;
- addressing climate change creates opportunities;
- climate-related risk is a financial risk; and
- collective action, transparency and disclosure matter.

To address climate change risk and opportunities, our Climate Action Plan identifies three areas where we expect to direct our attention over the short, medium and long-term. We will:

- help customers and communities respond to climate change;
- improve the climate change performance of our operations; and
- support initiatives and policies to achieve the goals of the Paris Agreement.

The Climate Action Plan also identifies areas where we will continue to improve our oversight, risk management and disclosure of climate change risks and opportunities.

Oversight

The Board has oversight of the Group's approach to and management of climate change and receives twice-yearly updates. Our Climate Action Plan is approved by the Board every three years. The Board Risk Committee considers and approves our Sustainability Risk Management Framework (which includes climate change risks) every two years.

The management of our response to climate change is led by Group Executives. The Sustainability Council (Council), sponsored by the Group Executive, Customer and Corporate Relations, comprises senior leaders from across the Group with responsibility for managing Westpac's sustainability agenda, including climate change.

The Council meets at least quarterly and has climate change as a standing agenda item.

The Council reports to the Executive Team and Board through twice-yearly updates.

Various committees oversee different elements of our climate change strategy:

- the Sustainable Finance Committee coordinates initiatives to achieve Westpac's climate change solutions targets. It reports to the Council;
- the Climate Change Risk Committee oversees work to identify and manage the potential impact on credit exposures from climate change-related transition and physical risks across the Group. It reports to the Group Credit Risk Committee; and
- the Environment Management Committee oversees strategies and initiatives to reduce our environmental footprint, particularly targets on energy and emissions. It reports to the Council.

Divisional risk committees consider the climate change dimensions of our business activities as required.

During the year, the Board:

- attended a training workshop led by industry experts to discuss climate change risks, investor expectations and directors' duties;
- approved the Group's fourth Climate Action Plan in April 2020; and
- noted a summary of developments in climate change in its six-monthly update.

To enhance oversight of climate change we:

- aligned the Climate Change Risk Committee, chaired by the Group Chief Credit Officer, to be a sub-committee of the Group Credit Risk Committee to improve oversight of climate-related financial risks;
- implemented climate change updates to risk forums for major customer-facing divisions including Westpac Institutional Bank (WIB), Business division, Consumer division and Westpac New Zealand Limited; and
- commenced work to enhance climate change reporting to the Board.

1 Westpac's Climate Change Position Statement and 2023 Action Plan does not apply to investments made where a Westpac Group entity is acting as a trustee (for example Responsible Super Entity licensee or Responsible Entity) or insurer. The governance and strategies for ESG risk in these portfolios (including climate change) are the responsibility of the relevant board and management of these entities.

Westpac
Annual Report 2020 (continued)

Managing climate-related risks

Climate change risks are managed within the Group's risk management framework. We seek to understand the potential for climate-related transition, physical and litigation risks to impact our business, in particular the possible impact on credit risk, regulatory and reporting obligations, and our reputation.

Through our Climate Action Plan, we set out criteria for lending to emissions-intensive and climate-vulnerable sectors, supporting customers that are in, or reliant on, these sectors and who assess the financial implications of climate change on their business, including how their strategies are likely to perform under various forward-looking scenarios, and demonstrate a rigorous approach to governance, strategy setting, risk management and reporting.

We review our Sustainability Risk Management Framework, risk appetite measures and policies ensuring the criteria set out in the Climate Action Plan are integrated. These criteria are applied at the portfolio, customer and transaction level where appropriate. Escalation of climate-related risks to relevant divisional risk committees occurs in accordance with the Sustainability Risk Management Framework. If the identified risks are not within risk appetite then the application of conditions to manage the risks may be considered, or the transaction may be declined.

Risks associated with climate change have environmental, social and economic dimensions and are predicted to impact all aspects of society.

Bomen Solar Farm in Wagga Wagga, NSW

CLIMATE CHANGE RISK COMMITTEE

We updated our Climate Change Risk Committee (CCRC) to improve oversight of climate-related financial risks. The CCRC met three times during the year.

Now chaired by the Group Chief Credit Officer and reporting to the Group Credit Risk Committee, the CCRC's objectives are to:

- oversee identification, quantification and management of climate-related risks;
- integrate climate-related risks into risk management frameworks, lending policies and lending guidelines;
- design, execute and integrate climate scenario analysis and portfolio resilience testing;
- support climate change disclosures and reporting; and
- facilitate continuous improvement in climate-related risk management.

Westpac
Annual Report 2020 (continued)

Westpac has long understood that climate-related risk is a financial risk. This is one of the reasons why we have been taking action on this issue for over a decade.

This year we improved climate-related risk management by:

- establishing 'Sustainability' as a Level 1 Risk in the Group Risk Taxonomy to enhance our focus on material sustainability risks including climate change;
- realigning ownership of the Sustainability Risk Management Framework from Group Sustainability to Risk to improve integration with Group-wide risk approaches;
- initiating a review of our Sustainability Risk Management Framework, Risk Appetite Statements and ESG Credit Policy to integrate the criteria set out in our new Climate Action Plan;
- analysing the credit characteristics of lending in industry sectors and postcodes which may face higher risks by 2050 under climate change scenarios developed in 2018 and 2019;
- completing Westpac New Zealand's first climate risk disclosures in line with TCFD recommendations; and
- conducting a physical risk assessment of the impact of sea level rise on coastal flooding and erosion on the Westpac New Zealand residential mortgage book.

Scenario analysis

Since 2016, Westpac has evolved its scenario analysis to inform its assessment of climate-related risks and opportunities over the short, medium and long-term. The findings from our scenario analysis informed our current Climate Action Plan which outlines a range of commitments to help customers and communities respond to climate change.

We continue to assess[1]:

- the resilience of our Australian Business and Institutional[2] lending to transition risks using 1.5 and 2-degrees scenarios; and
- the potential impact of climate-related physical risks on the Australian mortgage portfolio[3] arising from global warming scenarios of both 2 and 4-degrees.

As at 30 September 2020:

- the share of our current Australian Business and Institutional portfolio exposed to sectors which may face relatively higher growth constraints[4] at 2030 and 2050 under climate change transition scenarios (1.5-degrees and 2-degrees) is shown below:

	2030	2050
1.5-degrees scenario	1.9%	3.4%
2-degrees scenario	0.9%	2.8%

- the share of our current Australian mortgage portfolio in postcodes which by 2050 are likely to be exposed to higher physical risks under a 4-degrees scenario is approximately 1.7%.

As part of our Climate Action Plan, further work underway includes:

- assessing climate-related physical risks on our Australian agribusiness portfolio and how we can continue to support our customers to respond;
- updating our assessment of physical risk in our Australian mortgage book and how we can help customers become more climate-resilient;
- integrating climate change considerations into our stress-testing capability; and
- analysing lending across the energy sector, including a 'deep dive' on the oil and gas sector under Paris-aligned scenarios – see next page.

1 Using scenarios developed in 2018 and 2019 – for further details see pages 118-120 of our 2019 Annual Report.
2 Excludes retail, sovereign and bank exposures.
3 Excludes RAMS and Equity Access.
4 Sectors whose medium (2030) and long-term (2050) performance under a scenario deviated by more than one standard deviation below average GDP growth were classified as 'higher risk'.

Appendix 3: NZSX-listed 2020 Annual Reports – Indexed throughout

Note:

1. To be considered an index, the annual report should provide an index to pages throughout the annual report that discuss each of the four core elements of the TCFD recommendations.

Supply chain impacts

Number of suppliers assessed for environmental and social impacts.	1
Number of suppliers identified as having significant actual and potential negative environmental and social impacts[1].	1
Percentage of suppliers with which improvements have been agreed upon as a result of assessment.	0%
Percentage of suppliers with which relationships have been terminated as a result of assessment, and why.	0%

1. The actual and potential impacts we have identified in our supply chain includes local job creation, fair pay, reducing greenhouse gas emissions, decarbonisation and electrification, hazardous chemicals management, waste minimisation and containment, health and safety of workers and human rights.

Safety data at 30 June

Injury Type	Employee – Male	Employee – Female	Contractor
First aid	4	11	8
Medical treatment	1	0	2
Lost Time	1	0	1
Fatality	0	0	0
Occupational Disease	0	0	0
Days Lost	1	0	20
Injury Rate[1]	1.7	0	12.2
Severity Rate[2]	0.9	0	81.1

1. TRIFR – Recordable injuries per million hours worked.
2. Days lost per million hours worked.

Employee absentee rate at 30 June

	Females	Males	All Employees
Total scheduled days	106,506	126,630	233,137
Total absence days	4,394	2,603	6,996
Lost days as a percentage	4%	2%	3%

TCFD Index

Disclosure	Page number
Describe the Board's oversight of climate-related risks and opportunities.	36
Describe management's role in assessing and managing climate-related risks and opportunities.	47
Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term.	63
Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning.	25
Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2 degree or lower scenario.	25
Describe the organisation's processes for identifying and assessing climate-related risks.	40
Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management.	47
Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	62
Disclose Scope 1, 2 and if appropriate 3 greenhouse gas (GHG) emissions, and the related risks.	62, 63
Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	39

Appendix 3:
NZSX-listed 2020 Annual Reports –
Indexed throughout

Contact
Annual Report 2020

TCFD INDEX

The Task Force on Climate-related Financial Disclosures (TCFD) seeks to develop recommendations for voluntary climate-related financial disclosures that are consistent, comparable, reliable, clear, and efficient, and provide decision-useful information to lenders, insurers, and investors. Fisher & Paykel Healthcare is integrating the recommendations of the TCFD, and we have included commentary in the governance, risk management and environment sections of this report, along with disclosures addressing our global carbon footprint. Below is an index for locating these disclosures.

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 organization's businesses, strategy, and financial planning where such information is material.	Disclose how the organization 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. pp. 95–96	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term. p. 100	a) Describe the organization's processes for identifying and assessing climate-related risks. p. 100	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process. p. 100
b) Describe management's role in assessing and managing climate-related risks and opportunities. p. 96	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning. p. 101	b) Describe the organization's processes for managing climate-related risks. pp. 100–101	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks. pp. 80–83
	c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario. p. 101	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management. p. 100	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets. pp. 80–83

Appendix 3:
NZSX-listed 2020 Annual Reports – Indexed throughout

F&P Healthcare
Annual Report 2020

SUSTAINABILITY INDICES. (CONTINUED)

SECTOR SPECIFIC: UTILITIES

Material Topics	Description	Location	Boundaries
GRI 103	Management approach	Our Business Model pp6-8	Within the organisation
EU1	Installed capacity	Our Business Model pp6-8	Within the organisation
EU2	Net energy output	Our Business Model pp6-8	Within the organisation
EU3	Number of customer connections	Our Business Model pp6-8	Within and outside the organisation
EU5	Allocation of CO_2e allowances	Metrics & Targets p35	Within and outside the organisation
EU10	Planned capacity against projected electricity demand over the long-term	Dealing With Shifting Winds p39	Within and outside the organisation
GRI 103	Management approach	Our Business Model pp6-8	Within the organisation
EU18	Percentage of contractor and subcontractor employees that have undergone relevant health and safety training	Our Skills Pledge p38	Within and outside the organisation
GRI 103	Management approach	Our Business Model pp6-8	Within the organisation
EU27	Number of disconnections for non-payment	The World Around Us p15, Close Connections Help Vulnerable Customers pp24-26	Outside the organisation
GRI 103	Management approach	Our Business Model p6	Within the organisation
EU30	Average plant availability by energy source and by regulation regime	Hydro 88%, Geothermal 94%	Within the organisation

TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD) INDEX

Issue	TCFD Recommendation	Location	Page No.
Governance	Board oversight of climate-related risks and opportunities	Annual Report 2020 – Preparing for Climate Change Annual Report 2020 – Governance at Mercury	pp33-34, 72-78
	Management's role in assessing and managing climate-related risks and opportunities	Annual Report 2020 – Preparing for Climate Change Annual Report 2020 – Governance at Mercury	pp33-34, 72-78
Strategy	Climate-related risks and opportunities identified over the short, medium and long-term	Annual Report 2020 – Strategy	pp34
	The impact of climate-related risks and opportunities on business strategy and financial planning	Annual Report 2020 – Strategy	pp34
	Strategy resilience taking into consideration climate-related scenarios, including a 2°C or lower scenario	Annual Report 2020 – Preparing for Climate Change	pp33
Risk Management	Processes for identifying and assessing climate-related risks	Annual Report 2020 – Strategy Annual Report 2020 – Governance at Mercury	pp33-34, 72-78
	Process for managing climate-related risks	Annual Report 2020 – Strategy Annual Report 2020 – Governance at Mercury	pp33-34, 72-78
	Integration of the processes for identifying and assessing climate-related risks into overall risk management	Annual Report 2020 – Strategy Annual Report 2020 – Governance at Mercury	pp33-34, 72-78
Metrics and Targets	Metrics and targets used to assess climate-related risks and opportunities in line with strategy and risk management process	Annual Report 2020 – Metrics & Targets, Company website 2019 Emissions Inventory Report	p35
	Scope 1, 2 and 3 GHG emissions and any related risk	Annual Report 2020 – Metrics & Targets, Company website 2019 Emissions Inventory Report	p35
	Targets used to manage climate-related risks and opportunites and performance against targets	Annual Report 2020 – Preparing for Climate Change, Metrics & Targets. Company website 2019 Emissions Inventory Report	p33, p35

Appendix 3:
NZSX-listed 2020 Annual Reports –
Indexed throughout
Mercury
Annual Report 2020

Appendix 4: NZSX-listed 2020 Annual Reports – Partial (some but not all core elements)

Note:

1. To be considered partial, the annual report will only reference a few of the core elements of the TCFD recommendations.

Appendix 4:
NZSX-listed 2020 Annual Reports –
Partial (some but not all core elements)

Port of Tauranga
Annual Report 2020

MANAGING RISKS
AND OPPORTUNITIES

Spotlight on: Climate-related risks and opportunities

We have considered the guidelines of the Task Force on Climate-related Financial Disclosures. There are two major categories of climate-related impacts:

- The risks and opportunities related to New Zealand's transition to a lower-carbon economy
- The risks and opportunities related to the physical impacts of climate change.

Projections of climate change depend on future greenhouse gas emissions, which are uncertain. Port of Tauranga relies on the projections used by central Government agencies – including the Ministry for the Environment, the Ministry for Primary Industries and the National Institute of Water and Atmospheric Research (NIWA) – for the Bay of Plenty. We also consider scenario planning by the Bay of Plenty Regional Council and the Tauranga City Council.

The regional impacts from climate change include an increased likelihood of heatwaves, increased storm intensity, and droughts that are more frequent, longer and more intense. More frequent extreme rainfall events are also a possibility[7].

Current models show potential for flooding along wharf edges and of Port of Tauranga land at the southern end of the Mount Maunganui wharves, and to the south of the container terminal at Sulphur Point. Sea level rise analysis shows there is likely to be minimal impact to current wharf structures under most scenarios[8].

Our measures to reduce greenhouse gas emissions are outlined in Our Environment on page 56.

[7] https://www.mfe.govt.nz/climate-change/likely-impacts-of-climate-change/how-could-climate-change-affect-my-region/bay-of
[8] https://www.tauranga.govt.nz/Portals/0/data/living/natural_hazards/files/niwa_sea_level_analysis_report.pdf

Appendix 4:
NZSX-listed 2020 Annual Reports –
Partial (some but not all core elements)

Spark
Annual Report 2020

roadmaps jointly created with Agile Units and strong governance involving the Leadership Squad help to ensure that significant risks are managed. The Security Tribe is responsible for critical operational controls to ensure standards and compliance are upheld. Our Digital Trust team sets privacy frameworks and standards that Agile Units need to apply to maintain appropriate operational controls for privacy.

Cost optimisation while maintaining operational standards

While executing net cost reduction is a strength for Spark, it needs to be done safely so that operational delivery standards for customers are maintained. Inherent risks include unintended consequences from initiatives, brand reputation damage and accelerated regulatory intervention. To mitigate this risk, the Leadership Squad has established a formal delivery structure. This structure includes strong governance and all initiatives using road-tested execution methodologies. Trajectory toward targets is measured, which in turn enables intervention and course corrections when required.

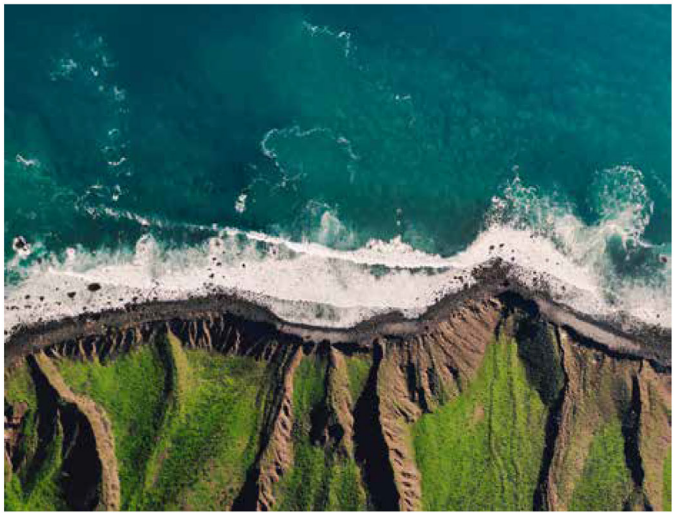
Business continuity and crisis management

The Business Continuity and Crisis Management Policy protects customers from the impact of disruptive events, ensures value generating activities are resilient and complies with relevant external standards, for example Civil Defence and 111 obligations.

Spark's framework is benchmarked to ISO22301 and ISO22313, which are acknowledged as leading practice standards for business continuity. The core elements of the framework are crisis management, incident and problem management, business continuity plans, network and technology disaster recovery plans, work area recovery sites and readiness and assurance activities.

Spark's business continuity framework performed well when called upon in the COVID-19 pandemic. The Leadership Squad supported by the business were able to navigate the rapidly evolving situation and take steps to protect people and continue supporting customer delivery. Pandemic management continues to occur as discussed in the risk section above.

Managing climate-related risk



Climate change has potential to disrupt business operations and our customers. We have considered the requirements of the Taskforce on Climate-related Financial Disclosures (TCFD) in this year's report.

Short-term risks include impacts on energy costs, the cost of achieving our emissions reduction targets and one-off impacts of extreme weather events. Longer-term risks include increasing frequency and severity of extreme weather events, climate-related impact on network demand and usage patterns, including land-use change and sea level rise.

Managing the risk of network outage and availability of services is core to Spark's business. Our risk and business continuity plans incorporate the impacts of weather-related events which we expect to be the biggest risk to our business from climate change.

Climate-related regulatory risks are evaluated in our business planning process. We do not directly participate in the NZ Emissions Trading Scheme. However, we are exposed to a carbon price through our supply chain purchasing, mainly through electricity and fuel.

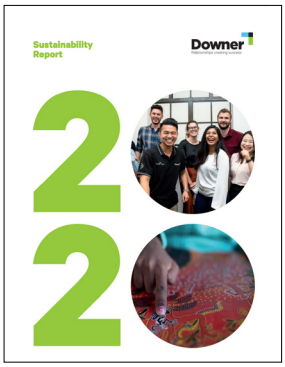
Spark also has an opportunity to create climate-related financial value which potentially could materially increase our revenue. This would be through the provision of digital services to support customers to mitigate and adapt to climate change. We plan to evaluate revenue opportunities as compared to adaptation costs in future.

Information on our network efficiency and energy consumption is included on page 33. Information on network resilience is included on page 24.

Appendix 5: Documents other than 2020 Annual Reports that contain TCFD information

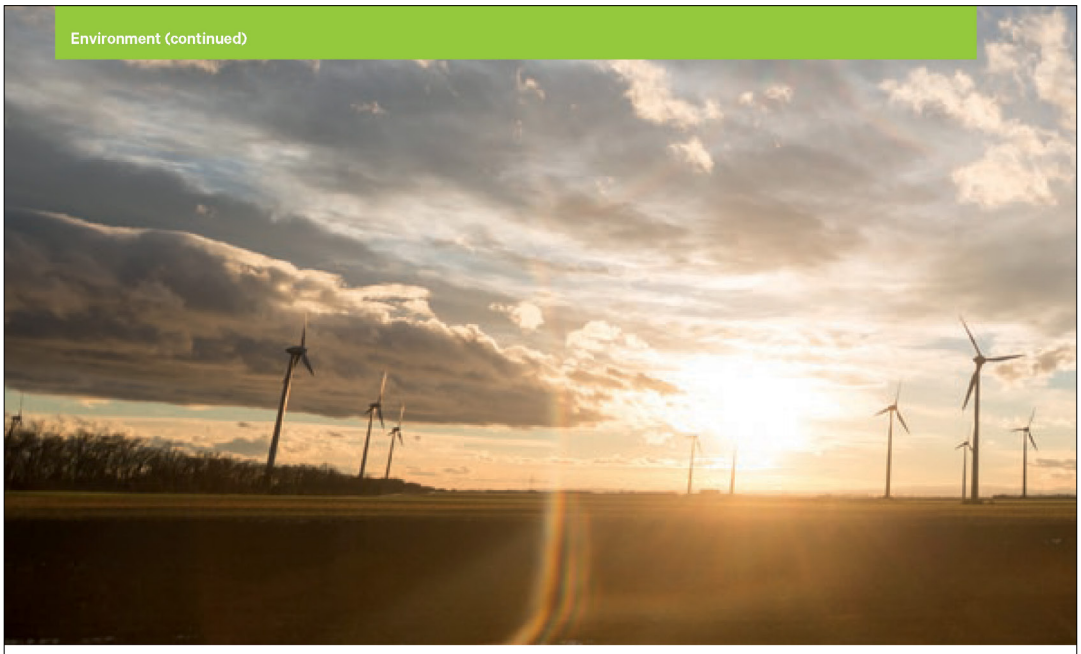
Notes:

1. A few annual reports contain a link to another report (see Appendix 3). Excerpts that relate directly to TCFD information are included in this Appendix.
2. Disclaimer: There may be a few cases where TCFD-related documents have been prepared. However, if no link is contained in the annual report, it will not be included in this Appendix.
3. In one case, Westpac [25] above, two links were provided in one annual report. Both relate to separate documents that refer directly to TCFD information.



Appendix 5:
Excerpts from other documents that contain TCFD-related information (referred to in the Annual Report via a link).

Downer Group EDI
Sustainability Report 2020



TCFD disclosure

Climate change presents a challenge to enhancing liveability, sustaining the modern environment, Downer's business operations, and the natural environment. While Downer's business portfolio is diverse, it has limited exposure to the effects of climate change through fixed, long lived capital assets. Downer's diverse portfolio allows us to be flexible and agile to redeploy assets to high growth areas as markets change. This diversity of portfolio strongly positions Downer to mitigate and manage our exposure to climate risks and to maximise the business opportunities it presents.

Downer accepts the Intergovernmental Panel on Climate Change (IPCC) assessment of the science related to climate change and supports the Paris Agreement in transitioning to net-zero emissions by 2050 to limit global temperature increase to 1.5°C by the end of this century. Downer considers climate change to be one of its material issues (refer to pages 14-20).

In FY19, Downer implemented the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD) in assessing the financial implications of climate change on Downer. In its implementation of the TCFD recommendations, Downer used climate scenario analysis as a key step to understand the resilience of the business under different climatic futures.

Global scenarios were used to inform a top-down assessment of how the physical climate might change, the hazards that our workforce might be exposed to, and how the services Downer provides to key sectors and markets may change. This was particularly important to Downer, as our company Purpose is to create and sustain the modern environment by building trusted relationships with our customers. The scenario analysis informed strategic planning processes by looking longer-term to critically assess the products and services provided by the business in changing markets.

The scenario analysis was fed directly into Board strategy sessions and to Executive forums, where it remains a permanent consideration of the Board strategy. Further to the scenario analysis outcomes, broader sustainability issues are discussed at Board level. From a tactical perspective, Downer undertakes an annual exercise to test our strategic position on the back of the scenario analysis.

The outcomes of the scenario analysis contributed to a change in the overall strategy of the business. In February 2020, Downer announced it would shift investment in high capital intensive activities to lower intensive and lower carbon activities. Climate change and sustainability were also elevated to retain market share and to secure new customers. This strategic shift will support Downer's decarbonisation pathway and market position in a low-carbon economy.

Downer Group EDI
Sustainability Report 2020 (continued)

GHG emissions reduction target

Downer acknowledges that climate change mitigation is a shared responsibility. To support the transition to a low-carbon economy in an equitable manner, Downer recognises the need to develop emissions reduction targets that align with the 2015 Paris Agreement goals to pursue efforts to limit the temperature increase to 1.5°C by the end of this century.

In 2019, we leveraged the Science-Based Target Initiative's framework and guidance to set an ambitious long-term GHG emissions reduction target (aligned to a 1.5°C pathway). We committed to the decarbonisation of our absolute Scope 1 and 2 GHG emissions by 45-50 per cent by 2035 from a FY18 base year, and to being net zero in the second half of this century.

Downer will track our progress towards these emissions reduction targets and review our emissions reduction approach in line with IPCC's updated scientific reports, while also considering other developments in low-emissions technology to ensure a practical and affordable transition towards this commitment.

For the purpose of our Science-Based Target (SBT), the boundary is Downer's Scope 1 and 2 GHG emissions data disclosed in this Sustainability Report, plus the Scope 1 and 2 emissions from our operations at Meandu Mine, which for FY20 accounts for 114,270 tCO_2-e Scope 1 and 2 emissions.

Downer holds operational control of Meandu Mine, but has a transfer certificate in place under section 22J of the NGER Act.

Downer's performance against the SBT was eight per cent higher than the SBT for 2020. The drivers for this, with the exception of the Meandu Mine, are noted in the 'Managing our GHG emissions' section on pages 56-58. This site is under Downer's operational control, but not reportable for NGER purposes, as Downer has a reporting transfer certificate in place. Meandu saw a reduction in its emissions footprint for FY20 – contributing to Scope 1 + 2 emissions for SBT purposes being stable for FY20 compared to FY19. When presented on an intensity basis, our assumed SBT performance exceeded target levels. As Downer continues to focus on its Urban Services businesses, the expected economies of scale in being a larger player in a smaller number of sectors should continue to provide benefits from an emissions intensity perspective.

Downer's pathway to significant decarbonisation is contingent on medium-term to long-term step changes. One of these is the divestment from carbon-intensive businesses, as noted in the TCFD disclosure section on page 62. The other key strategy for decarbonisation is the transitioning of fuels that Downer directly combusts to cleaner sources. These changes will have a significant impact on Downer's carbon footprint. In the interim, Downer continues to make iterative improvements to operations to improve efficiencies where possible, which have a positive impact on emissions as well as costs.

Absolute target

Reporting period	Scope 1+2	Target	Deviation from target
FY18	580,090.92	580,090.92	Baseline year
FY19	591,202.17	562,897.03	5% ↑
FY20	591,103.71	545,703.13	8% ↑

Intensity target

Reporting period	Actual emissions intensity (Scope 1+2 emissions tCO_2-e/$m AUD)	Target	Deviation from target
FY18	48.22	48.22	Baseline year
FY19	43.96	46.79	6% ↓
FY20	44.05	45.36	3% ↓

Downer recognises the uncertainties, challenges and opportunities that climate change presents and, despite the impacts of COVID-19, Downer remains committed to partnering with our customers and supply chain to achieve our long-term GHG emissions reduction target.

Refer to our website for further disclosures on Downer's response to climate change and how we have specifically addressed the TCFD recommendations.

Our future focus

In FY21, Downer will continue to focus on driving improvement in our environmental and sustainability performance and risk management while further embedding sustainability within our business. To achieve this, we will:

- Continue to support the growth of Downer's Urban Services strategy by providing services that promote a sustainable future and transition to a low-carbon economy, including renewable energy, facilities management, water treatment, telecommunications, sustainable transport, waste to energy and waste recovery
- Work with our financial partners to assess opportunities for sustainability-linked finance to further demonstrate Downer's commitment to sustainability and unlock capital that would allow Downer to meet its sustainability goals and objectives
- Maintain and improve Downer's strong environmental regulatory compliance through the implementation of Downer's consolidated Integrated Management System, known as the Downer Standard, and support the business in achieving a single certification accreditation to ISO14001:2015, with continued focus on our Critical Risk program
- Establish waste to landfill reduction and water reduction targets and identify initiatives to assist in achieving these targets
- Continue to explore and deploy innovative technology solutions in order to continuously improve the way we deliver our products and services and meet our legal, commercial and customer obligations
- Take a whole-of-life approach when considering initiatives and specifying materials. Apply lifecycle assessment to our road pavement products (i.e. the development of an Environmental Product Declaration for Downer's recycled asphalt products)
- Improve sustainability performance and achieve sustainability ratings, such as ISCA Infrastructure Sustainability ratings, for targeted infrastructure contracts to improve our sustainability performance and build internal knowledge and capacity that can be leveraged to other parts of Downer
- Protect high value biodiversity found on the sites we own, occupy or operate. Work with our customers to enhance and restore existing biodiversity, otherwise offsetting any losses, wherever possible
- Educate our staff, supply chain and the broader communities on key environmental sustainability issues and the role Downer has in addressing them.

Appendix 5:
Excerpts from other documents that contain TCFD-related information (referred to in the Annual Report via a link).

Meridian Energy

Climate Change Disclosures Meridian Energy Limited FY20

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More information on the impacts of climate change on our business can be found in our CDP submission which is publicly available on their website.

Disclaimer

Quantifications in this report of financial impacts of climate change (both positive and negative) are estimates only and are not intended to constitute earnings guidance. No representation is made as to their accuracy, completeness or reliability. These risks and opportunities may not eventuate and if they do the actual impact may differ materially from these estimates.

1. Governance

TCFD requirements

- *Describe the board's oversight of climate-related risks and opportunities.*
- *Describe management's role in assessing and managing climate-related risks and opportunities.*

Meridian's Board of Directors is responsible for overseeing the management of risks, including those related to climate change. The Audit and Risk Committee supports the Board in this function by performing reviews of Meridian's primary business risks and its Risk Management Policy. The Audit and Risk Committee meets on a quarterly basis, with committee proceedings reported back to the Board. The different levels of responsibilities and the supporting Risk Management Policy that governs the management of climate-related risks at Meridian are illustrated in Figure 1.

Meridian's Risk executive management Policy provides the overarching framework for assessing, monitoring and managing climate-related risk. This policy meets New Zealand standard AS/NZS ISO 31000 Risk Management—Principles and guidelines. At an operational level, Meridian's executive management team assesses and monitors climate related risks and opportunities in accordance with the level of risk assigned through the Risk Management Policy (risk categorisations are shown in Figure 2).

Figure 1. Governance of climate-related risks at Meridian Energy Limited

Risk Management Policy (ISO 31000)

- Provides the overarching framework for identifying, assessing, managing and monitoring risk, including those relating to climate change

Board of Directors

- Ensures Meridian has appropriate and effective risk management in place, including climate-related risks
- Receives reports from the Audit and Risk Committee
- Has access to risk reports from management

Audit and Risk Committee

- Reviews top risk reports and new and escalating risk reports from management
- Ensures risks are managed in accordance with Meridian's risk management policy
- Reviews and updates Meridian's Risk Management Policy annually

Executive Management

- Responsible for ensuring the business is identifying, assessing and monitoring climate-related risks and opportunities in accordance with Meridian's Risk Management Policy
- Implements appropriate risk mitigation strategies as approved by Audit and Risk Committee
- Reports back to Audit and Risk committee on a quarterly basis

Key staff tasked with risk management activities (from Strategy and Finance as well Generation and Natural Resources teams)

- Provides support with monitoring and assessing the long-term electricity supply and demand profile under different scenarios
- Conducts risk assessments, prepares risk reports and ensures appropriate management actions are taken
- Responsible for maintaining the safety, performance and capability of Meridian's generation assets over their projected economic life.
- Maintains a 20-year strategic asset maintenance plan

2. Risk Management

TCFD requirements

- *Describe the organisation's processes for identifying and assessing climate-related risks.*
- *Describe the organisation's processes for managing climate-related risks.*
- *Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.*

In addition to Meridian's overarching Risk Management Policy, we have relied on recommendations of the Taskforce on Climate-related Financial Disclosure (TCFD) for identifying and assessing climate-related risks. Meridian staff, including climate scientists, energy modelling and risk specialists, are tasked with staying up-to-date with the latest climate-related research, conducting regular risk assessments and performing detailed climate change analysis. This involves undertaking climate scenario modelling and analysis using inhouse analytical models and maintaining long-term scenarios of supply-and-demand balance in the New Zealand electricity system.

Our risk management process entails considering 2°C and 4°C scenarios across a 30-year time horizon to 2050.

From a risk management perspective, we believe this mid-century horizon is appropriate and aligns with our long-term business planning and risk management timeframes, which are defined as: Short-term 1 to 5 years; Medium-term 5 to 10 years; and Long-term 10 to 30 years. We regularly monitor whether climate science requires us to reassess this approach.

The inputs used to inform our scenario analysis and modelling include projected changes in precipitation, wind, temperature and extreme events, coupled with generation and electricity market data. The outputs allow us to analyse a range of potential futures and explore implications for Meridian's assets, operations, financial plans, and business model.

In accordance with Meridian's Risk Management Policy, we assess the significance of each identified climate risk using a likelihood and consequence matrix. This allows us to determine the appropriate level of response for each issue identified. Levels of risk are categorised as either extreme, high, medium or low (Figure 2 provides further details on the levels of risk categorisation and corresponding management response as determined by Meridian's Risk Management Policy). Risks are reviewed on an annual basis to ensure they reflect material changes in our knowledge, business strategy, and operating environment.

Through the processes described above, we have identified over 20 climate-related risks and opportunities. An overview of top physical and transition impacts are contained in our Strategy disclosures and summarised in Tables 1 & 2. Note that none of the climate impacts identified in this report are listed as top risks in our Corporate Governance Statement FY20.

Meridian Energy

Climate Change Disclosures Meridian Energy Limited FY20 (continued)

Figure 2: Level of risk categorisation and response as determined by Meridian's Risk Management Policy

Risk rating	Low	Medium	High	Extreme
Ownership	Manager or subject matter expert	GM together with their direct report	GM	CEO
Resourcing	Staff and resources applied based on risk/reward assessment	Staff and resources applied based on to risk/reward assessment	Priority focus of staff and resources at reducing risk and building mitigation in response	High priority focus with significant organisational effort directed at moving risk out of the Extreme rating
Reporting	Business units oversee and review actions	Risk review process with GM and their direct reports to ensure adequate assessment of risk and treatments are in place	Bi-annual formal reporting to A&R Committee meeting	Monthly reporting to the Board
Monitoring	Business units monitor improvement initiatives via quarterly review	Monitoring undertaken by peers or self-monitoring as appropriate	Risk owner (GM) to select most appropriate monitoring (peer or external) to ensure the steps we are taking are necessary and sufficient	Risk owner (CEO) needs to consider whether we need independent advice to provide assurance that the steps being taken are necessary and sufficient

3. Strategy

TCFD requirements

- *Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.*
- *Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.*
- *Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.*

Climate impact definitions

Physical impacts

Physical climate impacts arise from extreme weather events (e.g. storm, flood, drought) or from the longer-term shifts in climate patterns (e.g. increasing temperatures and changes to hydro lake inflows). These changes may result in financial risks or opportunities due to the direct and indirect impacts they can have on business operations, assets, markets or supply chains.

Transition impacts

Transitional climate impacts refer to risks and opportunities resulting from the policy, legal, technology and market changes occurring in the transition to a low carbon economy. Depending on the nature, speed, and focus of these changes, transition impacts may pose varying levels of financial and reputational risk or opportunity.

Source: Based on Recommendations of the Taskforce on Climate-related Financial Disclosures

It is clear that the impacts of climate change in New Zealand and globally will be devasting without strong climate action by both government and business. For Meridian, a 4°C warmer world in 2100 would present significant challenges, both in terms of the potential physical impacts on our dam structures, but also in terms of the uncertainties as to how our society will function in those circumstances, and what an electricity business may look like as a result.

Our analysis of how climate change impacts us is only undertaken out to 2050, as this is the time horizon we use for making decisions on new investments. We have utilised four scenarios to explore the strategic and operational implications of climate change for our business:

Evolution: This is a "business as usual" scenario in which the world is on track to warm by more than 4°C this century. Under this scenario, no major policy changes have been enacted, no disruptive regulatory constraints have been placed on New Zealand's electricity market, and there have been no significant industry disruptions. It describes moderate improvements in energy efficiency, a moderate increase in demand due to population growth, and a moderate increase in demand from the electrification of transport and industrial heat conversion.

Revolution: In contrast, our 2°C scenario assumes substantial regulatory intervention to rapidly decarbonise transport and process heat in New Zealand. Under this scenario, demand grows at an unprecedented and potentially disruptive rate but may be offset by contractions in agriculture and international tourism.

Lower electricity demand: This version of our Evolution scenario is intended to explore the potential impact on electricity demand should there be a significant disruption to industry as a result of physical or transition-related impacts of climate change (for example, the dairy industry phasing out in New Zealand over a 10 year period).

No climate change: This version of our Evolution scenario removes the physical impacts of climate change on both supply and demand.

The first three of these models assume the same level of temperature increase between now and 2050, as the physical impacts of climate change (including the availability of water and wind energy) are much the same regardless of which temperature increase scenario is chosen from the Intergovernmental Panel on Climate Change (the IPCC).

Physical risks

For us as a generator from natural resources, physical impacts from climate change are both positive and negative. Our modelling indicates that we are likely to get more water in our hydro catchments, with a change in seasonality to better match demand, and that demand is likely to increase with higher temperatures. However higher temperatures will also increase the likelihood of extreme rainfall events.

We are still thinking through what the physical impacts from climate change may be on the electricity system as a whole, and how that would then impact our business.

For example, higher temperatures may impact the carrying capacity of the transmission and distribution network, and those networks may also be disrupted by increased frequency and severity of extreme weather events. There may also be increasing competition for water, for example from increasingly frequent east coast droughts (particularly in the Canterbury region).

The physical impacts of climate change most material to Meridian are described below:

Extreme rainfall in hydro catchments

Climate change is likely to increase the severity of extreme rainfall events, and consequent flood events, across New Zealand, which then poses a potential increased risk of physical damage to our dam and hydro assets in the Waiau and Waitaki catchments.

The safety criteria for extreme flood events is defined in the NZSOLD Dam Safety Guidelines as "Probable Maximum Flood (PMF) - An estimate of a hypothetical flood (peak flow, volume and hydrograph shape) that is considered to be the most severe "reasonably possible" scenario for a particular catchment". The PMF (Probable Maximum Flood) values for our hydro systems were updated in 2016 for Waitaki catchment and 2017 for the Waiau catchment, and are subject to expert independent review. These PMFs then inform our dam safety approach, which follows best practice in that all of Meridian's high potential impact category dams are required to be assessed, maintained, and managed to remain safe even under extreme flood and seismic loads.

The assessment of PMF is highly conservative. While we consider it to be highly unlikely that an extreme flood larger than the PMF event would occur in the short-term, there is a possibility that the PMF may need to be raised in the next several decades, as a result of increases in global and regional atmospheric temperatures and changes to atmospheric circulation leading to increases in the severity of extreme rainfall events.

This leads us to consider two risk impact scenarios;

Firstly, it is foreseeable that the PMF values that we are required to manage to assure the safety of our dams could rise which could potentially have a substantive financial impact on our business, as an increased PMF would require us to increase the flood capacity of our dams, starting at some point in the next 30 years. This could be achieved through either modification of dam structures, spill outlets, or by reducing the maximum operating water level to allow for more flood storage capacity, or a combination of these measures. The most likely options currently considered include reducing the maximum control level in Lake Pūkaki in the Waitaki system, which could have an ongoing earnings cost of up between $4m-8m per annum by 2050, and for the Waiau catchment, physical changes to lake control structures with a one off cost of up to $30m. These potential financial impact estimates are what we have submitted to the CDP, with the $30m annualised to $3m/yr.

To manage this risk we plan to re-evaluate the PMFs every decade.

We are also advocating to independent external consultants responsible for PMF calculations that they take into account the ongoing scientific research in relation to how extreme rainfall events affect our catchments, and the extent to which climate change will contribute to that going forward. And we are likely to invest in future rainfall–runoff modelling to ensure the risk is better understood.

Secondly, if an extreme rainfall event of a scale sufficient to damage our structures were to occur in the shorter term, the potential consequence to Meridian includes damage to the dam and/or hydro structures and business interruption (restrictions on our generation operations for a period of time) but not dam failure. We're exposed to this risk in both our catchments but not both simultaneously, as it is 'exceptionally unlikely' that an extreme flood could occur in both catchments in the same timeframe. The impact in the Waitaki system may be in the order of $60m to $80m and in the Waiau catchment between $55m and $80m. In the event of material damage and business interruption losses, Meridian holds insurance for both physical damage and lost generation after 30 days resulting from damage to generation assets which would reduce the financial impact by potentially up to $35m. We consider this risk very unlikely to occur due to our extensive dam safety management approach, and as such have not reported this potential financial impact estimate in our CDP submission.

Changes to inflow profile

Projected changes to Meridian's inflow profiles in the Waiau and Waitaki catchment areas are likely to better match anticipated changes in New Zealand's electricity demand profile.

There is not likely to be any increase in drought risk to our hydro catchments under 2° or 4°C scenarios. To the contrary, average annual rainfall is projected to increase by approximately 5-15% by 2055[1]. This would have a positive impact on our revenues through increased production of hydroelectricity.

Changes in seasonal rainfall are projected, with winter rainfall in Meridian's hydro catchments predicted to increase more than summer rainfall over the next few decades. Approximately half of the Waitaki summer inflows come from snow melt[2]. Rising snowlines and the resulting reduction in summer snow melt is projected to contribute to increased winter inflows and decreased summer inflows.

These seasonal changes in inflow profile are likely to improve alignment between our generating capacity and electricity demand. Current demand peaks in winter, whereas current hydro lake inflows peak in summer, requiring significant storage use planning. In the future these two variables are expected to align more. In addition, rising annual average temperatures are likely to have a direct impact on heating and air conditioning, with less electricity required in winter for heating and more in summer for cooling, also improving the correlation between electricity demand and supply.

This will allow Meridian to take advantage of the higher spot market electricity prices in winter and increase revenue, as well as increase production of hydroelectricity on an average annual basis.

The potential annualised financial impact is $12 million. This is calculated using the difference between the modelled "no climate change" scenario and the Evolution scenario, and is based on modelling the potential impact on Meridian generation revenues over 30 years and then annualised over the 2020 to 2050 timeframe. Note that there is significant uncertainty to this calculation.

Increased electricity demand from physical impacts of climate change

NIWA[1] predicts that temperatures in New Zealand will increase by 1°C to 2°C by the end of the century and that rainfall will become 5-15% drier in the East and North of New Zealand. Under our Evolution modelling scenario, we forecast that a significant contributor to future electricity demand increases in New Zealand will be higher demand for cooling in summer and higher irrigation requirements in the agricultural sector, particularly down the East Coast, which is projected to be partially offset by lower demand for heating in winter.

Increased electricity demand may enable Meridian to grow our electricity generation and retail businesses.

The potential annualised financial impact is $5 million. This potential financial impact is calculated using the difference between the modelled "no climate change" scenario and the Evolution scenario, and is based on the modelling the potential impact on Meridian generation revenues over 30 years and then annualised over the 2020 to 2050 timeframe. There is significant uncertainty to this calculation.

To respond to the potential requirement for new renewable generation Meridian maintains a pipeline of development options.

1 NIWA 2020: Our future climate New Zealand website: https://ofcnz.niwa.co.nz/

2 Kerr, T. 2013: The contribution of snowmelt to the rivers of the South Island, New Zealand. Journal of Hydrology (NZ) 52 (2): 61-82 201

Transition impacts

The transition impacts of climate change (impacts caused by strong climate action policy), are also a mix of positive and negative for our business. Climate action is likely to increase electricity demand, from increased requirements for charging of electric vehicles, and the transition of some industrial heat processes from coal to electricity, however we could see an emissions-intensive sector of the economy negatively impacted by climate policy in a way that reduces demand. Policy that increases the percentage of renewable electricity on the grid may be positive for us in that we could build more renewable energy power stations, however it is also likely that price volatility will increase.

We rely on a wide range of government, industry, and academic sources to assess the potential impact of New Zealand's transition to a low-emissions economy on our business model, operations and revenues.

The transition impacts most material to Meridian are described below.

Changes in electricity demand

Under our modelling, demand for electricity is likely to be significantly impacted as New Zealand's Climate Change Commission sets emissions budget targets in-line with the Climate Change Response Amendment Act 2019.

Negative demand disruption – emissions intensive industries

Some of this impact could be negative.

There are many uncertainties surrounding how emissions intensive industries will successfully transition to a low-emissions economy.

For example, climate action policies targeted to emissions intensive industries could see a marked decline in the dairy industry, where a strong target on reducing methane could lead to a transition from dairy farming to other less intensive agricultural products. Meridian is a key supplier to the dairy sector and so could be specifically impacted by a reduction in electricity demand due to lower levels of dairy farming and processing.

This risk captures the downside drivers for future electricity demand. There may also be drivers that could increase future electricity demand such as population increase.

To evaluate this risk, we have modelled the impact of a significant reduction in electricity demand and (potential) drop in short-term wholesale prices as the market adjusts. The severity of impact on Meridian would depend on a number of difficult-to-predict variables, including the possible removal of transmission constraints, and the response of other electricity generators (e.g. thermal generation may be mothballed or retired which would reduce supply and moderate any reduction in wholesale electricity prices).

An activity of ours that mitigates this risk is our support of climate action policy that would increase electricity demand in other sectors, in particular the use of electricity in the transport and industrial heat sectors of the economy. In addition to this, government projections of population growth and GDP growth are expected to increase electricity demand over coming decades.

The estimated potential annualised financial impact is between $12 million and $17 million. The potential financial impact has been estimated by modelling the impact of a step-change reduction in demand. For this calculation we have looked at the case of a disruption to the dairy industry and compared it to our Evolution modelling scenario. Note that Meridian does not supply the entire dairy industry and it is unlikely that the entire dairy industry would be disrupted.

The estimated potential impact is a range of modelled values to reflect various uncertainties, and is an annualised figure over the 2020 to 2050 time period. Note that there is significant uncertainty to this calculation.

Electrification of industrial heat and transport

Other impacts on demand could be positive for Meridian. For example, New Zealand's rapid transition to a low-emissions economy is likely to require the large-scale electrification of both industrial heat and transport. While our expectations are tempered by the potential of hydrogen to absorb at least some transport-related demand, ambitious emissions budgets could enable Meridian to grow our electricity generation and retail businesses.

Under our Evolution scenario, we anticipate a moderate increase in electricity demand due to population growth and the slow but steady electrification of both industrial heat processes and transport.

The estimated potential annualised financial impact is $7 million. This estimate is calculated using the difference between the modelled "no climate change" scenario and the Evolution scenario, and is based on modelling the potential impact on Meridian generation revenues over 30 years which is then annualised over the 2020 to 2050 timeframe. There is significant uncertainty to this calculation.

Meridian is positioned to monitor the emergence of key trends indicating an abrupt transition trajectory and will ensure additional capacity is made available in order to ensure resilience is maintained. To respond to the potential requirement for new renewable generation Meridian maintains a pipeline of development options.

Increase in electricity spot price volatility

As New Zealand increases its share of renewable generation it is likely that this will lead to higher levels of electricity spot price volatility. Thermal generation in New Zealand currently plays a significant role in responding to periods of reduced renewable supply such as dry periods in the hydro catchments. It is likely that much or all of this thermal plant will be replaced by renewable energy options over time. This could be in response to regulatory change (domestic or internationally driven) or more economic renewable options replacing ageing thermal plant.

NIWA[1] predicts no change to drought depth or duration in coming decades in Meridian hydro catchments. However, in a future with a high proportion of renewable generation, cold winters with high peak loads that coincide with low hydro, wind and solar generation could result in high peak prices as available generation runs short. These factors could increase electricity price volatility, and also the volatility of Meridian's earnings, and increase the costs of managing Meridian's electricity portfolio through increased procurement of risk instruments.

This risk will grow in increments over the next 10-20 years, increasing as each large coal and gas generation station retires and is replaced by renewables.

The potential financial impact of $1-40 million is a high-level estimate, is an annual cost, and is informed by actual costs of current risk instruments and an estimate of the magnitude of potential changes to electricity spot price volatility. This estimate is the estimated yearly cost from purchasing hedge cover to protect against increased electricity spot volatility in the event that the wholesale electricity market becomes significantly more volatile than it is today.

Table 1. Top climate-related financial risks for Meridian Energy

Top Risks			
Risk drivers	**Extreme rainfall in hydro catchments**	**Negative demand disruption - emissions intensive industries**	**Increase in electricity spot price volatility**
Type	**Physical**	**Transition**	**Transition**
Scale	**Medium**	**Medium**	**Medium**
Likelihood	**About as likely as not**	**About as likely as not**	**Likely**
Timeframe	**Long-term (30 years)**	**Long-term (30 years)**	**Medium-term (5-10 years)**
Impacts	Increasing intensity of extreme rainfall events in hydro catchments.	Sudden drop in electricity demand as emissions-intensive industries are disrupted by ambitious climate change legislation or shifting consumer preferences for sustainable goods and services.	As New Zealand increases its share of renewable generation, it may lead to higher levels of electricity spot price volatility.
Financial implications	Increase in intensity of extreme rainfall events may require the lowering of dam water levels (reducing assets' generating capacity) and/or the strengthening of dam structures.	Reduced electricity demand may negatively impact on Meridian's revenue, for example if the dairy industry was curtailed due to climate action policy.	Increased costs of commodity risk management due to increases in the percentage of grid-connected renewable electricity generation.
Quantification	**-$11 million**	**-$12 to -$17 million**	**-$1 to -$40 million**
Methodology	Estimated potential financial impact is an annualised figure over a 30 year time horizon of estimated civil construction costs and negative revenue impacts.	Estimated potential financial impact is an annualized figure over a 30 year time horizon, calculated by modelling the impact of a step-change reduction in demand and comparing it to our Evolution scenario. There is significant uncertainty to this calculation.	Estimated potential financial impact is a high-level estimate, an annual cost, and informed by actual costs of current risk instruments and internal views on magnitude of potential changes to electricity spot price volatility.
Management response	Probable Maximum Flood values are reviewed once every ten years to incorporate climate change.	Meridian supports of climate action policy that would increase electricity demand in other sectors, in particular the use of electricity in the transport and industrial heat sectors of the economy.	Meridian has a mature commodity risk framework that includes specific limits for allowable exposure to spot electricity price risk. Within that framework the cost of mitigation is traded-off against the impact of accepting the risk.

Table 2. Top climate-related financial opportunities for Meridian Energy

Top Opportunities			
Opportunity	**Changes to inflow profile**	**Increased demand for electricity**	**Electrification of industrial heat and transportation**
Type	**Physical**	**Physical**	**Transition**
Scale	**Medium**	**Medium**	**Medium**
Likelihood	**More likely than not**	**Likely**	**Likely**
Timeframe	**Long-term (30 years)**	**Medium-term (5-10 years)**	**Medium-term (5-10 years)**
Impacts	Annual and seasonal changes in inflow profile are likely to improve alignment between our generating capacity and projected changes in electricity demand.	Electricity demand in New Zealand is likely to increase from higher demand for cooling in summer and higher irrigation requirements in the agricultural sector, partially offset by lower demand for heating in winter.	The transition to a low-carbon future presents market opportunities for Meridian, including a projected increase in demand for renewable electricity driven by the electrification of industrial heat and transportation.
Financial implications	Projected changes to inflow profile are likely to align to projected changes in electricity demand.	Increased electricity demand may enable Meridian to grow our electricity generation and retail businesses.	Increased electricity demand may enable Meridian to grow our electricity generation and retail businesses.
Quantification	**+$12 million**	**+$5 million**	**+$7 million**
Methodology	Estimated potential financial impact is an annualised figure modelled over a 30 year time horizon. This is calculated using the difference between the modelled "no climate change" scenario and the Evolution scenario. There is significant uncertainty to this calculation.	Estimated potential financial impact is an annualised figure modelled over a 30 year time horizon. This is calculated using the difference between the modelled "no climate change" scenario and the Evolution scenario. There is significant uncertainty to this calculation.	Estimated potential financial impact is an annualised figure modelled over a 30 year time horizon. This is calculated using the difference between the modelled "no climate change" scenario and the Evolution scenario. There is significant uncertainty to this calculation.
Management response	Wholesale market team manages the changing inflow profile using a market optimisation approach informed by weekly inflow forecasts and analysis of short- to medium-term weather patterns.	To respond to the potential requirement for new renewable generation Meridian maintains a pipeline of development options.	Pursuing alternative forms of electricity demand across workstreams focussed on electrification of industrial heat and transport. Maintain a pipeline of development options.

4. Metrics and Targets

TCFD requirements

- *Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.*
- *Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.*
- *Describe the targets used by the organisation to manage climate related risks and opportunities and performance against targets.*

Measuring what matters

Monitoring of risks and opportunities

In order to identify changes and inform decision-making processes, Meridian measures and monitors:

- Frequency and intensity of extreme rainfall events in the Waiau and Waitaki catchments
- Electricity demand
- Price volatility

In FY2021, we will begin systematically monitoring our internal systems, policies and processes for managing climate-related risks, building resilience, and capturing commercial opportunities.

GHG emissions

We monitor our Scope 1, 2 and 3 greenhouse gas (GHG) emissions in-line with the GHG Protocol to allow aggregation between business units and benchmarking against peers. Our annual emissions inventories are audited and publicly reported.

Setting bold targets

De-carbonising Meridian

We considered setting Meridian's GHG emission reduction target in-line with an approach recommended by the Science Based Target initiative. However, the results weren't sufficiently ambitious. Indeed, as a 100% renewable energy generator, we were already below the proposed emissions intensity target for our sector (0.03 tCO_2e/MWh by 2050, compared to our zero Scope 1 emissions from generating electricity). We wanted to do more and have, therefore, committed to:

- Halving operational GHG emissions across the Meridian Group by 2030 vs. 2019 baseline
- Going net Zero Carbon across our value chain from FY19 onwards

We are once again Zero Carbon this year though purchasing and surrendering Gold Standard Voluntary Emission Reduction certificates from a wind farm and a solar farm in India.

By 2025, though, we want to be able to use credits generated through our Forever Forests programme in partnership with Ekos and a range of third parties. These credits will be independently verified as NZUs (New Zealand Units). We are planting 1.5 million trees across the country, starting with land near Meridian's hydro stations and wind farms, planting the first seedlings in late 2019. The planted trees are a mix of natives and exotics. Mixed planting is the most productive way as to plant, with exotics being the carbon 'engine' - pulling carbon down from the atmosphere in a hurry. They then create a canopy to protect the natives in their early days so they can flourish later in life. In the long term, the natives will take over, leaving a lasting legacy for future generations.

Meridian has a number of de-carbonisation initiatives underway in 2020, aligning with the Meridian Group goal of halving operational GHG emissions by 2030.

- At least 50% air travel reduction
- Energy efficiency audits at our wind and hydro asset sites
- 90% battery electric passenger vehicles by the end of 2020
- Investigating electrification of Meridian's boat at Manapōuri

De-carbonising our value chain

Meridian launched our supplier engagement plan in late 2019 aligning with our Half by 2030 reduction goal. With the bulk of our carbon footprint in our supply chain (97% of our FY20 operational footprint), our work to engage our suppliers is crucial if we are to achieve our reduction targets.

- We have identified our high impact suppliers for sustainability and ethical risk, and have commenced a plan to engage and collaborate to measure and actively reduce their carbon footprint. We are also creating workshops on carbon and sustainability for lower impact suppliers with the objective to gain accurate carbon reporting and inspire reduction initiatives.
- We are deepening the sustainable procurement capability of our own staff through in house training including an eLearning module and team-by-team workshops focussing on goods and services procured for Meridian's operations. We have created sustainable procurement working groups for specific categories of our business, integrating responsible sourcing throughout our day to day activities (for example apparel, catering).
- This year we have started encouraging our people to take the climate action, both at work and in their personal lives, to help Meridian reach its goal of halving our emissions by 2030.

The first piece of this programme, "Move", is one of the five pillars of our company's internal sustainability culture programme, which includes Move, Eat, Buy, Connect and Advocate.

The Move pillar supports our people to change the way we get around, by encouraging low carbon methods of connecting with each other and innovation in how we move and work, locking in and improving on the changes that we all started during lockdown. As part of this work and to help keep climate action at the front of our peoples' minds, we are also considering the Future Fit programme offered by Auckland Council.

- In addition, we are investigating partnerships with other organisations to empower our small to medium sized suppliers to take climate action in a way that works for their business and gets us on our way to a net zero carbon New Zealand in 2050.

Appendix 5:
Excerpts from other documents that contain TCFD-related information (referred to in the Annual Report via a link).

Telstra
2020 Sustainability Report

Telstra achieves CDP A List recognition

For the 2019 CDP (formerly Carbon Disclosure Project), we were recognised as one of six Australian and 179 international companies to make CDP's Global Climate Change Index A List, which names the world's most pioneering companies leading on environmental transparency and performance. This recognition demonstrates our leadership and commitment to reduce emissions, mitigate climate risks and develop a low-carbon economy.

Industry associations and the valuable role they play

We are a member of a number of industry associations that we believe provide value to our business, industry, the economy and society more broadly. These associations provide access to the latest industry thinking and insights around issues including the environment. They have an important role to play in developing effective policy, regulation and industry standards.

In December 2019, we published a review of our alignment to our key industry associations in relation to climate change. The review found there was broad alignment between Telstra's position and that of our industry associations.

Following this, we will continue to collaborate with industry associations on these issues, while monitoring our memberships to ensure continued alignment on climate change and energy policy.

Our commitment to transparency

We calculate our GHG emissions in accordance with the Greenhouse Gas Protocol of the WBCSD and World Resources Institute as well as the Australian National Greenhouse and Energy Reporting (Measurement) Determination 2008 (as amended). Our GHG emissions data includes relevant Australian subsidiaries, joint ventures and partnerships as set out in the National Greenhouse and Energy Reporting Act 2007.

We have begun to align our reporting with the recommendations of the TCFD and will continue to evaluate and enhance our climate-related disclosures to reflect our accelerated response in managing the impacts of climate change.

For a detailed breakdown of our environmental performance data, see the 2020 Sustainability Report Data Pack.

To ensure stakeholder's confidence in our environmental management and performance, we engaged Ernst & Young (EY) to provide limited assurance over a selection of our FY20 environmental performance data. For an overview of the metrics included in the assurance, see EY's assurance statement.

Our response to the recommendations of the TCFD and the location of these disclosures are summarised in the table below.

TCFD Recommendations	Report	Location
Governance - Disclose the organisation's governance around climate-related risks and opportunities	2020 Bigger Picture Sustainability Report	Climate change governance
	2020 Corporate Governance Statement	The responsibilities of the Board
	2020 Corporate Governance Statement	Managing our risks
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	2020 Bigger Picture Sustainability Report	Managing climate-related risks and opportunities
	2020 Annual Report	Our material risks
	2020 Bigger Picture Sustainability Report	Our approach to developing climate scenarios
Risk Management - Disclose how the organisation identifies, assesses, and manages climate-related risks	2020 Bigger Picture Sustainability Report	Risk management framework
	2020 Corporate Governance Statement	Managing our risks
	2020 Bigger Picture Sustainability Report	Managing climate-related risks and opportunities
Metrics and Targets - Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material	2020 Bigger Picture Sustainability Report	Approach
	2020 Bigger Picture Sustainability Report	Managing our energy and emissions

CLIMATE CHANGE

Our climate change commitment

Since 2018, we have published disclosures in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Building on previous disclosures, this section provides an update on how we further integrated management of climate change impacts into our business and our performance against the recommendations of the TCFD.

This year saw further development in the climate change agenda and increased interest from investors, regulators, customers and civil society in our approach to this issue.

Notable developments during the period were:

- announcements by regulators in Australia, the UK and New Zealand to enhance requirements of banks to manage climate risks;
- guidance published by the UK's Climate Financial Risk Forum on climate risk management, scenario analysis, disclosure and innovation; and
- release of a climate disclosure guide by the Climate Measurement Standards Initiative for Australian banks, general insurers and asset owners.

We continued to monitor local regulators' climate-related agenda and engage in industry-wide developments through the Australian Banking Association, Australian Sustainable Finance Initiative, Australian Business Roundtable for Disaster Resilience and Safer Communities, Climate Measurement Standards Initiative and United Nations Environment Programme Finance Initiative.

"We are committed to managing our business in alignment with the Paris Agreement and the need to transition to a net zero emissions economy by 2050."

1ST AUSTRALIAN BANK TO RELEASE A CLIMATE CHANGE POSITION STATEMENT IN 2008

Strategy

In May, we released our updated Climate Change Position Statement and 2023 Action Plan **(Climate Action Plan)[1].**

The updated Climate Action Plan was informed by scenario and financed emissions analysis, as well as engagement with customers, investors, industry bodies, non-governmental organisations and community representatives.

Westpac's strategy is based on five principles and three areas of focus where we believe climate change will most impact our customers, business and stakeholders.

It also sets out areas where we will seek to improve our oversight, risk management and disclosure of climate change risks and opportunities.

FINANCED EMISSIONS

Earlier this year, we conducted preliminary analysis with Guidehouse to understand the sectoral profile of our Scope 3 financed emissions[2].

This analysis used publicly available average emissions factors for Australian homes and generic emissions factors for industry sectors[3].

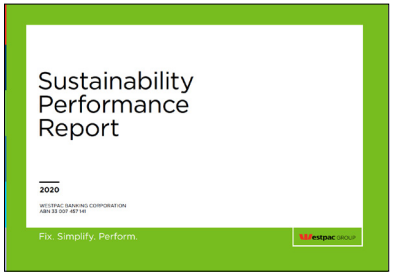
As a result, we identified utilities, mining and agribusiness as the three key sectors comprising the majority of our financed emissions. To address this, we updated our lending criteria as set out in our Climate Action Plan.

While these three sectors remain our priority, we are also supporting other sectors in responding to climate change. The property, manufacturing and transport sectors will become a focus as we work through our commitment to develop Paris-aligned financing strategies.

1 Westpac's Climate Change Position Statement and 2023 Action Plan does not apply to investments made where a Westpac Group entity is acting as a trustee (for example Responsible Super Entity licensee or Responsible Entity) or insurer. The governance and strategies for ESG risk in these portfolios (including climate change) are the responsibility of the relevant board and management of these entities.

2 Scope 3 financed emissions are an estimate of the greenhouse gas emissions arising from activities supported by Westpac's lending activity (including Australian mortgage lending, SME and corporate loans).

3 This analysis uses the Partnership for Carbon Accounting Financials principles. For Australian Institutional and Business customers, the customer's emissions are calculated as a portion of Westpac's debt exposure to the customer as a percentage of the customer's total debt and equity. For Australian mortgages, the customer's emissions are assumed as 100% of the on-balance mortgages to Westpac until the mortgage is no longer in Westpac's portfolio.



Appendix 5:
Excerpts from other documents that contain TCFD-related information (referred to in the Annual Report via a link).

Westpac [a]
Sustainability Performance Report 2020

Managing climate-related risks

Climate change risks are managed within the Group's risk management framework. We seek to understand the potential for climate-related transition, physical and litigation risks to impact our business, in particular the possible impact on credit risk, regulatory and reporting obligations, and our reputation.

Through our Climate Action Plan, we set out criteria for lending to emissions-intensive and climate-vulnerable sectors, supporting customers that are in, or reliant, on these sectors and who assess the financial implications of climate change on their business, including how their strategies are likely to perform under various forward-looking scenarios, and demonstrate a rigorous approach to governance, strategy setting, risk management and reporting.

We review our Sustainability Risk Management Framework, risk appetite measures and policies ensuring the criteria set out in the Climate Action Plan are integrated.

These criteria are applied at the portfolio, customer and transaction level where appropriate.

Escalation of climate-related risks to relevant divisional risk committees occurs in accordance with the Sustainability Risk Management Framework.

If the identified risks are not within risk appetite then the application of conditions to manage the risks may be considered, or the transaction may be declined.

During the year, six customer transactions were escalated to our WIB ESG Risk Committee to inform lending decisions on matters relating to climate change.

This year we improved climate-related risk management by:

- establishing 'Sustainability' as a Level 1 Risk in the Group Risk Taxonomy to enhance Group focus on material sustainability risks including climate change;
- realigning ownership of the Sustainability Risk Management Framework from Group Sustainability to Risk to improve integration with Group-wide risk approaches;
- initiating a review of our Sustainability Risk Management Framework, Risk Appetite Statements and ESG Credit Policy to integrate the criteria set out in our new Climate Action Plan;
- completing WNZL's first climate risk disclosures in line with Task Force on Climate-related Financial Disclosures (TCFD) recommendations; and
- conducting a physical risk assessment of the impacts of sea level rise on coastal flooding and erosion on the WNZL residential mortgage book.

CLIMATE CHANGE RISK COMMITTEE

This year, we updated our Climate Change Risk Committee (CCRC) Terms of Reference to improve oversight of climate-related financial risks.

Now chaired by the Group Chief Credit Officer and reporting to the Group Credit Risk Committee, the CCRC's objectives are to:

- oversee identification, quantification and management of climate-related risks;
- integrate climate-related risks into risk management frameworks, lending policies and lending guidelines;
- design, execute and integrate climate scenario analysis and portfolio resilience testing;
- support climate change disclosures and reporting; and
- facilitate continuous improvement in climate-related risk management.

The CCRC met three times during the year.

Introduction

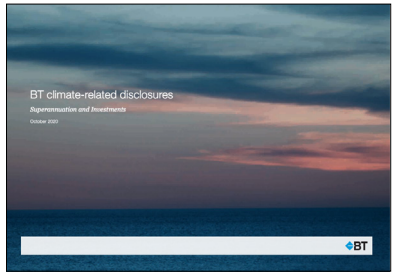
At BT, our approach to responding to, and managing risks associated with, climate change is part of our broader approach to managing risks and capturing the opportunities associated with global sustainability issues across our business.

Our approach is informed by Westpac Group's climate change position statement and action plan, and you can read more about Westpac's response to climate change at westpac.com.au/about-westpac/sustainability.

In line with this, BT is focused on understanding the nature of climate-related impacts within our own business. We seek to provide our investors and superannuation members (members) and other stakeholders with information on our approach to measuring and managing these impacts to support them in making informed choices. This information is provided in line with the recommendations of the Financial Stability Board's (FSB) Task Force on Climate-Related Financial Disclosures (TCFD).

BT is committed to improving our understanding and management of climate-related impacts across our business, considering the transition risks, physical risks and opportunities, and their impacts on our products and portfolios.

We are committed to transparency and will continue to develop our approach and these disclosures.



Appendix 5:
Excerpts from linked NZSX-listed 2020 Annual Reports

Westpac [b]

BT Climate-related disclosures:
Superannuation and Investments

Westpac [b]

BT Climate-related disclosures:
Superannuation and Investments (continued)

Overview of FSB TCFD

The TFCD was established in 2015 by the G20's finance ministers and central bank chairs, through the FSB, to establish recommendations for the reporting of financial risks and opportunities that companies are exposed to because of climate change.

The Task Force recommends that these impacts should be considered in two categories; the physical impacts resulting from the changes to climate patterns globally; and the transition impacts, resulting from extensive policy, legal, technology, and market changes to address mitigation and adaptation requirements related to climate change. The Task Force has published a set of recommendations covering disclosure against four key areas: Governance, Strategy, Risk Management and Metrics and Targets. The recommendations divide climate-related risks and opportunities into the following categories: transition risks, physical risks and climate-related opportunities.

Governance

The organisation's governance around climate-related risks and opportunities.

Strategy

The actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

Risk Management

The processes used by the organisation to identify, assess, and manage climate related risks.

Metrics and Targets

The metrics and targets used to assess and manage relevant climate-related risks and opportunities.

4

Figure 1 – Source: Recommendations of the Task Force on Climate-related Financial Disclosures, 2017

Our Approach – Superannuation and Investments

As the steward of our investors' and members' assets, BT has a responsibility to promote our investors' and members' financial interests and protect the funds they entrust to us.

BT acknowledges that we have an important role to play in influencing the organisations in which our investors and members are ultimately invested, to manage and disclose exposures to climate-related risks and opportunities.

BT's investment options include:

- Internally developed and managed investment options, where BT acts as the investment manager (internal investment manager) and appoints underlying external investment managers to execute investment strategies (underlying investment managers);
- Internally developed and externally managed externally managed investment options, where an investment manager is appointed to directly execute investment strategies on BT's behalf (external investment managers); and
- Investments that have been developed and managed externally, where BT is not the Responsible Entity (RE) (third-party investments).

We have prepared these climate-related financial disclosures, in line with the FSB TCFD, to allow our investors, members and stakeholders to understand the exposure to climate-related risks and opportunities in these portfolios, and assess our approach to managing these risks and opportunities.

We expect the organisations we invest in, and the investment managers who invest on our behalf, to be transparent regarding their management of climate-related impacts. We commit to leading by example and disclosing climate-related risks and opportunities in the portfolios we manage.

BT is committed to the following:

1. Governance

Considering climate-related impacts in investment decision making including at a Board and Senior Leadership level, as they relate to BT portfolios.

2. Strategy

Working to understand and assess how climate-related impacts in our investment portfolios will develop over time and taking this into account when making strategic decisions on behalf of our investors and members.

3. Risk management

Integrating environmental, social and governance (ESG) risk considerations, including climate change risks, into our investment decisions. For internally developed and managed investment options, this includes ensuring our company engagement and proxy voting activities consider climate-related impacts material to the companies in which we invest.

4. Metrics and measurement

Calculating carbon intensity metrics for our internally developed and managed diversified portfolios to understand where risks may lie within the portfolios, and to provide investors and members with climate-related information.

Further details on these commitments are included on the following pages.

1. Governance

This section provides an overview of how BT considers climate change and related impacts in our investment portfolios at the Board and Senior Leadership level.

BT is a diverse business and offers a range of products and investment solutions. Where BT is acting as the trustee or Responsible Entity (RE) and making an investment decision on behalf of our investors and members, the governance of strategies for managing ESG risks (including climate change) in BT's investment and superannuation portfolios is the responsibility of the BT Boards and associated committees of the trustee or RE entities (together the 'BT Boards'). The BT Boards are comprised of a majority independent non-executive directors.

The BT Boards have approved a set of investment beliefs which shape the way that the BT Boards expect investments to be managed and the way investment decisions are made. In relation to ESG factors, the BT Boards believe that the active consideration of ESG factors in the investment analysis and decision-making process for our investment portfolios can enhance our ability to meet the long-term investment objectives of our funds. The BT Boards also believe that asset stewardship, including proxy voting and engagement with companies in which we invest, is fundamental to driving positive portfolio outcomes.

The BT Boards have approved a range of policies and frameworks for managing ESG impacts, including climate risks in our funds. The approach to addressing these impacts across our products and services is summarised in the BT Sustainability Framework, available on the BT website.

Where BT is acting as the trustee or RE, the day-to-day responsibility for the management of ESG factors in our portfolios is delegated to the relevant investment manager, where applicable to the investment strategy. It is expected that investment managers give consideration to frameworks and policies when making decisions on behalf of the trustee or RE. This can include taking into account climate-related risks and opportunities.

When considering ESG factors in the investment process, BT is not seeking to take a moral or ethical stance on ESG issues. Our approach is motivated by financial goals, aiming to create long-term sustainable value and/or manage risk, consistent with our fiduciary duty.

Where BT acts in the role of internal investment manager, responsibility for climate-related impacts is led by the Chief Investment Officer (CIO). The CIO and the investment team are responsible to the BT Boards for the management of the relevant portfolios including the analysis and assessment of climate-related risks and opportunities. The investment team adopts a multi-manager approach, appointing underlying investment managers with complementary styles that are combined across different asset classes. As part of our manager selection, appointment and monitoring process, we consider the extent to which the underlying investment manager is effectively managing the financial risks and opportunities that may arise from ESG issues, including climate change, depending on their investment strategy and capabilities. More information on our approach to climate-related risk is included in the risk management section below.

The BT Boards and associated committees are regularly provided with information relevant to climate-related impacts including, for example, providing information on developments in global and domestic climate-related policy, regulatory and legal expectations regarding climate-change, portfolio carbon intensities, as well as the engagement and proxy voting activities relating to climate risks and opportunities. The BT Boards meet at least once on a quarterly basis.

For portfolios where the investor is making the decision as to the investment choice (for example in IDPS and IDPS like products, and within the 'choice menu' of our superannuation products) BT offers a range of investment options, including third party investments. Where BT provides investors or members a choice of investments, we focus on how BT can provide relevant ESG information including in relation to climate change, to allow them to make informed decisions.

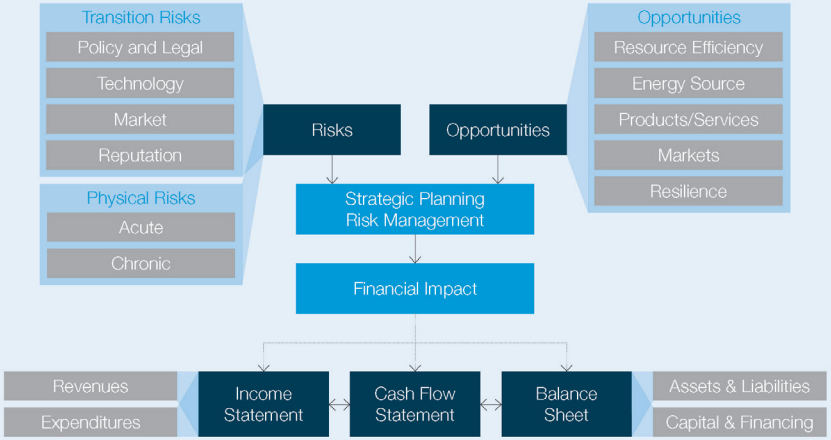
TCFD Risk and Opportunities

Potential climate-related risks, opportunities and financial impacts are articulated by the TCFD and outlined in Figure 2. This figure demonstrates the depth and breadth of climate-related impacts, and how these relate to financial impacts.

Risks are divided into two categories, transition and physical risk. Transitioning to a lower-carbon economy may entail extensive policy, legal, technology and market changes to address mitigation and adaptation requirements related to climate change. Depending on the nature, speed and focus of these changes, transition risks may pose varying levels of financial and reputational risk to organisations.

Physical risks resulting from climate change can be event driven (acute) or longer-term shifts (chronic) in climate patterns. Physical risks may have financial implications for organisations, such as direct damage to assets and indirect impacts from supply chain disruption. Organisations' financial performance may also be affected by changes in water availability, sourcing, and quality; food security; and extreme temperature changes affecting organisations' premises, operations, supply chain, transport needs and employee safety.

Efforts to mitigate and adapt to climate change also produce opportunities for organisations, for example, through resource efficiency and cost savings, the adoption of low-emission energy sources, the development of new products and services, access to new markets, and building resilience along the supply chain. Climate-related opportunities will vary depending on the region, market and industry in which an organisation operates.



Climate Related Risks, Opportunities and Financial Impacts

Figure 2 – Source: Recommendations of the Task Force on Climate-related Financial Disclosures, 2017

2. Strategy

As an institutional investor with a stake in the wider economy, BT believes that positive financial outcomes are influenced by good ESG risk management and company engagement, including those risks relating to climate change. This belief informs our strategic response.[1]

Where BT is acting as the trustee or RE and making an investment decision on behalf of our investors and members, understanding and assessing the impacts of climate change on our investment portfolios, and how these may emerge over the investment horizon, is critical in determining how climate-related risks and opportunities may be addressed in our investment strategies.

As many of the portfolios that BT manages for our investors and members are invested for the long term (over 10 years), BT is concerned about the risks arising from climate change and recognises the impact this may have on the longevity and valuation of the companies and assets we invest in. We also recognise the growing availability of, and demand for, investment in opportunities that support the transition to a low carbon economy.

BT recognises that the systemic nature of climate-related risks will have a range of implications in the short (1-3 years) and medium (4-9 years) term, and that these impacts will vary across asset classes, sectors and geographies.

These impacts will not only affect BT's current investments, but may also change the type of investments BT and our investors and members make in the future, especially as new technologies emerge and older, more carbon intensive industries or assets decline or are replaced.

Our internally developed and managed diversified portfolios, including our MySuper Lifestage Funds, are invested in a range of asset classes. The following table provides examples of the climate-related issues that could have a material financial impact in some of the asset classes we invest in, over our defined time horizons, it also describes how BT responds to these impacts where we act in the capacity of internal investment manager.

In addition, BT is involved in advocacy and research regarding corporate and government response to climate-related impacts through a range of organisations including, for example, through the Investor Group on Climate Change (Australia and New Zealand) and the Australian Sustainable Finance Initiative, and is also a signatory to a number of international statements including the Montreal Carbon Pledge, and the Global Investor Statement on Climate Change.

1. More information on BT's approach to sustainable and responsible investment can be found on the BT website bt.com.au/sustainability

Westpac [b]

BT Climate-related disclosures:
Superannuation and Investments (continued)

Asset class:	Shares
Impact	Return on equity investment (through ownership of company shares) comes from two sources: growth in the value of the company (and therefore the share price) or from company profits, returned to shareholders as dividends. Climate-related impacts in shares are those that have the potential to affect either the profitability or overall value of a company. One example of this is through changing regulation that restricts carbon emissions, which poses transition risks to a company through increases to the operational costs. Companies also face shifts in consumer preferences and demand, which have the ability to reduce company revenue. In some cases the transition to a low carbon economy will bring opportunity, for example, companies developing new technologies like renewable energy assets which replace traditional, more carbon-intensive solutions. Companies may also be exposed to physical risks that will have financial impacts, for example through damage to property and equipment during stronger storm and cyclone events, or reduction in access to primary inputs like water due to decreased rainfall. This can result in increased insurance premiums and capital costs, amongst other impacts.
Asset class:	**Fixed Income**
Impact	The impact of climate change on fixed income investments, through corporate and government issued bonds, differs from equities, primarily due to the differences in the nature of both investments. The most likely risk in fixed income investment comes from the default risk of the issuer – the possibility that they will not be able to return the money the investor gave them or pay the interest promised. Attention needs to be paid by the investor to impacts that may affect the issuer's ability to fund any interest payments and repay the initial principal of the bond. A difference between a fixed income investment and an equity investment is that the fixed income investment has a fixed term, so climate-related impacts may be considered over a more defined timeframe. There are clear climate-related opportunities for investment within fixed income through 'green bonds' and 'climate bonds', which fund support for low-carbon and renewable energy developments. Issuers can benefit from the growing investor appetite for these bonds and diversify their investor base.
What is BT's strategic response?	Where BT acts in the role of internal investment manager we consider climate-related risks and opportunities in the investment process by: – Engaging with companies on climate-related issues; – Reviewing the ability of our external investment managers to manage, depending on their investment strategy and capabilities, these risks and opportunities in their investment process during the manager selection process; and – Periodically reviewing each underlying investment manager's approach to managing climate-related risks. This process is applied across asset classes as relevant. Where we hold voting rights in our equity investments, we vote on company resolutions, for example at annual general meetings. For equity investments we measure and report our portfolio carbon intensities and exposures to carbon-intensive sectors. We use this analysis to monitor portfolio carbon intensity over time and identify companies most exposed to climate risk. This response is described in more detail in the following sections.

Table 1: Indicative climate-related impacts by asset class.

9

3. Risk management

Where BT is acting as the trustee or RE and making an investment decision on behalf of our investors and members, responsibility for the management of climate-related risks and opportunities through investment portfolios is cascaded to the appointed investment managers.

For portfolios that are developed and managed internally, including our MySuper Lifestage Funds, climate-related risk is addressed through two channels. Firstly, by reviewing the ability of our underlying investment managers to integrate ESG considerations in their investment process, depending on their investment strategy and capabilities. We encourage our external portfolio managers to consider and report on climate risks within the portfolios. Secondly, through our engagement and proxy voting activities which seek to address material impacts and issues in the companies in which we invest. More information regarding this approach is provided below.

At this stage BT's preference is to influence companies to address material ESG issues, including climate change, through engagement and proxy voting, rather than blanket screening. We will continue to consider other risk management strategies, and our approach may alter over time.

Underlying Investment Manager Selection, Appointment and Monitoring

BT appoints underlying investment managers to invest on our behalf across all asset classes. During the manager selection process and on an ongoing basis, we undertake a formal review of an investment manager's ability to manage climate change risks as relevant to the investment strategy. This includes:

- Considering how the investment strategy might be affected by the transition to a lower-carbon economy and physical climate risks;
- How climate risks (transition and physical) and opportunities, are considered, analysed and measured in investment decisions;
- The extent to which climate change risk in the portfolio is measured; and
- The manager's approach to engagement with companies to encourage better practices and disclosure around climate-related risks.

Once an underlying investment manager is appointed, we request reporting on how climate risk is considered in the management of the portfolio, including metrics and scenario analysis where available.

We encourage our underlying investment managers to consider climate risk in their investment process and have dialogue about risks and opportunities in our portfolios. We review the areas listed above with each of our underlying investment managers on at least an annual basis.

Asset stewardship

Asset stewardship, through company engagement and exercising voting rights, is an integral part of BT's approach to managing investment risk associated with climate change. When considering companies' approaches to climate change, our focus is on encouraging the companies we invest in to understand, address and disclose climate-related risks in their business. This is a critical step in the low carbon transition.

The BT Sustainable Investment Policy sets out our approach to stewardship. This includes our proxy voting principles and our approach to voting for the relevant BT entities issuing superannuation and investment products. It also sets out how we engage with companies in which we invest where we act in the role of internal investment manager. The BT Sustainable Investment Policy is available at bt.com.au/sustainability.

Proxy Voting

Where BT has voting rights in regards to proxy voting on company resolutions, we believe we have the responsibility to cast votes to influence the corporate governance of the companies in which we invest. Through participation in the voting process we are working to try and protect our investors' and members' interests.

We provide our underlying investment managers with the authority to vote on our behalf and require votes to be cast in the long-term best interests of investors and members. For contentious issues, such as shareholder proposals, including those related to climate change, we may consider the views of our investors and members and expert external views, including those of our engagement providers and proxy advisers, and decide how a proxy should be voted across all holdings.

Westpac [b]

BT Climate-related disclosures: Superannuation and Investments (continued)

As part of our commitment to transparency, we publicly disclose proxy voting records for a range of managed funds for which we act as trustee or responsible entity on our website at bt.com.au/sustainability.

Engagement

To support and encourage positive change in areas such as business practice, risk management, governance, sustainability and disclosure, we use engagement. This involves a dialogue, in many cases, with directors and senior management of invested companies with the goal of improving long-term shareholder value.

We use a combination of engagement approaches. To benefit from enhanced access, subject matter expertise and economies of scale, we primarily engage through specialist engagement service providers, specifically EOS at Federated Hermes (Hermes EOS) for global shares and Regnan – Governance Research & Engagement (Regnan) for domestic shares. Hermes EOS and Regnan's engagement approaches use the pooling of assets to provide a higher level of influence, and facilitate economies of scale. Hermes EOS and Regnan research, identify and prioritise ESG issues with input from BT amongst other investors.

We also expect our underlying investment managers to use their influence in order to achieve stronger investment outcomes over the long term. We encourage our underlying investment managers to directly engage companies on all matters, including ESG issues such as climate change where appropriate, to facilitate a better understanding of the opportunities and risks associated with their investment.

We are also involved in collaborative engagement efforts, such as the Climate Action 100+. This is a five-year initiative led by investors to engage systemically important greenhouse gas emitters and other companies across the global economy that have significant opportunities to drive the clean energy transition and help achieve the goals of the Paris Agreement. Participating investors are calling on companies to improve governance on climate change, curb emissions and strengthen climate-related financial disclosures.[2]

We seek to influence how companies manage their climate-related risk and to drive positive outcomes across industries. Issues we engage on typically include:

- Measurement and disclosure of climate-related risks (and opportunities) in accordance with the recommendations of the TCFD;
- Energy sector transformation and/or decarbonisation;
- Approach to carbon and climate in financial services;
- Consideration of climate-related risks within a company's value chain;
- Climate resilience (physical risks of climate change);
- Carbon lobbying; and
- Fossil fuel transition.

Regnan's Engagement[3]

When engaging on behalf of BT, Regnan's activities focus on Australian listed companies in the top 200 of the Australian Stock Exchange (ASX 200). In the year to September 2020:

- 66 of Regnan's 91 engagements included a discussion on climate change, and 31 individual companies were engaged; and
- Regnan had 32 engagements with 23 companies on disclosure in accordance with the TCFD.

Examples of changes observed during the year consistent with Regnan's engagement include:

- Increases in climate change resourcing at two ASX listed companies.
- A greater focus on climate-related risks within supply chains and a more granular analysis of the risk profiles of individual suppliers by a company with significant climate exposure.
- The disclosure of well-designed climate metrics to enable investors to track the progress of transition activities.
- The release of a climate change position statement.
- The establishment of a Board Sustainability Committee.
- Enhanced (including initial) TCFD disclosures.
- Enhanced assessment of climate-related water risks by a food and beverage company.
- Improved governance practices and disclosure with respect to political lobbying activities.
- CDP submissions were made available to the market as a whole by a number of companies engaged.

2. www.climateaction100.org
3. Information contained in this section has been provided directly by Regnan.

- Greater discussion of climate risk within the Annual Reports of ASX listed companies.
- Greater consideration of the impacts of climate change on the needs of this company's consumers.
- Consideration of climate risks beyond the company's operational boundaries to explore areas of critical interdependency.
- Collaborations established with relevant research centres.

EOS at Federated Hermes' Engagement[4]

When engaging on behalf of BT, Hermes' activities focus on listed companies across a number of jurisdictions and locations outside of Australia, as defined by the MSCI All Country World Index, excluding Australia (MSCI ACWI ex Australia).

In the year to September 2020:

- EOS at Federated Hermes engaged with 263 companies on climate change on our behalf, covering 406 issues and objectives.

The strategy of EOS at Federated Hermes for engagement on climate change can be broken down into three sub-themes:

1. Governance, including the competence of directors and executives in managing climate-related risks and opportunities, as well as ensuring the appropriate compensation structure is in place for incentivising a strategy consistent with the goals of the Paris Agreement. Direct and indirect lobbying activity is also considered as well as each company's approach to ensuring a Just Transition;
2. Strategic alignment to the globally agreed commitment to keep warming well-below 2°C, and as close to 1.5°C as possible, above pre-industrial levels. This covers the reduction of scope 1, 2 and 3 emissions, where scope 3 emissions[5] are material, to achieve net-zero emissions by 2050 or sooner. It also includes the capital expenditure plans of companies, and to what degree these plans are consistent with the Paris Goals. Finally, strategic alignment also includes the adaptive measures taken by companies to mitigate physical climate risks; and
3. Disclosure of climate-related risks and opportunities which is predicated on a thorough understanding of both the physical and transitional risks that the company is exposed to, as well as the internal mechanisms for managing these. The recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) are used as the standard for robust climate reporting and management. It is important that material climate-related financial risks are also integrated into reports and accounts of companies.

EOS at Federated Hermes supports the ambition of the decarbonisation of the economy in line with the goals of the Paris Agreement. Presently, greater focus is given to those sectors which face the most acute physical and transitional risks, including oil and gas, mining, utilities and transport. Utilities and fossil fuel extractive companies in particular are exposed to the risk of stranded assets[6], as well as facilitative sectors such as financial services which support these sectors. EOS at Federated Hermes also focus on reducing carbon emissions in the supply chains of consumer goods and retail companies, paying particular attention to meat and palm oil, given their links to changes in land use and deforestation.

Additionally, Regnan and EOS at Federated Hermes support the Climate Action 100+ collaborative engagement initiative. In addition to being a signatory, EOS at Federated Hermes is acting as engagement lead for a range of companies globally and collaborating with other investors on additional companies.

4. Information in this section has been provided by EOS at Federated Hermes.
5. Scope 1 emissions are direct emissions of the entity, Scope 2 emissions are indirect emissions from the generation of purchased energy by the entity and Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.
6. Stranded assets occur when assets are not able to meet a viable economic return and which are likely to see their economic life shortened as a result of regulatory, market changes and or technology change.

4. Metrics and measurement

Management of the direct emissions (Scope 1 and Scope 2) from BT is incorporated in the annual and regulatory reporting of Westpac Group. Information on our approach to measuring and reducing our direct carbon emissions can be found in the Westpac Group Sustainability Performance Report.

BT discloses a number of key metrics to provide investors and members with information regarding the carbon exposure of their investments[7]. We are committed to expanding our disclosures as required, to provide both our investors, members and broader stakeholders with access to information to assist in their wealth management decisions.

Investments offered by BT covered by this analysis include the MySuper Lifestage[8] options available within the following products:

- BT Super for Life (BTSFL)
- BT Super
- Westpac Group Plan (WGP)
- Asgard Employee Super Account (AESA)

Other portfolios managed by BT covered in the analysis include:

- WGP Diversified Options
- Advance Diversified Multi-Blend Funds
- BT Multi-manager Diversified Funds
- BT Diversified Index Funds

In line with the recommendations of the TCFD, BT's climate-related disclosures are made up of three metrics, intended to provide investors and members with information on the investments they hold.

Data for the relevant benchmark index has been provided to represent the BT Diversified Index Funds. Whilst the actual exposures within these funds may vary from the benchmark from time to time, it is expected that over time these funds closely track their respective benchmarks.

7. BT does not actively manage these Funds to a carbon benchmark; the analysis is used to understand where risks may lie within the portfolios and provide investors and members with information on the investments they hold.

8. The MySuper Lifestage portfolios represent the majority of funds under management across BT's non-platform superannuation portfolios superannuation products.

Westpac [b]

BT Climate-related disclosures:
Superannuation and Investments (continued)

Weighted average carbon intensity

This metric illustrates the portfolios' exposures to carbon-intensive companies as compared to a benchmark portfolio. It takes into consideration the intensity of the carbon emissions (measured as Scope 1 and Scope 2 carbon emissions relative to revenue) and the value of the investment as a portion of the overall portfolio. It is expressed in tonnes of carbon dioxide equivalents (tCO_2e) per million Australian dollars of revenue. Carbon intensity data is provided by S&P Trucost Ltd., a leading provider of environmental data.

The weighted average carbon intensity is based on the investment portfolios' exposures to Australian and international equities at 30 June 2020. Portfolio exposures not covered by the analysis may include, for example, cash holdings and derivatives as well as other asset classes such as fixed interest, listed property and emerging market securities.

This metric is calculated consistently across the funds BT manages in line with the Supplemental Guidance for the Finance Sector: Asset Owners outlined by the recommendations of the TCFD.

The percentage (%) of Fund covered by the carbon intensity analysis shows the proportion of each portfolio covered by the weighted average carbon intensity analysis. This aligns to the percentage of the portfolio allocated to Australian and international equities, on which the carbon intensity analysis has been calculated. This means that portfolios with a higher exposure to Australian and international equities (such as the Lifestage 1970s, 1980s, 1990s and 2000s options) will have a higher portion of the portfolio covered by the analysis. The Fund's overall carbon intensity is derived using the percentage (%) of the Fund covered by the analysis.

Westpac [b]

BT Climate-related disclosures:
Superannuation and Investments (continued)

Exposure to carbon-related assets

This metric demonstrates the portion of the portfolio exposed to the most carbon-intensive sectors. This metric is calculated consistently with the Supplemental Guidance for Finance Sector: Asset Owners contained in the recommendations of the TCFD, however the sectors that constitute the carbon-related assets have been adjusted for characteristics of the Australian benchmark (further detailed below).

The following Global Industry Classification Standard (GICS) sectors have been included in the analysis:

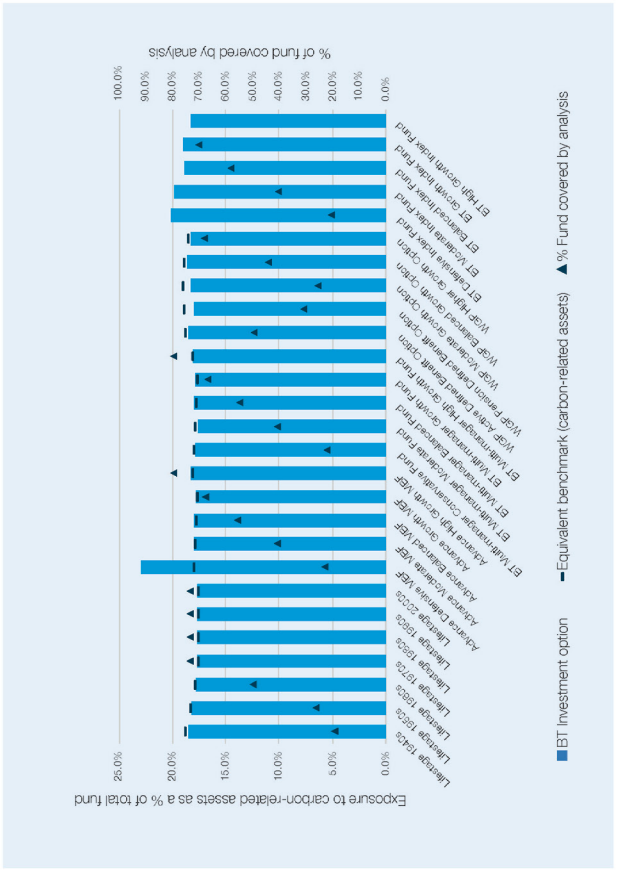
Energy (GICS code 10)

Activities in the energy sector include companies whose business directly relates to the exploration and production of fuels used primarily for energy, including those businesses that produce equipment or provide services for activities like oil and gas drilling.

Industries that are major contributors to the carbon intensity of this sector include companies involved in the supply of oil and gas as well as those involved in the production and mining of thermal coal for the generation of energy.

Utilities (GICS code 55)

The utilities sector encompasses industries that produce and distribute electricity and gas, multi-utilities, those with significantly diversified activities in addition to core electric, gas and/or water utility operations and those categorised as Independent Power Producers and Energy Traders.



Westpac [b]

BT Climate-related disclosures:
Superannuation and Investments (continued)

Carbon emissions in the electricity sector are largely a result of electricity generated through the burning of fossil fuels, including coal and gas. Equivalent carbon emissions from methane produced by gas utilities is also a major contributor to the carbon intensity of this sector.

Materials (GICS code 15)

The Materials sector includes companies involved in the manufacture of construction materials like cement, concrete and bricks, metals and mining companies, including those that mine gold, silver and copper, and those involved in the production of aluminium and steel. This sector also includes chemical producers, producers of metal and glass, as well as paper packaging and those that produce paper and forestry products, like timber.

The high carbon intensity in this sector largely results from companies that produce concrete and cement, which emit emissions during production and require a large amount of energy to produce, and those involved in the production of paper and forest products, which generate emissions in the production of wood fibre and timber-based products.

Companies in the metals and mining industry also have high carbon intensities. Carbon emissions occur during both the mining activity as well as in the smelting process used for the production of materials including copper, aluminium and steel.

BT has expanded the sectors we include in this metric beyond the guidance of the TCFD. This means that BT's analysis includes the Materials Sector as this sector contributes significantly to the Australian benchmark's carbon footprint.

In line with the recommendations of the TFCD, for the purposes of our carbon disclosures BT has excluded the Water Utilities industry and Renewable Electricity sub-industry from this analysis, as neither are major sources of carbon emissions.

BT has expanded on the guidance of the TCFD by including the Independent Power Producers and Energy Traders sub-industry in the analysis of our portfolios. This sub-industry includes fossil fuel based power production and is one of the of the higher intensity sub-industries in the international benchmark.

Each metric is provided at a portfolio level relative to a benchmark portfolio composed of globally recognised indices.

A postive variance against benchmark means the individual investment option is more emissions intensive, as compared to its benchmark.

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Westpac [b]

BT Climate-related disclosures:
Superannuation and Investments (continued)

Our actions

BT seeks to provide its investors, members and other stakeholders with information on its approach to measuring and managing climate-related impacts in the portfolios it manages as well as to support them in making informed choices.

To this end, BT will continue to evolve the level of information and options available for our investors and members to assist them when making an investment choice, including through:

- Annual disclosure of BT's approach to assessing climate-related risk within the portfolios it manages;
- Providing relevant information and tools to enable those who invest with BT to understand where risks may lie within their portfolios; and
- Developing solutions across BT's products aligned to its customers' preferences.

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References

Task Force on Climate-related Financial Disclosures (TCFD). (2017). *Recommendations of the Task Force on Climate-related Financial Disclosures*. Retrieved 21 May 2021 from https://assets.bbhub.io/company/sites/60/2020/10/FINAL-2017-TCFD-Report-11052018.pdf

Task Force on Climate-related Financial Disclosures (TCFD). (2019a). 'About'. Retrieved 21 June 2019 from www.fsb-tcfd.org/about

Task Force on Climate-related Financial Disclosures (TCFD). (2019b). *TCFD Good Practice Handbook*. Climate Disclosure Standards Board (CDSB) & Sustainability Accounting Standards Board (SASB). Retrieved 30 October 2019 from www.cdsb.net/sites/default/files/tcfd_good_ practice_ handbook_ a4.pdf

Notes

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