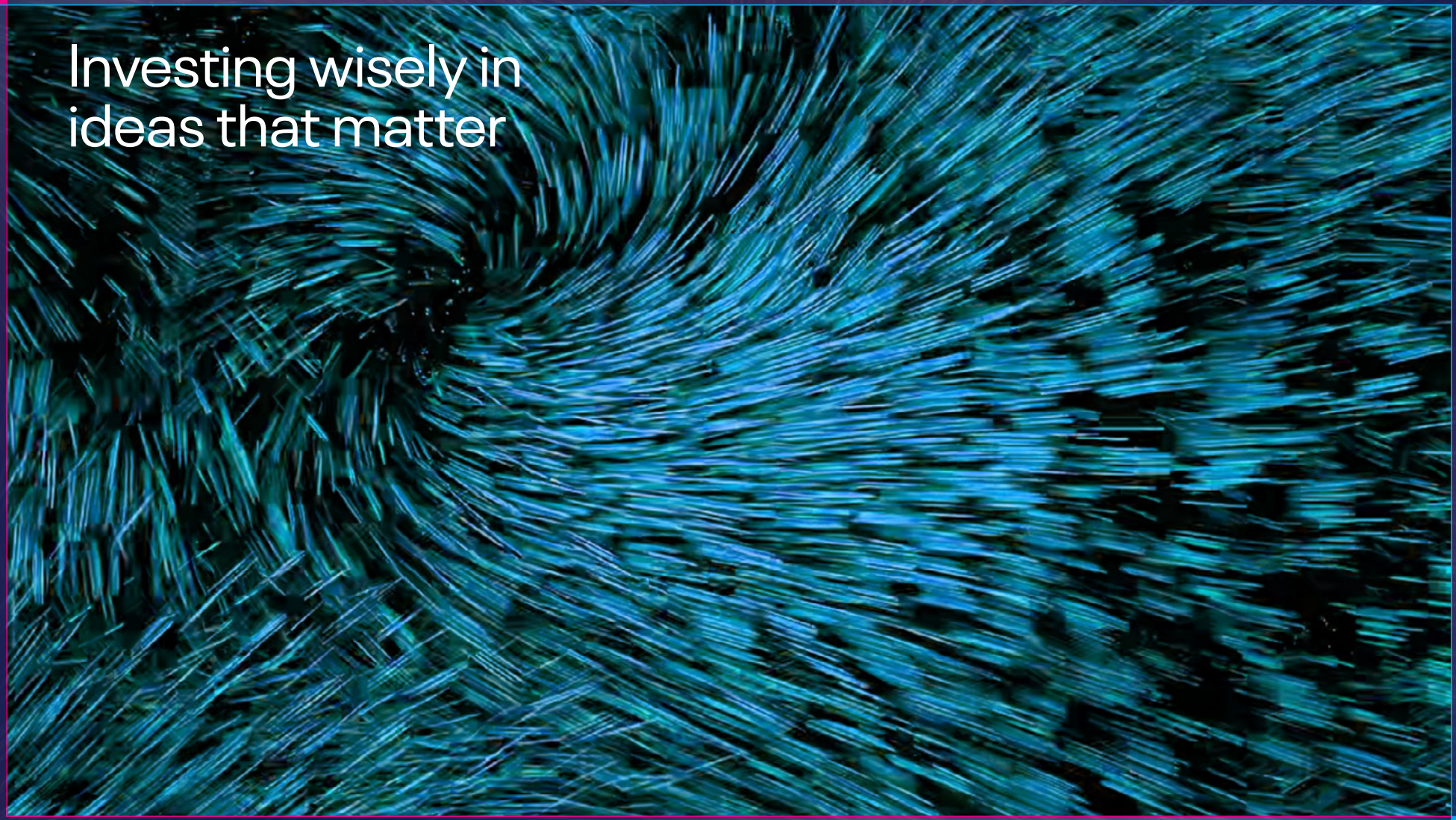
Infratil

Investing wisely in ideas that matter



Climate Related Disclosures 2024

Disclaimer

This report sets out our understanding of, and response to Infratil's climate-related risks and opportunities, our approach to scenario analysis, our current and anticipated impacts of climate change and our strategy to respond to these risks and opportunities. This reflects our current understanding as of 30 July 2024 in respect of our financial year ending 31 March 2024. Infratil is required to produce group climate statements under the Financial Markets Conduct Act 2013 (FMCA) that comply with the Aotearoa NZ Climate Standards for FY2024 (1 April 2023 – 31 March 2024).

This report contains disclosures that rely on early and evolving assessments of current and forward-looking information, incomplete and estimated data, and our related judgements, opinions and assumptions. We have sought to provide accurate information in respect of FY2024 but we caution reliance being placed on representations that are necessarily subject to significant risks, uncertainties and/or assumptions. We rely on information and emissions data from our portfolio companies that may not be complete or accurate given our portfolio companies are also evolving their approach to understanding and reporting on climate-related risks and opportunities. Climate change is an evolving challenge, with high levels of uncertainty, particularly over long-term horizons, given the climate is dynamic, involves feedback loops, interdependencies, and tipping points. Descriptions of the current and anticipated impacts of climate change on Infratil and the multiple sectors our business covers, therefore draw on and/or represent estimates only.

In particular, this document contains forward- looking statements and opinions about Infratil, Infratil's portfolio companies and the environment in which Infratil operates, including climate-related metrics, climate scenarios, targets, estimated climate projections, and statements of Infratil's future intentions and performance. It also contains forward-looking statements regarding Infratil and our portfolio companies' business operations, market conditions, sustainability objectives or targets and risk management practices. These statements and opinions necessarily involve assumptions, forecasts and projections about our present and future strategies and the environment in which we will operate in the future, which are inherently uncertain and subject to contingencies outside of Infratil's control and limitations, particularly as to inputs, available data and information which is likely to change.

We base those statements and opinions on reasonable information available to us at the date of publication. We do not:

- represent those statements and opinions will not change or will remain correct after publishing this report, or
- promise to revise or update those statements and opinions if events or circumstances change or unanticipated events happen after publishing this report.

The risks and opportunities described in this report, and our strategies to achieve our targets, may not eventuate or may be more or less significant than anticipated. There are many factors that could cause Infratil's actual results, performance or achievement of climate-related metrics (including targets) to differ materially from that described, including economic and technological viability, climatic, government, consumer, and market factors outside of Infratil's control. Infratil is committed to progressing our response to climate-related risks and opportunities over time but is constrained by the novel and developing nature of this subject matter. We caution reliance on climate-related forward-looking statements that are necessarily less reliable than other statements Infratil may make in its annual reporting. Infratil gives no representation, warranty or assurance that actual outcomes or performance will not materially differ from the forward-looking statements in this report. We do not accept any liability whatsoever for any loss arising directly or indirectly from any use of the information contained in this report, whether in respect of Infratil and/or its portfolio companies.

This disclaimer should be read along with the limitations on page 14.

This report is not an offer document and does not constitute an offer or invitation or investment recommendation to distribute or purchase securities, shares, or other interests. Nothing in this report should be interpreted as capital growth, earnings or any other legal, financial, tax or other advice or guidance. For detailed information on our financial performance, please refer to our FY2024 disclosures and Annual Report, available here.

Contents

Front cover: Rivers of Wind

The artwork featured on the front cover is from Rivers of Wind, a digital artwork by Delainy Jamahl.

Bringing data to life in this mesmerising digital artwork, Delainy Jamahl's Rivers of Wind uses 8 years of historic weather data from the Wellington Airport weather station to produce its flowing visuals. Visualising the invisible force that moves us and is often heard howling through our city, Rivers of Wind explores the intersection of technology and nature and their effect on the human experience.

We are delighted to showcase this local artistic talent, especially because it can be interpreted to represent many of the characteristics of Infratil's portfolio through the intersection of climate, renewable energy, digital technology, and of course, Wellington Airport.

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Introduction

Climate change is a serious issue for the global economy and will have a significant impact across many sectors and businesses.

It is therefore increasingly important for organisations to understand and disclose their climate-related risks and opportunities to allow stakeholders to make informed decisions.

Recognising this, in 2021, the New Zealand Government enacted legislation[1] to require mandatory climate-related disclosures for certain companies, known as Climate Reporting Entities ('CRE'). After a period of consultation, the External Reporting Board ('XRB') issued the Aotearoa New Zealand Climate Standards ('NZ Climate Standards' or 'NZ CS')[2]. These mandatory standards provide a framework to consider climate-related risks and opportunities broadly in line with the Taskforce on Climate-related Financial Disclosures ('TCFD') framework, covering Governance, Strategy, Risk Management, Metrics and Targets.

The aim of these Standards is to support the allocation of capital towards activities that are consistent with a transition to a low-emissions, climate-resilient future. As a large NZX-listed company, Infratil Limited ('Infratil') is deemed to be a CRE and is required to report in line with the NZ Climate Standards for FY2024. Infratil voluntarily prepared Climate-Related Disclosures ('CRD') in FY2023. This is Infratil's first mandatory CRD. Infratil's FY2024 CRD comply with the NZ Climate Standards.

Approved on behalf of the Board on 30 July 2024.

Alison Gerry
Director

Anne Urlwin
Director

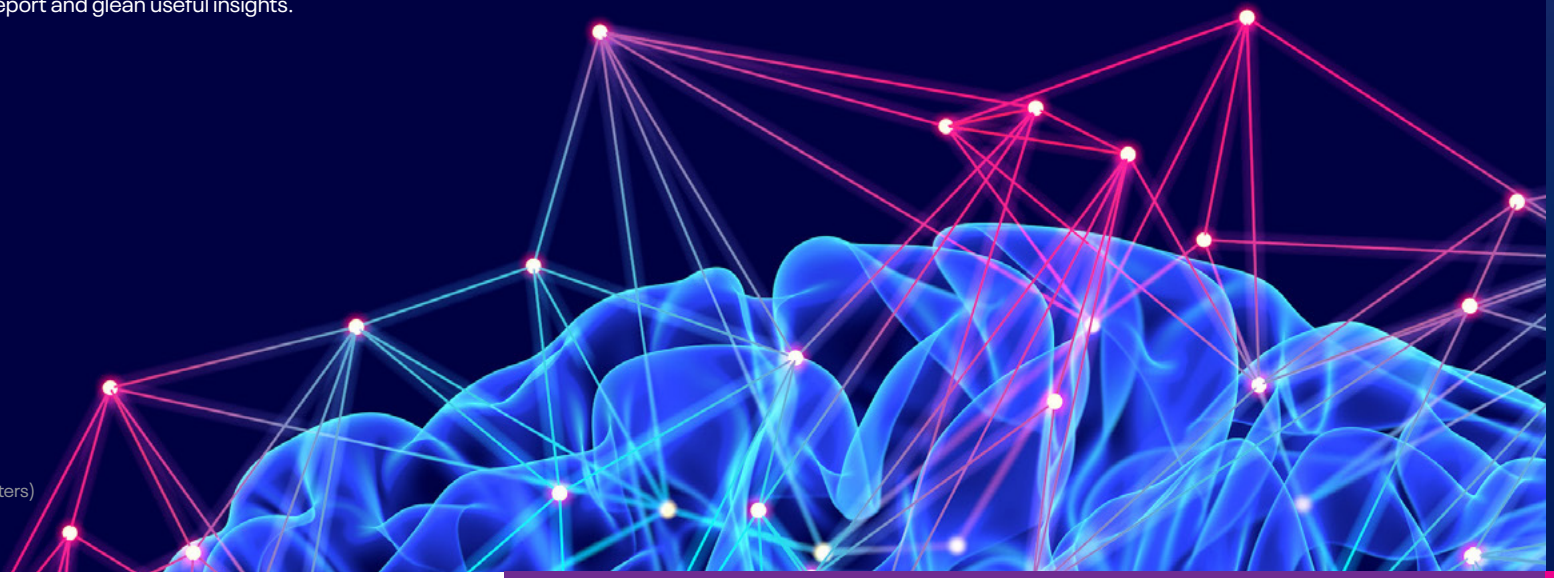
In preparing this report, we have relied on the following Adoption Provisions from NZ CS 2:

Adoption Provision number and description	Comment
1 – Current climate-related financial impacts	We have endeavoured to provide quantification of impacts where possible and will look to continue to refine this aspect in future reports.
2 – Anticipated financial impacts (physical and transition risks and opportunities)	At the portfolio level, we have quantified anticipated financial impacts from the physical effects of climate change in the 'worst case' scenario that we have assessed (SSP5-8.5), but we have not yet disclosed anticipated financial impacts from climate-related transition risks and opportunities.
3 – Transition plan	We have included a draft Transition Plan in this report and we will look to refine this aspect of our strategy once anticipated regulatory guidance has been released.
6 – Comparatives for metrics	Some metrics are reported for the first time in FY2024, so comparatives and analysis of trends are not yet possible for these metrics.
7 – Analysis of trends	

Intended audience

The objective of the NZ Climate Standards is to enable Primary Users to assess the merits of how entities are considering climate-related risks and opportunities and then make decisions based on those assessments. The Standards define Primary Users as 'existing and potential investors, lenders and other creditors'. Outside of Morrison, Infratil has no material creditors, and therefore we consider Infratil's Primary Users to be our existing and potential shareholders, bondholders and the banks that provide funding and other services to Infratil.

We note that Infratil's investors and bondholders include a mix of large, institutional investors as well as retail investors. We have endeavoured to provide a level of detail, graphics, and suitable language to enable the spectrum of our investors and lenders to engage with and understand this report and glean useful insights.



1. The Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act 2021
2. Aotearoa New Zealand Climate Standards » XRB

Introduction

About Infratil

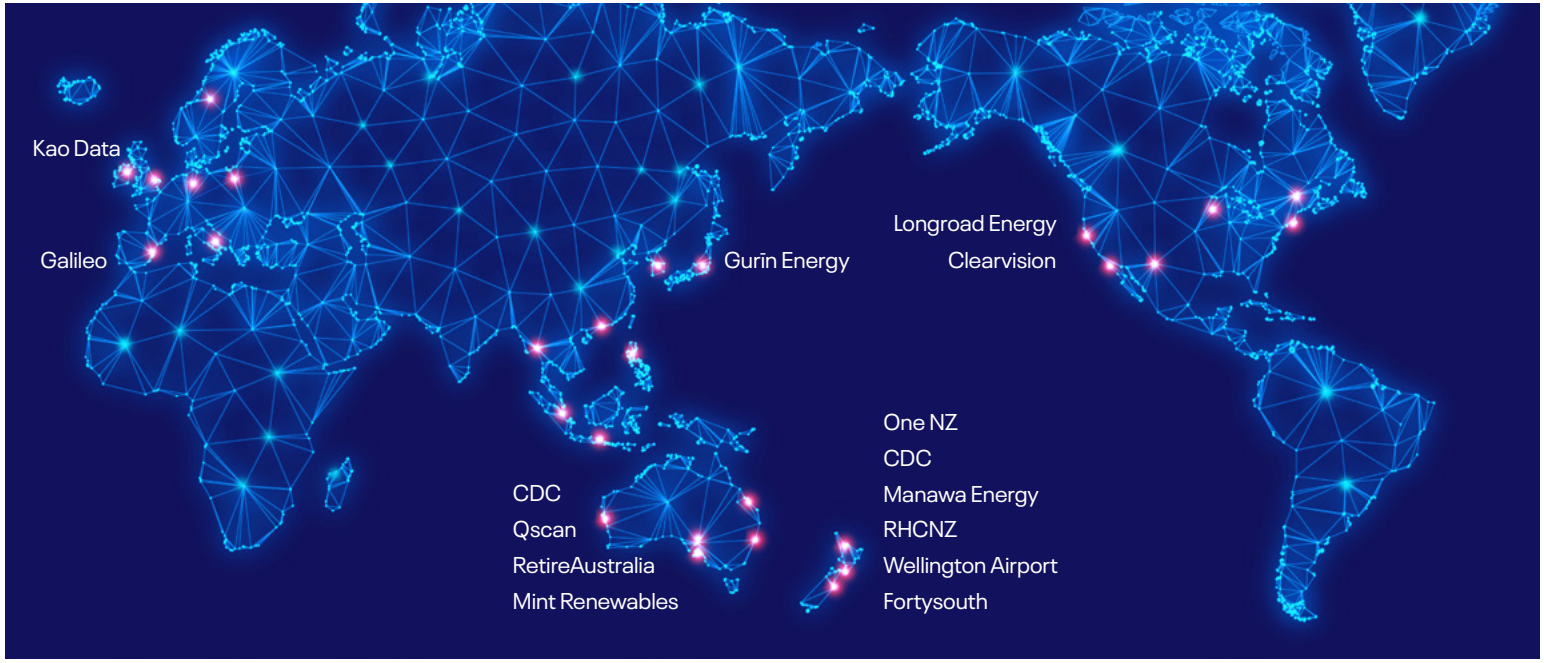
Infratil is an infrastructure investment company that invests wisely in ideas that matter; in things that societies need now and will need more of in the future such as renewable electricity, data centres, telecommunications networks, and healthcare.

Infratil's portfolio has incorporated sustainability characteristics since its inception in 1994, with our initial investments including renewable energy company Trustpower (now Manawa Energy). Infratil views decarbonisation as a macro-trend tailwind that forms a key part of the rationale behind our renewable energy platform. Infratil's deepening conviction in this macro-trend is reflected in our investment in renewable generation development companies in the US (Longroad Energy, 2016), in New Zealand and Australia with the establishment of Tilt Renewables in 2016 (sold in 2021) and now Mint Renewables (2022), and further afield in Europe (Galileo, 2020) and in Asia (Gurīn Energy, 2021).

Infratil's portfolio diversity is an important attribute that we take into consideration when assessing our climate risks and opportunities. Infratil's portfolio is diversified both by sector and geographically, with a presence across 17 countries. Most of Infratil's portfolio companies have assets that are geographically spread across the jurisdictions in which they operate. This diversification increases our resilience to climate-related physical risks and emerging transition risks, as well as providing exposure to climate-related opportunities, such as opportunities created by regulatory changes to support renewable energy investments.

Infratil has its own Board, but no directly employed staff – instead it contracts to Morrison for its day-to-day activities, including investment management. This provides Infratil with greater access to expertise, flexible resource, and broader networks than we could probably achieve as a conventionally resourced company. A recent example of this is the appointment of James Shaw, New Zealand's former Minister for Climate Change, as an Operating Partner at Morrison, announced in May 2024.

Infratil now has a presence across 17 countries



With the support of Morrison, Infratil seeks to integrate material Environmental, Social and Governance ('ESG') issues, including those relating to climate change, through the investment process. Further details regarding Infratil's Manager, and its approach to ESG integration are set out on page 6 of Infratil's FY2023 Sustainability Report, which was published in August 2023. Around the same time, Infratil also released its updated Climate Statement and refreshed its investment Exclusion Policy.

In 2023, the Science Based Targets initiative ('SBTi') approved Infratil's near-term science-based operational and portfolio emissions reduction targets, making Infratil the first company in New Zealand to achieve this status under the SBTi's Financial Institution framework. Details are set out on page 39 of this report.

About this report

Set out in this report are Infratil's FY2024 climate-related disclosures, covering Governance, Strategy, Risk Management, and Metrics & Targets. This is our second CRD report, and the first under the mandatory NZ Climate Standards regime. We have sought to be consistent with our FY2023 CRD where appropriate, to support comparability, whilst also building on the information provided last year in order to align with the requirements of the NZ Climate Standards.

We have also sought to incorporate feedback from stakeholders on last year's report – for example, the 'key takeaways' light purple bubbles on some pages have been added in response to suggestions from readers of last year's report.

This report covers the twelve months to 31 March 2024 and should be read in conjunction with Infratil's FY2023 Sustainability Report and Climate Related Disclosures and the FY2024 Annual Report.

Introduction

Materiality and boundaries

As set out on page 14 of NZ CS 3, the XRB defines information as material if 'omitting, misstating or obscuring it could reasonably be expected to influence decisions that Primary Users (capitals added) make based on an entity's climate-related disclosures.'

To determine materiality, and in alignment with Infratil's approach in its ESG materiality assessment undertaken in 2023, we have sought to adopt a double materiality approach, considering both Infratil's GHG emissions profile and the impact of climate change risks and opportunities for Infratil.

We have considered both financial impacts and non-financial impacts such as reputation and stakeholder impacts. We have also considered what our Primary Users might reasonably expect to be included in this report, for example, if there was wide media coverage of damage to an asset or facility, but the financial impacts were not material at the Infratil level, we are likely to include it in our CRD because a Primary User might consider it unusual not to reference the event.

Although we have provided detailed disclosures at the portfolio and sector level for transition risks and opportunities, and at the sector and asset level for physical climate risks, we have generally not included their underlying value chains in our risk and impacts assessments.

How we have determined materiality and set boundaries is tailored for different components of this report, which we summarise here.

Strategy

a) Current impacts

We have limited our disclosures on current impacts to Infratil and all of its portfolio companies (typically not extending to value chains) from climate or extreme weather-related events that ***we are currently aware of*** and/or ***actually occurred*** in the reporting period or shortly thereafter.

b) Physical impacts

We have endeavoured to assess the impacts to portfolio companies (typically not extending to their value chains, unless stated otherwise within the report) from a range of climate perils. We have included Material Portfolio Companies[3] which collectively comprise over 95% of the portfolio by fair value[4].

We have sought to aggregate the assessed impacts to assets for each platform and disclose the findings at that level, regardless of size. We have been able to provide this level of detail because there are only a limited number of physical sites/assets assessed as being both high/highly exposed and vulnerable to one or more climate perils.

We have just sought to quantify financial impacts to the physical sites/assets, and not the financial impacts to operations and/or earnings.

c) Transitional impacts

We disclose *qualitative* transitional climate impacts on a platform level that are informed by consideration of the climate-related risks and opportunities facing each sector, including some supply chain impacts where they might have a material impact at sector level.

Risk

Infratil's risk management system focuses on risks relevant to Infratil itself, and risks that are relevant at the portfolio level.

We have therefore not disclosed information in this section regarding the risk management systems operated by the portfolio companies.

Metrics and Targets

a) Emissions reporting

We have released a FY2024 Greenhouse Gas ('GHG') Emissions Basis of Preparation document ('Basis of Preparation') for Infratil's emissions reporting, alongside this report.

Even though some portfolio companies' Scope 1 and 2 emissions are below 5% of Infratil's total financed emissions, we have included all portfolio companies in our emissions measurement and reporting boundary.

As noted in our Basis of Preparation, we exclude some business travel emissions for Infratil, namely land transport, because they are deemed immaterial (< 5% of total business travel).

b) Other climate metrics

Emissions intensity metrics follow the above materiality approach, and, for the financial components of the metrics, our approach aligns with that used for financial data in our Annual Report.

For other metrics, such as climate investment, we have surveyed all our portfolio companies to try and provide as complete a picture as possible.

We note that the portfolio companies are at different stages of maturity for identifying and precisely quantifying these financial climate metrics.

All financial data is in New Zealand dollars unless specified otherwise.

c) Targets

We follow the SBTi guidance for materiality in respect of our target.

We report all portfolio companies that set, or commit to setting, SBTi targets, regardless of size.

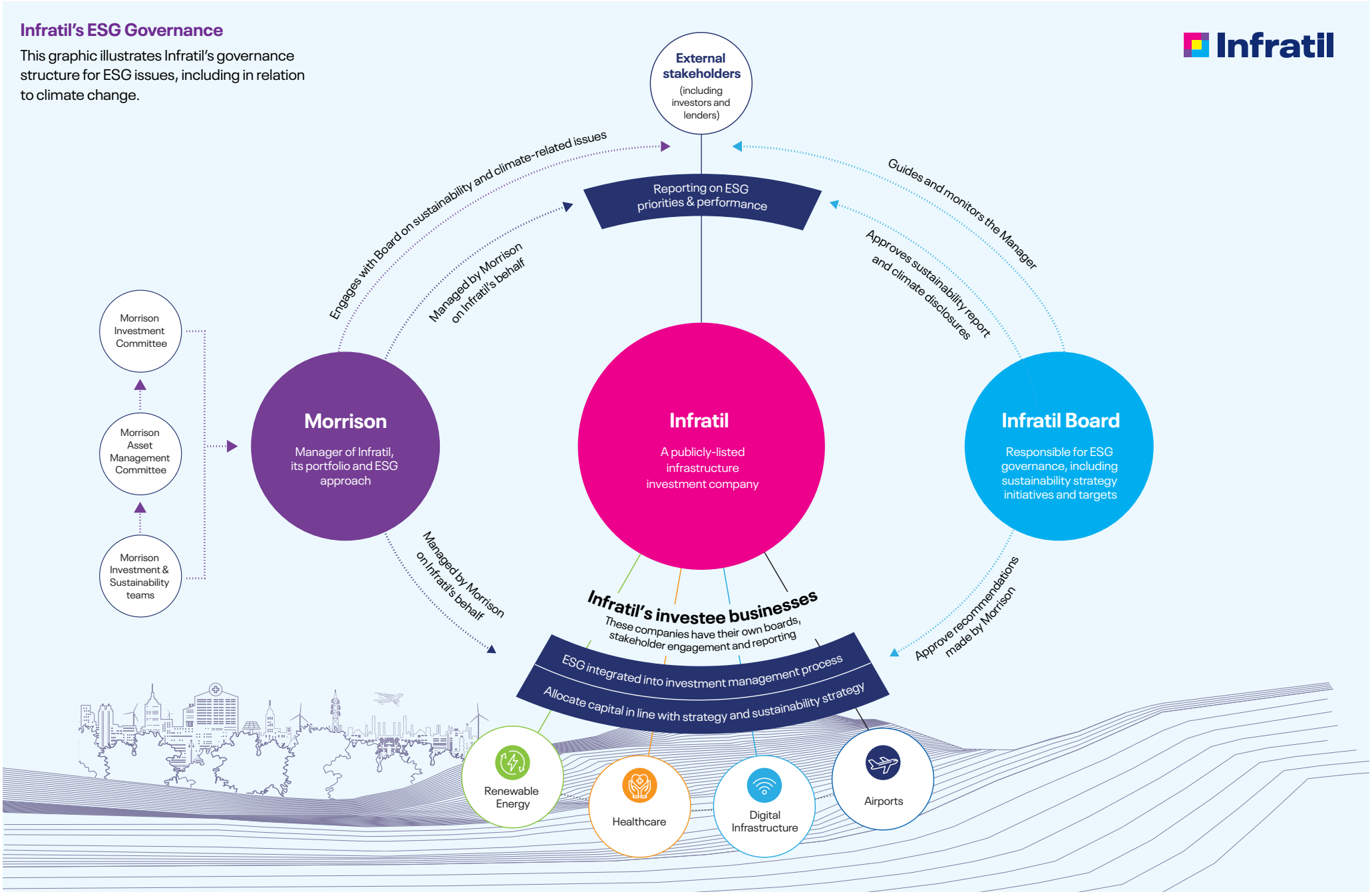
3 All portfolio companies in the reporting boundary except: Mint Renewables, Fortysouth, Gurīn Energy and Galileo.

4. As set out on page 27 of Infratil's FY2024 Annual Report, fair value is the market value of listed investments, or book value in the case of Mint Renewables and Fortysouth, or reflects independent valuations prepared for Infratil for all other portfolio companies.

Governance

Infratil's ESG Governance

This graphic illustrates Infratil's governance structure for ESG issues, including in relation to climate change.



Governance

a) **Board**: Infratil's Board has overall responsibility for ESG governance, including oversight of climate-related risks and opportunities.

Strategy:	Infratil's Board has responsibility for approving and monitoring Infratil's strategic direction and investment strategy. Infratil's Board regularly reviews the Company's strategy in light of the latest view on megatrends, macroeconomic outlook, and industry tailwinds, including those related to climate. For example, Infratil has significant investments in renewable energy, identified as a growth sector in the context of broader decarbonisation of the energy system.
Screening and investment:	For potential investments in a new portfolio company that meets the screening criteria in Infratil's Exclusion Policy, Infratil seeks to identify and consider material ESG issues, including in relation to climate, as part of its due diligence in the investment process. Infratil has regard to Morrison's Sustainability Framework (set out on its website here), and Infratil's own recently refreshed sustainability strategy and objectives (see page 10 of our FY2023 Sustainability Report). Relevant, material findings from any ESG due diligence process are presented to the Board as part of the overall investment analysis and inform investment recommendations ultimately approved by the Board. Infratil's Board periodically reviews and approves Infratil's Exclusion Policy.
Asset management and portfolio company engagement:	Infratil's Board has contracted Morrison to undertake the day-to-day management of Infratil's investment portfolio, with ESG and climate considerations increasingly integrated into the investment management process. The Infratil Board also engages directly with most portfolio companies, including, as relevant, on climate-related issues – for example the opportunities presented by the transition to low carbon electricity generation is an area of focus for companies in Infratil's renewable energy platform.
Formal risk governance:	The Board has responsibility for ensuring that Infratil has appropriate risk management and regulatory compliance policies in place and for monitoring the integrity of those policies as risk management mitigation strategies and/or controls. Infratil's Audit and Risk Committee ('ARC'), a sub-committee of the Board, holds delegated responsibility for Infratil's Enterprise Risk Management ('ERM') system. The ARC has approximately four scheduled meetings p.a. and the Chair of the ARC provides a summary of key issues discussed at each ARC meeting to the Board at the immediately following Board meeting. The ERM risk register includes specific climate-related risks, including transition risk, physical risk, greenwashing and litigation risk, regulatory risk, and carbon prices. The ARC receives approximately semi-annual reporting on Infratil's risks from Infratil's CFO and Treasurer, including climate risks and escalates issues to the Board in certain circumstances as set out in the Risk section on page 35.
Reporting:	Infratil's ARC reviews and reports to the Board on the preparation, review, verification, and assurance processes in relation to sustainability reports and CRD. The Board is responsible for approving these reports and the climate scenarios that the analysis underpinning the CRD are based on. Infratil's approach to emissions measurement and reporting is set out in its Basis of Preparation documents available here. The Board considers climate-related issues and disclosures regularly across its approximately eight scheduled meetings each year (and at ad hoc meetings as required).
Sustainability strategy and initiatives:	Infratil's Board is responsible for approving Infratil's sustainability strategy, which incorporates a focus on climate and nature – details are set out on page 10 of Infratil's FY2023 Sustainability Report. The Board is also responsible for approving sustainability initiatives, including those relating to climate – for example, in 2023, the Board reviewed and approved Infratil's emissions reduction targets, which were subsequently validated by the SBTi. The Board receives updates at least annually from Infratil's Executive Director, Sustainability, regarding Infratil's progress against its operational and portfolio SBTi emissions reduction targets.

All Infratil's directors are members of Chapter Zero (or equivalent in other jurisdictions), the New Zealand chapter of a global network of board directors committed to taking action on climate change. Chapter Zero is hosted by the New Zealand Institute of Directors and supports directors with climate awareness, skills, and tools to steward their companies through the challenges presented by climate change. Various other sources of expertise and assistance are also available to Infratil's directors that help to keep them informed on climate-related matters, including:

- Morrison staff and external parties provide expertise in climate change, decarbonisation, and renewable energy and changes to the regulatory landscape, including in relation to climate change.
- Infratil's investment in Clearvision Ventures ('Clearvision') provides insights on the latest international developments in technology, including climate tech.

Given we have no directly employed staff, ESG-linked remuneration is not relevant for Infratil. Infratil's Management Agreement with Morrison does not have remuneration specifically linked to ESG or climate-related KPIs, but these factors are seen as being fundamental to long-term investment performance.

At the portfolio company level, Infratil seeks to support alignment of objectives by encouraging incorporation of explicit ESG targets and commitments, including in relation to climate. One example is Wellington Airport that applies an ESG modifier to its executive remuneration scheme.

Governance

b) **Management**: As Infratil has no directly employed staff, Infratil's Board has contracted Morrison to undertake the day-to-day management of Infratil's investment portfolio. All sustainability workstreams are undertaken and/or overseen by Morrison.

Infratil CEO and CFO:	• Review and support Infratil investment recommendations that are made to the Infratil Board, having regard to the Exclusion Policy criteria. • Are responsible for periodically reviewing updates to the Exclusion Policy and recommending these to the Board. • Have oversight of the due diligence ('DD') process for any new investments, which typically includes ESG DD. • Have oversight of, review and recommend to the Infratil Board for approval: the annual CRD, the Sustainability Reports and other reports that include ESG elements, such as the Annual Report.
Investment Committee ('IC'):	The IC is governed by a Charter; membership includes the CEO of Morrison and other senior Morrison executives/partners, which currently includes Infratil's CEO. The IC helps to ensure investment opportunities are in line with Infratil's strategy, including its sustainability strategy. The IC's role includes: • Reviewing and interrogating any primary research conclusions and sector plans. • Reviewing and endorsing Infratil's Exclusion Policy and ensuring new investment opportunities satisfy Exclusion Policy criteria. • Reviewing investment opportunities and posing questions to the Morrison Investment Team, including on any material ESG matters. • Approving further investigation and due diligence for investment opportunities. • Providing recommendations regarding investment opportunities to the Board, with the support of the Infratil CEO and CFO. Recommendations are made in light of any material ESG considerations, including any material ESG issues raised in the DD process.
Asset Management Committee ('AMC'):	The AMC is governed by a Charter; membership is determined by the IC having regard to the desired skills set out in the Charter. The AMC meets quarterly to review performance of portfolio companies, including in relation to ESG. Quarterly reviews sometimes deep dive into ESG themes such as decarbonisation. ESG maturity and performance benchmarking outcomes are reported to the AMC by the Morrison Investment Team on a quarterly basis. The AMC subsequently provides an update to the IC which highlights any material ESG issues for consideration by the IC.
Morrison Investment Team:	The Investment Team's key responsibilities include: • Originating and assessing investment opportunities in line with Infratil's investment strategy and sustainability strategy and objectives and screening investment opportunities in line with Infratil's Exclusion Policy. The Investment Team prepares the investment paper and presents recommendations to the IC which typically include any material ESG DD findings. • Developing onboarding plans, including for management of material ESG issues. • Developing senior management KPIs which may include an ESG-linked component. • Optimising value through good management of the investments, including in relation to ESG issues. The Investment Team may provide input into or review material capex undertaken by portfolio companies in relation to climate transition or resilience, including through climate transition risk analysis. • Reviewing portfolio company reporting, which may incorporate ESG elements. • Supporting coordination of ESG data and information required for Infratil's ESG reporting, including Infratil's Sustainability Reports and Climate Related Disclosures. Various Morrison Investment Team members also have an important governance role as directors of Infratil's portfolio companies. In this role they are responsible for the oversight of the company strategy, sustainability strategy, risk management (including in relation to ESG and climate-related risks) and approval of any climate/ESG reporting, initiatives and investment undertaken by the portfolio companies' management teams.
Morrison Sustainable Investment team and Infratil's Executive Director, Sustainability (together the Sustainability Team):	The Sustainability Team leads the ESG materiality assessment process for Infratil and develops or updates Infratil's sustainability strategy and objectives, informed by the materiality assessment. It is also responsible for: • Keeping abreast of ESG developments and stakeholder expectations. • Drafting Infratil's Exclusion Policy and updates. • Overseeing the ESG component of DD for any new investments or propositions and providing subject matter expert input on any actual or potential material sustainability issues identified. • Communicating ESG expectations and supporting new portfolio companies to develop and implement sustainability action plans. • Ongoing engagement with portfolio companies on their material ESG issues in line with Infratil's sustainability strategy and objectives e.g. providing support for GRESB assessments. • Developing and recommending ESG initiatives to Infratil's Board for approval, such as Infratil's SBTi-validated targets. • Preparing various internal and external ESG reporting for Infratil, including the Sustainability Report and CRD. This includes collecting and collating ESG data with reference to recognised frameworks and standards, investigating, selecting and recommending climate scenarios and coordinating assurance (e.g. for GHG emissions).

In carrying out the above roles and responsibilities, we seek to integrate material ESG and climate-related issues through the investment process. An outline of how we seek to integrate ESG and climate issues is set out in Infratil's FY2023 Sustainability Report (page 16).

Strategy

Investment strategy

Infratil is a high conviction infrastructure investor focused on investing wisely in ideas that matter. This means identifying and delivering the essential services that society needs today and will continue to require in the future. Our investment strategy is to focus on sectors and businesses that:

- have strong defensive characteristics, resilient to a range of economic and financial conditions;
- operate sustainably and support their communities;
- offer growth opportunities supported by macro or industry tailwinds; and
- provide opportunities to reinvest and build large-scale infrastructure.

Our portfolio currently comprises investments in renewable energy, digital infrastructure, healthcare, and an airport.

Infratil has an important role to play to help businesses, households and communities decarbonise, while also managing the impacts of climate change. In particular, our renewable energy platform presents a material investment opportunity for Infratil. This segment of our portfolio includes investment in early stage through to mature renewable energy development companies, with current and pipeline renewable generation projects across four continents and 29 markets. These companies are quite deliberately exposed to the growth opportunities associated with the global focus on decarbonisation through increasing the proportion of clean energy generation, as well as through electrification of transport, heat, and industrial processes. As at 31 March 2024, the fair value of Infratil's investment in this segment was $3,160 million, an increase of nearly $700 million or 28% since FY2023. We cover this in some detail in our FY2024 Annual Report (pages 27 and 40-49).

Sustainability strategy

Our sustainability strategy, which was refreshed last year (set out on page 10 of our FY2023 Sustainability Report) has a 'Climate & Nature' pillar, recognising that Infratil and its portfolio companies collectively have a role to play to catalyse a rapid and efficient transition to a low-carbon, resilient future, whilst protecting and restoring nature. The three areas of focus to achieve that objective are:

- investing to enable the transition, in a way that builds resilience. Examples include decarbonisation of energy systems through renewable generation development, supporting the transition to a sustainable aviation sector, enabling remote working through our digital infrastructure platform, and supporting connectivity during crises.
- setting SBTi-validated emissions reduction targets. The SBTi has approved Infratil's operational and portfolio emissions reduction targets, the first financial institution in New Zealand to achieve that status. Details are set out on page 39.
- understanding, managing, and reporting on impacts to nature. Recognising that supply chains can have environmental and social impacts, Infratil has established a supplier code of conduct, and we encourage our portfolio companies to do the same. Through GRESB[5], we encourage our portfolio companies to measure and disclose their biodiversity impacts where this is a material issue for them.

Current impacts

Here we set out some observed recent transition and physical climate-related impacts on Infratil and its portfolio companies. We have provided quantification where possible, here and in the 'Metrics and Targets' section on page 38, noting some financial impacts are commercially sensitive, not known or complex to quantify.

a) Physical impacts:

Climate change is already impacting the frequency and severity of extreme weather events in the regions in which Infratil's portfolio companies operate. However, Infratil's assets are geographically diverse both at the portfolio level and, with the exception of Wellington Airport, at the company level. This provides a mitigant against material physical damage from any single climate-related event.

In FY2022 and FY2023, some assets owned by Infratil's portfolio companies were negatively impacted by extreme rainfall, floods, and hail, which we covered in our FY2023 CRD.

In some cases, costs related to those events were incurred in FY2024 – our portfolio companies have quantified a proportionate total of $3.3 million of such costs.

In the current reporting period, we are not aware of any material, negative climate-related physical impacts on assets owned by Infratil's portfolio companies.

b) Transition impacts:

Market: The most material aspect of the transition to a low-emissions economy impacting Infratil today is the abovementioned global shift to decarbonisation of electricity generation, and the opportunity that creates for investment in our global renewable energy platform.

Climate change considerations are incorporated into both our investment strategy and our sustainability strategy.

We are already observing some impacts from climate change. Last year Infratil's portfolio companies experienced some physical impacts of climate change; this year the impacts are concentrated in transition risks and opportunities, notably the costs of climate disclosure regulations and resilience measures.

There were also opportunities evident in FY2024, predominantly in relation to Infratil's ESG ratings, its climate-related portfolio investments, and portfolio company sustainable finance.

The companies in our Renewable Energy platform collectively have a development pipeline[6] that has increased from over 30GW in FY2023 to over 50GW in FY2024. The near term financial impact of this opportunity is reflected by the proportionate capital expenditure ('capex') in our renewable energy platform. In FY2024 proportionate capex across all Infratil's renewable energy companies was $963 million, more than twice that in FY2023 ($399 million). Looking more broadly across Infratil's total renewable energy platform, we can see that the decarbonisation tailwind has contributed at least in part to the fair value uplift of nearly $700 million (28%) between 31 March 2023 and 31 March 2024. These increases are not all directly attributable to this opportunity alone because there is a complex, wide-ranging mix of factors involved.

5. GRESB Infrastructure Asset Assessments provide the basis for systematic reporting, objective scoring and peer benchmarking of ESG management and performance of infrastructure assets.
6. Development pipeline represents the renewable generation and battery storage options that Infratil's renewable energy portfolio companies have secured, providing them with rights to progress projects through development and into construction/operation as and when market conditions suit.

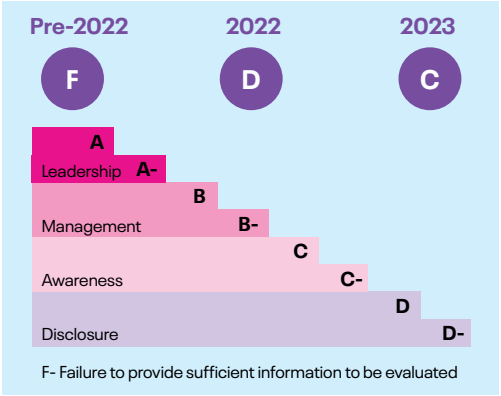
Another, related issue is the growing market focus on energy use by data centres, particularly with the advent of AI computing, and any potential impact that might have on wider decarbonisation ambitions for companies and governments. As noted on page 33 of Infratil's FY2024 Annual Report, CDC's development pipeline has increased by over 400MW to 536MW in FY2024.

Given the abovementioned wider concerns, CDC is committed to growing and operating sustainably. The company is moving towards net zero carbon by 2030 in Australia, and both CDC's New Zealand campuses use 100% renewable power and are Toitū enviromark diamond certified, recognising they exceed the requirements of ISO 14001 standards. The total proportionate incremental cost to all our portfolio companies, including CDC, for securing renewable energy supply is covered in the 'Metrics and Targets' section on page 38.

ESG Ratings: As a listed entity, a growing proportion of Infratil's equity investors use ESG ratings as an input into their investment decisions – these ratings invariably include climate considerations. Infratil is engaging with a range of ESG rating agencies, with the aim of securing appropriate industry classifications and ultimately more accurate and improved ESG ratings for Infratil. This is important to Infratil as equity markets and ESG indices continue to evolve and mature and as we look to secure appropriately priced, long-term capital for growth.

Infratil's CDP Rating, which is intended to reflect corporate progress and action on climate change, has improved over the last few years, reflecting Infratil's increasing transparency and action on climate issues. This year's rating will also reflect that Infratil now has SBTi-validated emissions reduction targets.

Infratil is classified in the 'Financial Services' sector for this rating and now has a score equivalent to the Oceania and Global Averages, but is below the 2023 sector average score of B.



F- Failure to provide sufficient information to be evaluated

It is not possible to discern a quantified financial impact from improved ESG ratings, as Infratil's investors and lenders make decisions based on a range of factors. However, we know that ESG ratings are used by many of our institutional investors, as well as being used to construct some ESG indices and investment products such as Exchange Traded Funds (ETFs).

Closer to home, New Zealand investment firm Forsyth Barr has assigned Infratil a Carbon & ESG score of B+ in 2023, up from C+ in 2022.

Forsyth Barr has developed a quantified Carbon & ESG adjustment to its weighted average cost of capital (WACC) that feeds into its valuation models. All else being equal, a move from C+ to B+ ESG rating lowers (improves) the WACC used by Forsyth Barr by 0.15%. Whilst this serves to improve the target share price recommended by Forsyth Barr (all else being equal), it is not possible to discern a direct financial impact from this for Infratil.

Policy & Legal: We continue to observe shifts in the policy and legal landscape. Particular Government climate policies in the USA, Europe, Asia and New Zealand generally support and/or incentivise greater renewable generation development. Infratil's significant renewable energy portfolio is exposed to this opportunity.

We discussed the impact associated with the US Inflation Reduction Act, which is the key climate-related regulation for Infratil, in our FY2023 Sustainability Report (page 19).

Our FY2024 Annual Report (page 44) provides an update on emerging risks associated with this key policy, and, on pages 40-49, the growth opportunities for each of our renewable energy portfolio companies in some detail.

Whilst we can't attribute all of the uplift in Longroad's value and capital expenditure directly to the Inflation Reduction Act, because there is a complex, wide-ranging mix of factors involved, we know that the policy is supportive of renewable energy development in the US. Longroad's fair value has increased NZ$369 million (23%) since 31 March 2023 and proportionate capex was $826 million in FY2024 (+138% on FY2023).

Shifts in the policy and legal landscape also present risks for Infratil. Regulations requiring climate-related disclosures affect Infratil and its portfolio companies. There is an increasing number of jurisdictions in which Infratil's portfolio companies operate that have enacted or are considering climate disclosure legislation.

Manawa Energy and Wellington Airport are CREs under New Zealand's climate disclosure regime. Australia is proposing mandatory climate reporting legislation (see insert), which might mean CDC, Qscan and RetireAustralia are required to produce climate disclosures in coming years.

Our other portfolio companies are not yet directly impacted by climate disclosure regulations, but their lenders, customers and suppliers may be required to report, so may start to require more information from them. In addition, they are also providing greater levels of climate-related information to Infratil.

Climate disclosure regulations sweeping the globe

Governments around the world are seeking to regulate greater disclosure on climate risks and opportunities, to support more informed capital allocation decisions.

Whilst mandates and timeframes vary across jurisdictions, the disclosure standards generally follow the high level Taskforce on Climate-related Financial Disclosures ('TCFD') framework. Jurisdictions that are relevant for Infratil's portfolio companies either directly, or because it will impact their capital providers and/or value chains, include (subject to certain thresholds):

Country	Entities	Starting from
Australia	Large & listed companies and financials	2025
EU	Large & listed companies	2026
Singapore	Large & listed companies	2025
UK	Large & listed companies and LLPs	2024

Infratil is supportive of the greater transparency that these regulations provide, though we also acknowledge that fulfilling these reporting requirements means exposure to compliance risk, involves some cost, and requires resourcing.

We disclose total expenditure on disclosures by Infratil and proportionate expenditure reported by our portfolio companies in the 'Metrics and Targets' section on page 38.

Strategy

Sustainable Finance: Infratil and its portfolio companies are also experiencing increasing scrutiny and engagement on ESG issues, including in relation to climate change, from lenders, investors, and customers. The direction of travel is clear – stakeholders are requiring greater disclosures and expect companies to credibly demonstrate they are managing their ESG issues well.

Nearly 10% of Infratil's portfolio (by fair value) is funded at least in part by sustainable finance.

Working with its lenders and to reflect its renewable energy generation portfolio, Manawa Energy integrated sustainability into its debt funding through the use of sustainable finance. Manawa Energy's Sustainable Finance Framework, published in October 2023, sets out how the company intends to issue and manage debt in alignment with relevant sustainable finance principles and guidelines. All of Manawa Energy's current bonds on issue ($375 million face value) are now green bonds, representing 83% of the company's total net debt as at 31 March 2024.

As covered in Infratil's FY2023 Sustainability Report (page 24), Wellington Airport also has sustainable finance in place, with $100 million of its bank facilities converted to sustainability-linked loans in 2023. The conversion to sustainability-linked lending means Wellington Airport's will be charged a lower interest cost and line fee if the company achieves the sustainability goals and may incur a higher interest cost if those goals are not achieved.

We are not able to quantify the exact benefit of the above sustainable finance funding because it is difficult to discern (for Manawa Energy) and commercially sensitive (for Wellington Airport). There was some financial cost incurred in relation to these sustainable finance structures. We include proportionate expenditure on sustainable finance initiatives in the 'Metrics and Targets' section on page 38.

Insurance: Several of our portfolio companies have told us that their insurance costs have recently increased. The key drivers appear to be increased construction costs and some degree, albeit difficult to discern, of climate-related costs.

Our portfolio companies have indicated that about $15 million of assets (on a proportionate basis) are not insured due to unavailability or unaffordability as a consequence of climate change risk.

Reputation: As set out in our sustainability strategy, we recognise that to have a reputation as an ESG leader, we need to be transparent, collaborative, follow credible ESG (and climate) standards and frameworks and set ambitious targets. Our SBTi emissions reductions targets are one example of how we are seeking to achieve that objective; another example is the reporting standards and frameworks that we follow, as set out on page 23 of our FY2023 Sustainability Report.

It is too complex to quantify the financial impacts from this, because so many factors contribute to Infratil's reputation. However, there are several benefits from having a good reputation on climate-related issues, including reduced risk of climate litigation, and enhanced ability to secure attractively priced capital. Reputation underpins our broader social licence to operate.

Carbon and Electricity: Some of our portfolio companies purchase carbon offsets, and/or renewable energy contracts. We set out the financial impacts in the 'Metrics and Targets' section on page 38.

Technology: Infratil has a lens into the technology opportunities presented by climate change through our US$100 million commitment to Clearvision, which we refer to on page 25 of our FY2023 Sustainability Report. Some examples of how this has manifested has been the introduction of Jupiter and Persefoni platforms to Infratil, which might not have otherwise happened. We have included Infratil's costs associated with subscribing to these platforms in the Metrics and Targets section on page 38. While these platforms have been useful to support Infratil's climate assessments and disclosures, the direct financial impact is assessed as not being material to Infratil.

Climate change related technology developments present new investment opportunities for Infratil and its portfolio companies. For example, Longroad's new 220MW solar and 214MW storage project 'Serrano' in Arizona, which reached financial close in March this year, is its first project to use First Solar's domestically manufactured Series 7 panels. As well as producing clean energy, these panels are designed and manufactured with sustainability in mind – see insert. Given the Serrano project is still in construction, and the wide-range range of factors to consider, along with a high degree of commercial sensitivity, it is not possible to quantify any associated financial impacts.

Another example is One NZ's SpaceX collaboration (see page 32 of the FY2023 Sustainability Report). This opportunity is too early stage to quantify any material associated financial impacts.

Climate friendly by design

First Solar's new Series 7 thin-film solar panels are designed with sustainability in mind, featuring as much as 16% recycled content, including semiconductor materials, glass, steel, busbar, and ribbon. The module is First Solar's most eco-efficient product to date.

According to First Solar, Series 7 panels feature a carbon and water footprint nearly four times lower than conventional crystalline silicon modules manufactured in China and an energy payback time approximately five times faster.

First Solar cites that its Series 7 modules take just two months to produce more energy than was required to create them, corresponding to a 180-fold energy return on investment (EROI) over a 30-year project lifetime.

Strategy: summary of scenarios and approach

Climate change presents transition and physical risks, as well as a range of opportunities, as described in the table on the right.

While we are relying on some of the Adoption Provisions in relation to disclosure of current and anticipated financial impacts, we have sought to evolve our approach to incorporate tools that will increasingly enable us to make more quantitative disclosures on the resilience of our portfolio companies and their assets to climate change.

We also expect to integrate insights from our climate-related risks and opportunities analysis under our Physical Assessment Scenarios and Transition Assessment Scenarios into our business processes (risk reviews, valuation processes, investment management processes and portfolio company engagement) as we continue to refine our approach.

Infratil's approach to managing climate-related risks and opportunities

Infratil's risk management system focuses on risks that are relevant and material for Infratil itself, and at the portfolio level. We discuss our risk processes – how we identify, assess and manage our risks – in the 'Risk Management' section on page 35. The climate-related risks in Infratil's risk register are summarised on pages 15-16.

Infratil seeks to ensure that risks are identified and managed at the portfolio company level through its governance and investment management processes described in the section above. Infratil's board monitors, but does not manage, individual company-level risks - many of which would not individually be material at the Infratil level.

However, Infratil's sector and portfolio company level risks obviously have relevance to the Infratil portfolio level risks - as detailed in the table on page 15. We have set out our view of sector-level climate-related risks and opportunities on pages 26-33, which has helped to inform our climate transition modelling and analysis.

Climate change impact	Definition
Physical Risk	In the context of this report, physical risk is the risk of damage to the buildings, sites and assets because of greater exposure to the physical impacts of climate change. These might be acute risks, like the risk to damage from increasingly frequent or severe extreme weather events, or chronic risks, such as the risk of temperatures and sea levels continuing to gradually rise over time. Physical risks may have financial implications arising from direct impacts to assets or indirect impacts from disruption to supply chains and supporting infrastructure. Physical risks can also impact a company's financial performance via changes in water availability, extreme temperatures affecting operation of a site, or disruption to transport for staff, customers, and suppliers.
Transition 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 potentially pose varying levels of financial and reputational impacts.
Opportunities	The transition to a low carbon economy can also present opportunities for organisations, for example the opportunity to invest in renewable energy generation development, cost savings from energy efficiency initiatives, and new digital services and products.

Summary of time horizons

As part of the analysis of Infratil's climate-related risks and opportunities, we have identified the time horizons over which to examine the impacts of climate change. In doing so, we considered our businesses' regular planning cycles, valuation horizons, risk criteria and long-term planning and investment time frames.

Short-term time horizon is defined as zero to three years (i.e. from 2023 to 2026), this broadly aligns to the budget cycle of Infratil and its businesses.

Medium-term time horizon is defined as three to ten years (i.e. from 2026 to 2033). As part of the process of undertaking valuations for each portfolio company, we look to build a detailed financial forecast, typically for at least 10 years, covering operational expenditure ('opex'), capital investment and potential regulatory outcomes. Infratil's target investment return is set over a 10 year horizon as set out on our website here. Our SBTi targets have a time horizon in this band (2028 and 2030).

Long-term time horizon is defined 10 years out to 2050, which aligns to our strategic investment horizon – we have owned Manawa Energy since 1994 (29 years) - as well as reflecting the long-term nature of our infrastructure assets, many of which are built to last for decades. Our businesses often need to plan and contract for decades ahead, for example One NZ's contract with Fortysouth is for 20 years with the option of two 10 year extensions, renewable energy generation consents and offtake agreements are often for tenors of a decade or longer, and the current Wellington Airport Masterplan goes out to 2040.

Strategy: summary of scenarios and approach

Climate scenario selection

As part of analysing our risks and opportunities, we have undertaken a range of scenario analyses to examine the impact of climate change on our businesses. To do so, we have conducted separate analyses of our climate-related physical risks and our climate-related transition risks and opportunities.

Whilst the analysis is done through two separate processes, our transition risk analysis incorporates insights from our physical risk analysis.

Consistent with our approach in FY2023, we have chosen to use climate scenarios developed by Oxford Economics ('the Transition Assessment Scenarios') for our analysis of transition risks and opportunities, and a broadly aligned suite of scenarios underpin the Jupiter Intelligence ('Jupiter') platform that we are using for our analysis of physical climate risks ('the Physical Assessment Scenarios'). These are summarised in the table on the right and set out in more detail in the appendices. Both sets of scenarios are subject to limitations and assumptions explained on the next page under 'Challenges and uncertainties'

Oxford Economics' Global Climate Service scenario assumptions reflect scientific and economic research from a range of recognised sources[7] as well as its own bespoke analysis. The climate scenarios are run on its fully integrated Global Economic Model that provides a rigorous and consistent structure for scenario analysis and forecasting. This provides us with key macroeconomic inputs for our valuation models under the Transition Assessment Scenarios.

Jupiter Intelligence's ClimateScore Global platform uses climate scenarios and data from the Intergovernmental Panel on Climate Change Sixth Assessment Report ('IPCC AR6') and the most recent Coupled Model Intercomparison Project ('CMIP6'). Whilst the Jupiter platform is comparatively sophisticated, it nonetheless faces known limitations inherent to any global climate model, the principal one being that weather is difficult to model – and this is particularly so for some 'perils' such as hail. Jupiter continues to refine its model - for example it recently enhanced its resolution for topographical elevation data. The Jupiter assessment of physical risk can take some resilience features into account, such as existing or proposed flood levees, but it cannot yet take into account other relevant infrastructure factors such as the quality or scale of stormwater infrastructure.

Both the Transition Assessment Scenarios and Physical Assessment Scenarios pathways lie within the distribution of IPCC AR6 Shared Socioeconomic Pathways ('SSPs') and the associated warming in degrees Celsius by 2100. Some of these are focused on the tail end of the distribution and are therefore suitable for risk assessment.

The SSPs build on the Representative Concentration Pathways ('RCPs') used in the previous IPCC AR5 report, which focused on the physical impacts by describing the radiative forcings (watts per m^2) that occur under the different scenarios by 2100. The SSPs augment the physical impacts with narratives that outline societal choices under each scenario, such as policies, energy use and social cohesion. Further details on the climate scenarios specific to transition and physical risk analyses are set out in each of those sections.

The criteria underlying our choice of climate scenarios (for both the physical and transition components of our analysis) was that they need to be plausible but challenging scenarios from credible sources that are appropriate for a global portfolio. We have also considered the need to choose a range of scenarios that meet the regulatory reporting requirements (NZ CS 1 requires at least three scenarios, including a 1.5°C-aligned[8] and ≥3.0°C scenario).

The scenarios are not intended to predict the future or be perceived as 'most likely' outcomes - rather they were selected to help us explore the resilience of our strategy and portfolio of investments to the impacts of climate change and any potential actions that could alleviate risks, take advantage of opportunities, or help to further our understanding of the potential impacts of climate change.

We have chosen climate scenarios from Oxford Economics to assist our transition modelling, and Jupiter Intelligence for physical risk modelling. We have chosen climate scenarios from each which are broadly aligned, to help us explore the resilience of our strategy and portfolio of investments to the impacts of climate change.

Climate scenarios that underpin our analysis

Transition Assessment Scenarios	Baseline	Organised & Decisive	Delayed & Disorganised	Too Little, Too Late
Global warming	1.9°C 2050; 3.1°C 2100	1.5°C 2050; 1.5°C 2100	1.7°C 2050; 1.7°C 2100	2.2°C 2050; 5.0°C 2100
Mitigation policies	Limited (current national commitments)	Decisive and start early; orderly	Delayed (to 2030+); severe	No further policies
2050 carbon price	US$54/$tCO_2e$	US$726/$tCO_2e$	US$540/$tCO_2e$	US$54/$tCO_2e$
Average GDP growth to 2035	2.4%	2.1%	2.2%	2.2%
Average GDP growth to 2035 - 2050	1.8%	1.9%	1.7%	0.4%

Physical Assessment Scenarios	Baseline	SSP1-2.6	SSP2-4.5	SSP5-8.5
Global warming	Jupiter 2020 physical exposure assessments	1.7°C 2050; 1.8°C 2100	2.0°C 2050; 2.7°C 2100	2.4°C 2050; 4.4°C 2100
Physical damage		Mitigated	Largely mitigated	Severe, irreversible damage

7. Including: International Energy Agency Net Zero by 2050 Roadmap, IPCC AR6 and 1.5°C Special Report and Network for Greening the Financial System scenarios.
8. We note that the Jupiter SP1-2.6 scenario (shown on the next page) covers pathways which yield a temperature range of 1.4°C to 2.5°C, and a midpoint of 1.8°C which incorporates a 1.5°C aligned outcome.

Strategy: summary of scenarios and approach

Scenario analysis: challenges and uncertainties

Our statements and conclusions reflect our current understanding as at July 2024 in respect of the twelve month period to 31 March 2024. We acknowledge that our approach will continue to evolve over time, and we believe it is important to communicate the challenges and uncertainties with our climate scenario analysis.

The most material uncertainty is the exact nature and impacts from the physical change to the climate itself, particularly over long-term horizons, given the climate is dynamic, involves feedback loops, interdependencies, and tipping points. The manifestation of different climate scenarios in terms of economic impacts, and physical impacts at specific locations involves complex modelling, with inherent uncertainties.

On top of this, our financial models involve inputs and assumptions and have limited time horizons – most of our valuation models do not extend out as far as our longest climate scenario timeframe, other than through the terminal value[9].

Another challenge is that Infratil's business covers multiple sectors – renewable energy, digital infrastructure, healthcare, an airport – that each face different climate-related risks and opportunities. Given this, we focused on each platform separately for our transition risks and opportunities analysis. We have tried to distil our findings into content that is readily digestible, while retaining a meaningful level of detail.

A key challenge with using the outputs from these models in our transition analysis is determining how to incorporate the long- term macro-economic factors into the terminal value in our valuation models; another is determining the implications for each scenario on company-specific factors e.g. how a certain scenario might influence changes to specific maintenance and capex assumptions. Also, as we note in our healthcare platform analysis, the Oxford Economics outputs do not always align with our valuation model inputs e.g. Oxford Economics do not provide any population assumptions associated with each scenario.

For physical impacts, we have chosen to use software technology to analyse risks at the asset level, and graphical outputs to convey the insights. This year, we have sought to progress from reporting the level of exposure by number of sites, to providing an indication of anticipated financial impacts.

Assessing vulnerabilities of a site presents a further layer of complexity and challenges, for example, the vulnerability to extreme precipitation depends on local soil moisture and stormwater infrastructure capacity at the time of the event; determining the vulnerability of a hydro site to extreme precipitation is difficult to determine, given there is the ability to manage flows to a certain extent (by increasing the height of water storage, increasing generation and spilling water).

Another limitation is that Jupiter does not have the ability to assess vulnerability or performance of any underground assets or supporting infrastructure, such as three waters infrastructure, so this aspect of physical climate risk is excluded from our analysis.

Whilst we have sought to quantify our physical climate risk, if the exposure or vulnerability of a high-value single site asset was to change in the future, this could materially alter on our assessed impact.

In spite of these challenges, we have sought to refine our analysis and disclosures from that undertaken last year. One such evolution is the addition of some tables (set out on the next two pages) which summarise climate-related risks and opportunities for Infratil and at the portfolio level.

Whilst both Jupiter and Oxford Economics are reputable, sophisticated platforms suitable for our global portfolio, there nonetheless exists a range of challenges and assumptions that impact certainty of the scenario analysis.

These range from modelling uncertainties, to grappling with the size and diversity of Infratil's portfolio and the complexity of Infratil as a business, inherent uncertainties with climate modelling and some limitations of the platforms.

9. This is an input into the model that reflects the value of the company beyond the forecasted period when future cashflows can be estimated.

Strategy: summary of climate-related risks, opportunities and impacts

Infratil's risk register categories	Summary of material Infratil and portfolio level climate-related risks/ opportunities for each category	Anticipated impact	Infratil strategic response
Portfolio	**Physical Risk:** Climate change negatively impacts the value of Infratil's portfolio due to damage to physical assets. **Transition Risk:** Climate change negatively impacts the value of Infratil's portfolio, or access to attractively priced funding, due to transition risks. **Transition Opportunity:** Climate change presents investment and value creation opportunities for Infratil.	Physical risks: Reasonably anticipated physical climate-related impacts in the worst case scenario assessed (refer SSP5-8.5 on page 18) by 2050 is that up to 11% of Material Portfolio Company Assets (by number) and up to 5% (by value) are At Risk[10] i.e. assessed as being both highly exposed and vulnerable to one or more climate perils, namely flooding (coastal, pluvial and/or fluvial), extreme participation and, to a lesser degree, wildfire and hail: see "Findings" section on page 17. Transition risks/opportunities: Our analysis of climate-related transition risks and opportunities shows that the portfolio has some opportunities to improve overall portfolio value under an Organised & Decisive scenario and vulnerability to minor negative impacts under a Delayed & Disorganised scenario. The portfolio may have greater vulnerability to negative impacts under the Too Little, Too Late scenario, but at this stage, we consider it a less likely scenario than the others. This analysis also incorporated financial assumptions reflecting the physical impacts from climate change. See "Findings" section on page 17.	We integrate governance and management expertise in relation to climate-related issues into the investment process (p6-8) and our risk management system (p35). Further detail can also be found on p16 of Infratil's FY2023 Sustainability Report. Infratil's governance strategy includes screening, in line with its Exclusion Policy, and due diligence of potential investments, plus active management of climate and ESG issues with portfolio companies (p4,7-9,34). Our ongoing climate assessments provide greater understanding and improved oversight of physical risks (p18-23) and transition risks and opportunities (p25-33). Our draft Transition Plan (p34) sets out Infratil's foundations, approach and actions to support a transition to a low-emissions, climate-resilient future. Our portfolio is diversified by sector and geography (referred to on p4,23,27,29,35) and we have choices as to which sectors, jurisdictions and regions we deploy our capital. Infratil and its portfolio companies use insurance and alternative insurance mechanisms, including captive insurance schemes (referred to on p27,29). We follow credible standards and frameworks, such as NZ CS and PCAF, and set targets validated by SBTi (p3-4,9, 36-37,39). Our strategy and sustainability strategy both recognise the opportunity for Infratil to invest to enable the transition. Infratil also has an ability to attract capital for growth through improving its ESG ratings, and, in time, through sustainable finance (p10-11).
Operational	**Physical Risk:** Climate event is sufficiently widespread to negatively impact the operations of multiple assets simultaneously.	As set out on page 20, under a worst case SSP5-8.5 scenario by 2050, we see an increase in the number of sites exposed to physical climate risks that could impact operational resilience (precipitation, flood, wildfire, and extreme heat). Most (83%) of the sites in Infratil's portfolio have an overall hazard score in the low or lowest risk bands, indicating the level of resilience to a widespread event of the geographically diversified portfolio. If a widespread climate event occurred, up to 5% of Material Portfolio Company assets (by value) are assessed as being At Risk[10].	Our portfolio is diversified by sector and geography (referred to on p4,23,27,29,35). Our awareness of and responses to address physical climate risks through ESG DD and physical climate risk analysis supports greater resilience at the portfolio level (p7-8,18-23).
Compliance/ regulatory	**Transition Risk:** Infratil's climate disclosures fail to meet regulatory requirements.	Increasing focus and regulatory requirements in relation to Sustainability Reports and CRD in short and medium term.	We leverage Morrison and external expertise, including through organisations such as Chapter Zero, to support appropriate levels of climate capability for Infratil (p4,7-8). We have established processes for our Sustainability Reports, and CRD that seek to manage these risks, including independent assurance of our emissions data and review of our report against the NZ CS. We leverage technology (such as Persefoni and Jupiter) to provide insights and reliable and consistent reporting (p1,13,17-22,34). Further detail can also be found on p25 of Infratil's FY2023 Sustainability Report. We follow recognised standards (such as GRI) and frameworks (such as SBTi) and engage with relevant ESG Ratings/Raters such as CDP and GRESB to provide insights into market expectations (referred to on p3-4,8-11,34). Further detail can also be found on p25 of Infratil's FY2023 Sustainability Report.
Shareholder	**Transition Risk**: Failure to meet stakeholder expectations, which may materialise by way of climate-related litigation.	Over the short to medium term, increasing focus on credibility of action and disclosures in relation to climate change by a range of stakeholders (investors, lenders, communities).	

10. **Material Portfolio Company Assets** are defined as being the sites/assets of all Material Portfolio Companies that were assessed in the Jupiter platform, which excludes the Airport sea walls (due to complexities in the modelling of this site in Jupiter). The 5% metric is calculated by dividing the total proportionate insured, replacement or fair value (as available) of Material Portfolio Company Assets that are assessed as being At Risk by the total portfolio fair value. **At Risk** means that the assets have been assessed as being both highly exposed and vulnerable to one or more climate perils (as set out at p 18, including limitations).

Strategy: summary of climate-related risks, opportunities and impacts

As set out in our draft Transition Plan on page 34, Infratil's climate-related risks and opportunities, described on the previous page and repeated below, are incorporated into Infratil's strategy, its sustainability strategy, and integrated through the investment lifecycle.

Here we set out the relevant timeframes and ratings for risks and opportunities under our chosen climate scenarios for Infratil and its portfolio, and how they serve as an input into Infratil's capital allocation and investment decision processes.

For a description of the scenarios noted below, please refer to the description of the Physical Assessment Scenarios (SSP1-2.6 through to SSP5-8.5) on page 18 and the Transition Assessment Scenarios (Organised & Decisive through to Too Little, Too Late) on page 24.

Risk/opportunity rating key

High opportunity | Some opportunity | Insignificant risk | Minor risk | Moderate risk | Major risk | Severe risk

Horizon: Short (S - 0 to 3 years), Medium (M - 3 to 10 years), Long (L - 10 years to 2050+)

Qualitative analysis

Infratil and portfolio level climate-related risks and opportunities		Relevant Horizon	Organised & Decisive SSP1-2.6	Delayed & Disorganised SSP2-4.5	Too Little, Too Late SSP5-8.5	Relation to capital deployment and investment decision processes
Portfolio	**Physical Risk:** Climate change negatively impacts the value of Infratil's portfolio due to damage to physical assets.	M-L				Insights from Infratil's portfolio-wide physical climate risk analysis help to avoid an unacceptable level of physical climate risks in (existing and new) capital deployed into physical assets.
	Transition Risk: Climate change negatively impacts the value of Infratil's portfolio, or access to attractively priced funding, due to transition risks.	S-M				As shown on the graphic on page 6, a core function of Infratil's Board and of Morrison as its Manager, is to allocate capital in line with its strategy and sustainability strategy, both of which incorporate transition risk and opportunity considerations, as outlined on page 9.
	Transition Opportunity: Climate change presents investment and value creation opportunities for Infratil.	S-M-L				As evidenced by its focus on improving ESG ratings, Infratil strives to have a good reputation, including in relation to sustainability and climate change. This supports Infratil to secure attractively priced capital to continue to grow and invest in its portfolio.
Operational	**Physical Risk:** Climate event is sufficiently widespread to negatively impact the operations of multiple assets simultaneously.	M-L				Insights from Infratil's portfolio-wide physical climate risk analysis help to avoid an unacceptable level of physical climate risks in (existing and new) capital deployed into physical assets.
Compliance/regulatory	**Transition Risk:** Infratil's climate disclosures fail to meet regulatory requirements.	S-M				Whilst these risks present relatively minor direct financial impacts, they would have more material impacts on Infratil's reputation and social licence to operate, and therefore its ability to secure attractively priced capital to continue to grow and invest in its portfolio.
Stakeholder	**Transition Risk:** Failure to meet stakeholder expectations, which may materialise by way of a climate-related litigation.	S-M				

Strategy: summary of climate scenario analysis and initial findings

Below we set out a synopsis of the processes we undertook for our climate scenario analysis (assessing physical and transition risks and opportunities) and the findings that support Infratil's initial view of the anticipated impacts that it reasonably expects from these risks. In the subsequent sections on Physical Risk and Transition Risks & Opportunities we cover the scenarios, process, and initial outputs in more detail.

Physical climate risk scenario analysis: process

We have used a digital climate modelling platform developed by Jupiter Intelligence (Jupiter) to explore the impact of three climate scenarios on about 291 physical assets/sites ('assets') in our portfolio. We focused our analysis on the 'worst case' Physical Assessment Scenario (SSP5-8.5, refer scenario (iii) on the next page), at 2050, on the basis that the anticipated impacts are likely to be lower than those assessed in this scenario.

The Jupiter platform identifies which assets are most exposed to the various climate perils that it models under the Physical Assessment Scenarios. We took the list of assets in the high or highest exposure categories under the worst case scenario at 2050 and explored the vulnerabilities of those assets to the identified peril(s). Assets that were both highly exposed and vulnerable formed our list of At Risk assets.

We then took the value for each At Risk asset (insured or replacement value where possible) and using Jupiter's modelling, supplemented with modelling developed using Morrison expertise where necessary, to determine an annual average loss (AAL[11]) value for each At Risk asset. We then attributed a proportion of each AAL to Infratil based on Infratil's proportionate shareholding.

Physical climate risk scenario analysis: findings

Our analysis shows that the anticipated impacts reasonably expected from physical climate risks under SSP5-8.5 by 2050 are that up to 11% of our Material Portfolio Company Assets (by number) and up to 5% by value are assessed as being At Risk, i.e. being both highly exposed and vulnerable to one or more climate perils (see note 10 on page 15). These impacts occur mostly at healthcare and renewable energy sites.

Based on the assessment of AAL associated with the At Risk assets under SSP5-8.5, Infratil's reasonable expectation is a proportionate AAL of up to $11 million.

In other words, over a short-term 3-year period, Infratil's reasonable expectation is that the aggregate proportionate AAL in the 'worst case' scenario (SSP5-8.5) considered is up to $33 million; out to 2030 up to $66 million and out to 2050 up to $286 million (all in present day values and all else being equal).

Transition risk and opportunity scenario analysis: process

We used our valuation models for Material Portfolio Companies to explore the impact of three climate scenarios on the value of Infratil's portfolio in present day terms compared to the value of the companies under a baseline climate scenario. We have also worked with sector experts at Morrison to determine Infratil's view of relevant risks and opportunities for each platform that will help to inform our transition analysis.

To do this, for each Transition Assessment Scenario, we used macroeconomic data extracted from Oxford Economics climate models supplemented by adjustments to other model inputs informed by the risks and opportunities in our qualitative climate transition assessments and the findings of our physical climate risk modelling.

Our valuation models include detailed inputs generally out to at least 10 years (the terminal date). The models then have a 'terminal value' that reflects all future cashflows (adjusted for climate impacts) beyond the terminal date, discounted back to a value as at the terminal date. The models then discount the terminal value and all the detailed net cashflows back to a present value. These models produce initial outputs only and are subject to the range of limitations set out on page 14.

Transition climate scenario analysis: findings

We modelled the impact of the climate scenarios on the net present value of each of Material Portfolio Companies' cashflows out to 2050. Our initial analysis of climate-related transition risks and opportunities (combined with modelled financial assumptions to reflect the physical impacts from climate change) shows that the portfolio has:

- some opportunities to improve overall portfolio value under an Organised & Decisive scenario; and
- vulnerability to minor negative impacts under a Delayed & Disorganised scenario.

In other words, Infratil's portfolio benefits most from a decisive transition.

The portfolio may have greater vulnerability to negative impacts under a Too Little, Too Late scenario, but at this stage we consider it a less likely scenario (though it provides a useful 'worst case' boundary to support our assessment of the expected financial impacts from physical climate risks).

11 AAL is the annual average loss from present day to 2050 based on the probability of the peril occurring each year between now and 2050 where the probability of the peril is the aggregate probability of flood over a range of return periods from 1/10 to 1/500.

Physical risk assessment

Introduction and context

Infratil has subscribed to a platform developed by Jupiter Intelligence ('Jupiter'), a Clearvision investee company, to assist with analysing physical climate risk for the assets in our portfolio. Jupiter was selected by Infratil for its global capability, flexibility, credibility, and high resolution – the software can provide insights down to a 90mx90m grid cell resolution, with each of those points in the model having over 15,000 associated pieces of climate data.

In June 2023, we collected geolocation data from each portfolio company to upload into the Jupiter ClimateScore Global platform, which allows us to extract insights on the exposure to various climate events ('perils') under various climate scenarios over a range of time periods for each site. The platform also enables analysis at a portfolio level, as well as having the flexibility to classify each geolocation by portfolio company and by sector to perform more segmented risk assessments.

We have input 291 geolocations (in FY2023 we input 303 geolocations) into the Jupiter platform – this includes physical assets from across our Material Portfolio Companies (which excludes Galileo, Gurīn and Mint as they had no material assets as at 31 March 2024), as well as some sites in the companies' value chains.

We have also excluded Fortysouth's assets in this assessment as, at over 1,600 sites, they are too numerous to include practically and economically. We consider this appropriate given that, by their nature and geographic dispersion, the cell towers have a relatively low level of physical climate risk, particularly at the Infratil portfolio level.

We used the same list of assets as our assessment in 2023, other than removing a few sites that have been closed or sold. The number and value of new sites is not considered material, and we will look to update the site list when we consider it appropriate to do so in the future.

The categories of sites included in the assessment are set out below. All other aspects of the value chain have been excluded as it is not practicable to cover given the number of companies and sectors in the portfolio.

(i) Owned assets. 117 sites that relate to owned assets such as data centres (one site per campus), owned generation sites, owned properties, and retirement villages.

ii) 158 sites that are leased, where there is material 'owned' equipment, predominantly diagnostic imaging clinics (146) and sites that house key communication/IT equipment.

(iii) Assets that are leased such as offices and call centres (11 sites).

(iv) Assets that are not owned or leased, that are part of a portfolio company's value chain e.g. managed generation site, key access road, fibre access points (5 sites).

The outputs of our assessment in this report cover both the number of sites with various levels of exposure to each climate peril as well as analysis of anticipated impacts. The latter has been derived by considering which sites are both in the top two exposure bands (high and highest) and considered vulnerable to one or more perils. The subset of sites that meet both criteria ('at risk' assets) have then been analysed using the Jupiter platform to estimate an 'annual average expected loss', which is calculated in a similar way to an insurance premium.

We undertook the vulnerability assessments in conjunction with the relevant portfolio companies, taking into account any existing mitigants and controls. Each site was rated on a scale of 1(lowest) to 5(highest) for asset vulnerability based on the anticipated damage under the exposure identified by Jupiter.

These discussions have provided insights to Infratil, and its portfolio companies that can support asset management, portfolio companies' insurance discussions and any implications for business planning and/or strategy.

Physical Assessment Scenarios: analysis and timeframes

The scenarios explored using the Jupiter ClimateScore Global platform have the following attributes:

(i) SSP1-2.6: this represents midpoint warming of ~1.8°C by 2100 (broadly aligns with our Organised & Decisive scenario[12] and a Paris-aligned trajectory).

(ii) SSP2-4.5: this represents midpoint warming of ~2.7°C by 2100 (broadly aligns with current global climate commitments by governments[13]).

(iii) SSP5-8.5: this represents midpoint warming of ~4.4°C by 2100 (broadly aligns with our Too Little, Too Late scenario).

We note that as well as meeting the NZ Climate Standards' criteria for at least three scenarios, the above also aligns with Aotearoa New Zealand's first national adaptation plan which recommends using scenarios (ii) and (iii) for hazard and risk assessments. An overview of the SSPs shown above is summarised in Appendix 1. For internal purposes, we have undertaken modelling of the Physical Assessment Scenarios using the Jupiter platform.

In this report, we detail the impacts from climate change observed between a SSP1-2.6 baseline (2020) and Jupiter's 'worst case' SSP5-8.5 scenario (in 2050) as this effectively 'book ends' the scenarios (and timeframes) from a physical climate risk perspective. In other words, the SSP5-8.5 scenario presents the most challenging set of results from the scenarios available in the Jupiter platform.

Timeframes

The baseline year is 2020, which we have chosen to best reflect the present-day position. Jupiter can support analysis in future years on a 5-year incremental time scale out to 2100. For internal purposes, we have undertaken modelling of the Physical Assessment Scenarios across a range of timeframes from 2020 through to 2030 and out to 2050 using the Jupiter platform. However, for the purposes of this report, we have chosen to publish the impacts of the 'worst case' climate scenario (SSP5-8.5) modelled out to 2050 and compared the findings to the baseline (SSP1-2.6 in 2020).

Selecting the furthest point of our long-term horizon (2050) for our analysis allows for a reasonable period of time for climate-related impacts to manifest.

Accordingly, the estimated impacts set out below reflect those we would reasonably anticipate in the SSP5-8.5 scenario. At this stage, we consider it less likely than the other scenarios, but have utilised it for this analysis as it demonstrates the greatest possible physical impacts to our portfolio of all the Physical Assessment Scenarios.

Return period

We have tested the resilience of the assets and sites associated with our portfolio companies on a 1/100-year basis for the acute perils i.e. looking at the extent of the exposure to a climate peril that currently has a 1% per annum chance of occurrence. For Annual Average Loss calculations, the modelling takes a broader range of return periods into account.

We explore the resilience of 291 physical sites relevant to our portfolio companies using the Physical Assessment Scenarios in the Jupiter Intelligence platform.

This year, we have built on our FY2023 analysis to understand which sites are both highly exposed *and* vulnerable. We have then used a feature of the Jupiter platform to help assess the anticipated impacts from physical risks associated with climate change.

12. Used for the analysis of climate-related transition risks and opportunities covered in the next section starting on page 24
13. Temperatures | Climate Action Tracker

Physical risk assessment

Climate perils

We have explored the impact of eight climate perils on our portfolio company assets and operations, set out in the table below. In selecting these perils, we considered the options available in the Jupiter platform and the desire to present a broad suite of commonly referenced climate perils.

The Jupiter platform allows users to select different parameters e.g. a maximum temperature above 35°C or 38°C, but we have elected to continue to use Jupiter's default settings as they reflect commonly used parameters, due to their alignment with certain characteristics (e.g. 35°C is the level above which there are impacts to human health and performance).

The Jupiter platform assesses exposure in quintile bands, with 'Lowest' (dark purple) representing the bottom 20% of exposure and 'Highest' (pink) representing the top 20% of exposure experienced by all sites in Jupiter's baseline modelling. For example, Jupiter's baseline modelling showed that 20% of all sites in its global model in 2020 had a 100 year return period exposure to a flood > 2m.

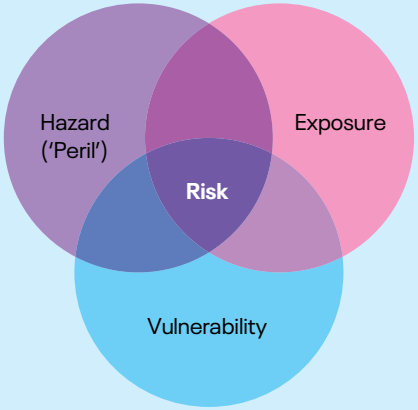
Since FY2023, Jupiter has refined and updated some of its band definitions to reflect refinement of its modelling, additional data and, in the case of wind, cold, heat, wildfire and flooding, re-evaluation to better match typical vulnerabilities of assets to these perils.

Peril Type	Climate Peril	Description	Highest Exposure	High Exposure	Medium Exposure
Chronic - gradual, long-term shifts	Extreme Heat	Mean days per annum where maximum temperature > 35°C	≥ 75 days	30-75 days	10-30 days
	Extreme Cold	Mean days per annum where minimum temperature < 0°C	≥ 100 days	60-100 days	15-60 days
	Water stress	Annual human water demand/ water supply	≥ 0.8	0.6-0.8	0.4-0.6
Acute - sudden, event-driven shifts	Wildfire	Probability of a wildfire in a 1km² grid cell per 100 years	≥ 0.7%	0.4-0.7%	0.2-0.4%
	Flood[14]	1 in 100 year chance of experiencing a flood with a depth in metres	≥ 2m	1-2m	0.5-1m
	Wind	1 in 100 year chance of experiencing a maximum 1-minute sustained wind speed (km/h)	≥ 209km/h	178-209km/h	154-178km/h
	Precipitation	1 in 100 year chance of maximum daily rain (mm)	≥ 325mm	250-325mm	200-250mm
	Hail	The number of days in a year where large hail (> 5cm diameter) is possible	≥ 2 days	1-2 days	0.35-1 days

The above exposure bands apply across all scenarios, but the proportion of sites in the bands will change under different scenarios and timeframes. For example, there will likely be fewer sites in the highest exposure band for extreme heat in 2020 under a SSP1-2.6 scenario than there is in 2050 under a SSP5–8.5 scenario.

This year, we have built on our understanding of the exposure of our portfolio company assets and sites to the identified climate perils by exploring the vulnerability of those assets and sites that have a high degree of exposure to one or more perils. As shown in the graphic below, the combination of these two insights (exposure and vulnerability) provides us with a view on overall risk and helps us to assess the potential impact on value.

For example, a data centre might be exposed to extreme cold, but has low vulnerability to this peril, so the associated risk to the asset is low. Conversely, a ground floor clinic might have a high exposure to rainfall, and if it is also deemed vulnerable (for example, the stormwater infrastructure and flood resilience characteristics of the building are weak), that presents a high risk for that clinic (but a lower risk to the overall business, given it is one clinic of many).



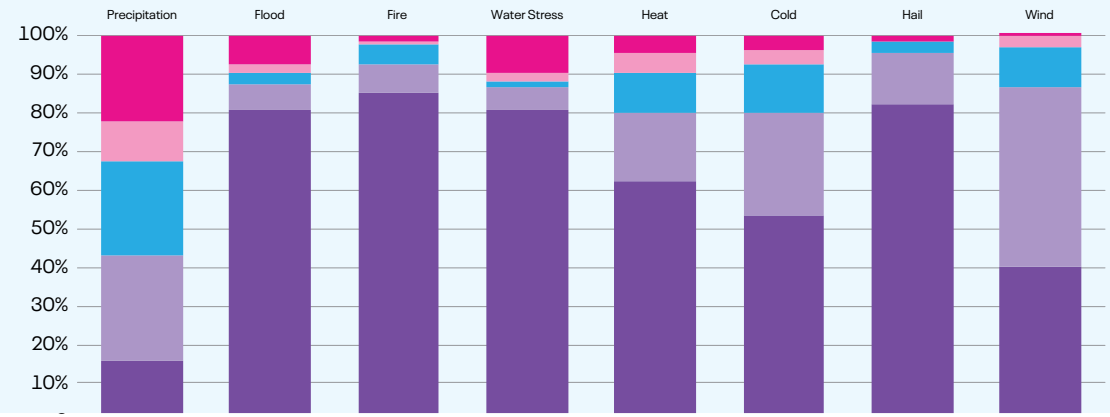
Risk = Hazard x Exposure x Vulnerability

14. This includes coastal flooding (from sea level rise, tides, and storm surge) and fluvial flooding (from and along rivers due to rainfall and severe storms)

Physical risk assessment

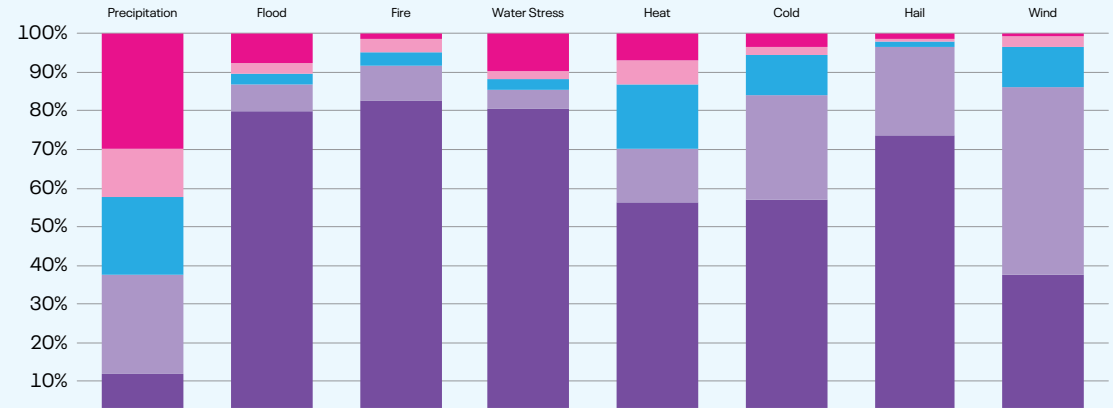
First, we explore **exposure** to physical climate risk at a portfolio level – note this page and the next focus on the number or proportion of sites in each exposure band for each peril, rather than implying a value impact. The Jupiter ClimateScore Global platform has generated the graph below showing the projected proportion of sites that fall within each exposure band for each of the eight climate perils as at the baseline year, 2020:

Proportion of assets/sites in each exposure band in 2020 (under SSP1-2.6 scenario)



Rolling forward to 2050 under the SSP5-8.5 'worst case' scenario, the same set of sites is exposed to the eight climate perils as follows:

Proportion of assets/sites in each exposure band in 2050 (under SSP5-8.5 scenario)



How does climate change impact the portfolio assets' exposure to the perils?

The main changes from our FY2023 analysis are the decrease in the number of assets in the high/highest bands for wind, cold and fire and an increase for flood and precipitation, due to the recalibration by Jupiter referred to earlier. Below we summarise the level of **exposure** to the most impactful perils for assets/sites in Infratil's portfolio and how this changes out to 2050 under a SSP5-8.5 scenario. On page 22, we explore **vulnerability** to these perils.

- **Precipitation:** Exposure to this peril is forecast to increase, with an additional 28 sites moving into the top two bands (123 by 2050). We note the broad dispersion across a range of locations which provides a mitigation against the operational and financial impact of any one event.
- **Flood:** The number of assets in the top two bands (29) is unchanged over time, but the level of exposure within the band typically increases. Most of these are hydro stations, which are designed to be resilient to this risk, but supporting infrastructure (e.g. access roads, grid connections) may be impacted.
- **Wildfire:** Sites in the top two exposure bands increase from 6 to 14 by 2050. Approximately half of these sites relate to generation assets which are typically in arid regions with little vegetation to create fire risk. The balance are clinics in Australia.

Increased exposure to **extreme heat** (37 sites in 2050, up from 29 in 2020) is unlikely to damage assets but would affect people and operations e.g. higher cooling costs, ability to undertake maintenance outside.

Physical risk assessment

Another perspective is provided by Jupiter's 'Overall Hazard Score' graph.

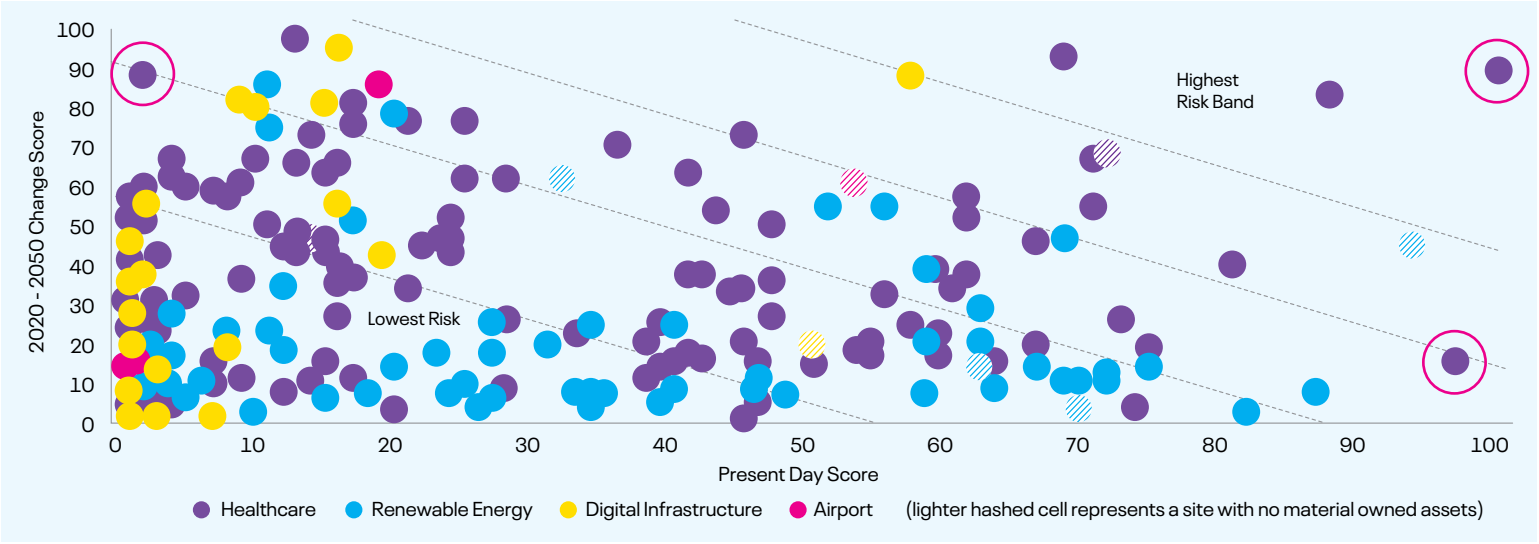
The horizonal axis Present Day Score is a score that, for each site, represents Jupiter's calculation for that site's weighted average exposure to all eight climate perils as at 2020 (a proxy for the Present Day). So, the purple dot sitting just above the x-axis at the right-hand side of the graph, with a score of around 96 (red circled), is highly exposed to climate perils today.

The vertical axis 2020-2050 Change Score is a score that, for each site, shows how much that site's exposure to climate perils changes between now and 2050 under the SSP5-8.5 scenario. So, the purple dot in the top right-hand corner of the graph is both highly exposed to climate perils today (with a Present Day Score of about 99), and the exposure is expected to change (increase) materially by 2050, with a Change Score of around 90 (as an aside, this is a leased clinic). The top left purple dot has a relatively low Present Day Score (2), but its exposure to climate perils by 2050 is assessed by Jupiter as being very high (89), and at 42, its Overall Hazard Score is rated medium risk.

For each site, Jupiter calculates an **Overall Hazard Score** which reflects the combined risk factor presented by both its Present Day Score and its Change Score. The Overall Hazard Scores are not shown on the graph axes, instead we have divided the sites into risk bands, delineated by the light grey dashed lines. The sites with the top 20% of Overall Hazard Scores are in the highest risk band (in the top right-hand segment of the graph), and the sites with the lowest 20% of Overall Hazard Scores are in the lowest risk band (in the bottom left-hand segment of the graph).

We make the following observations from a platform perspective:

Jupiter Overall Hazard Score : Infratil portfolio assets and sites by sector



- **Renewable assets** (blue) are deliberately sited for wind and sun, so we would expect to see some with a higher Present Day Score. Sites with a higher Change Score are predominantly solar assets. Two of the 72 sites (3%) are in the top two Overall Hazard Score bands, one of which is a leased office. We note that the First Solar Series 6 and Series 7 panels both have an operating temperature range of -40 to +85°C and at 35°C (the Jupiter threshold for extreme heat), the panels operate at about 3% below maximum efficiency.
- **Digital assets** (yellow) largely have low-moderate Present Day and Change Scores, and only one site is in the top two Overall Hazard Score bands. The assets with a slightly higher Overall Hazard Score, are data centres in Australia that have been assessed as not vulnerable to the perils to which they are exposed (wildfire and precipitation), given their design features and lack of surrounding vegetation.
- **Healthcare assets** (purple) show the greatest dispersion. These are largely clinics across New Zealand and Australia – any physical impacts from climate change on any individual clinic would not be expected to be material from a portfolio perspective. The main exposures (and perils that drive the Change Score) in this platform are precipitation (with about a 10% increase in the number of sites in the top exposure bands by 2050), followed by heat and water stress. Of the nine healthcare assets in the top two Overall Hazard Score bands, one is an office, one is a retirement village and the other seven are clinics in Australia.
- **Wellington Airport** (pink): the most exposed airport site (pink stripes) is the northern access road, which is vulnerable to coastal flooding. Whilst important for passenger access, this road is not owned by the airport, it is the responsibility of local and central Government. Wellington Airport is engaging with the relevant agencies on resilience upgrades. We have excluded the Airport's seawall from our analysis because, given its proximity to water, it was difficult to model in the Jupiter platform. However, we have included information on the company's planned investment in resilience of its marine protection assets on page 38.

Overall Hazard Score

Risk Band	Score	% Sites
Highest	80-100	1
High	60-79	3
Medium	40-59	13
Low	20-39	29
Lowest	0-19	54

Following recalibration of its exposure bands, the Jupiter platform shows that the sites in Infratil's portfolio are predominantly in the low-lowest overall hazard bands (83% compared to 71% in FY2023), reflecting that the combined risk factor of its current exposures, and change in exposure by 2050 is predominantly low-lowest.

Physical risk assessment

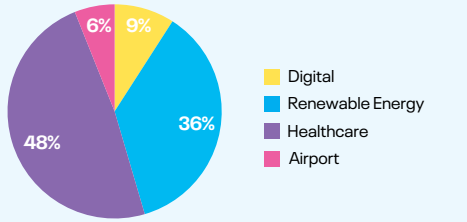
What is the distribution of the At Risk assets/ sites that are highly exposed and vulnerable to one or more climate perils under the SSP5-8.5 'worst case' scenario?

- Of the assets that are in any of the top two exposure bands under SSP5-8.5 by 2050, we assessed 33 as being vulnerable to those perils (rated > 3 on our scale of 1(lowest) to 5(highest)). Nearly 40% of these are sites not owned by the portfolio companies, though some have material owned assets housed in them e.g. clinics. Notably, there are no data centre sites that are both highly exposed and vulnerable (At Risk) – not surprising given the importance placed on resilience for this sector, and that all the sites are relatively newly developed.
- Our analysis shows the most exposed platform, by number of At Risk sites, is healthcare, followed by renewable energy; and the most common perils are extreme precipitation followed by flood. We note that the Wellington Airport sites that are exposed and vulnerable are the northern access route, and southern sea wall – both of these are well understood by the company and the risks are being actively managed, as covered in the company's own climate disclosures.

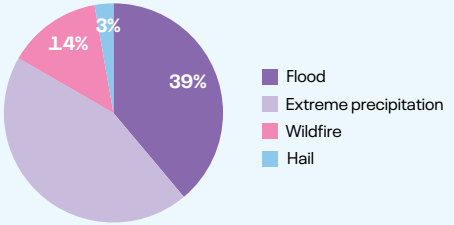
What are the anticipated physical impacts of climate change on the portfolio under the SSP5-8.5 'worst case' scenario?

- Jupiter has functionality to assess 'annual average loss' (AAL) for some, but not all, perils. It can assess Infratil's portfolio assets/ sites that are exposed and vulnerable to flood and wildfire but cannot assess hail and extreme precipitation. AAL can be viewed akin to an annual insurance premium (with no profit margin).
- We have therefore used Jupiter to assess impacts for flood and wildfire. For hail and precipitation, we applied a simplistic version of the Jupiter modelling based on the assessed vulnerability to estimate the annual average impact. We acknowledge this assessment was somewhat more basic than Jupiter's modelling function.
- Our analysis shows that up to 5% of assets (by value) are At Risk, i.e. being assessed as being highly exposed and vulnerable to one or more climate perils (see note 10 on page 15). The platform with the most exposed assets by value is renewable energy followed by healthcare, and then digital. The perils that present the most risk from a value perspective are flood and extreme precipitation. Proportionate AAL for Material Portfolio Company At Risk assets (excluding the Airport seawalls) out to 2050 is up to $11 million in present value terms.

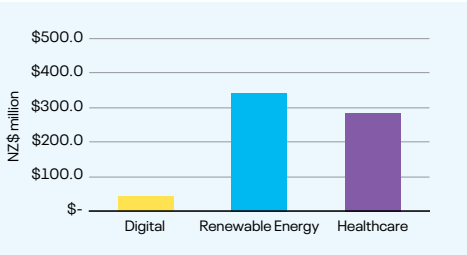
Distribution of the number of At Risk sites that are high/highly exposed and vulnerable



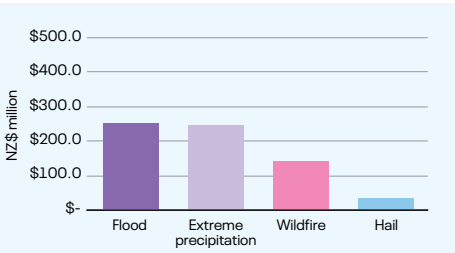
Distribution of the perils of At Risk sites that are high/highly exposed and vulnerable



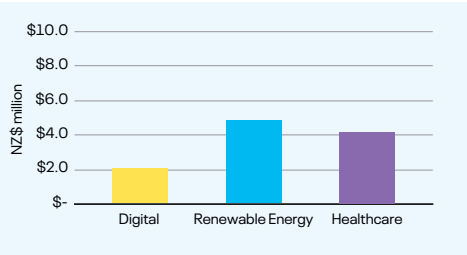
Proportionate total fair value of At Risk assets by platform (before insurance)



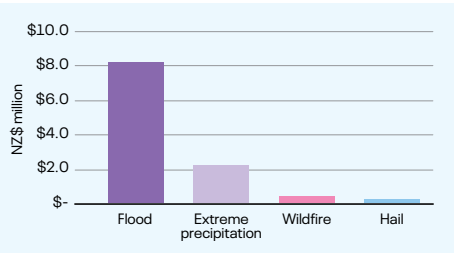
Proportionate total fair value of At Risk assets by peril (before insurance)



Proportionate AAL by platform (before insurance)



Proportionate AAL by peril (before insurance)



Under the SSP5-8.5 scenario, by 2050 up to 11% of portfolio company assets assessed (by number) are highly exposed and vulnerable to one or more climate perils (At Risk). This translates to an Annual Average Loss for these assets of up to $11 million in today's dollars. The perils most impactful are flood, extreme precipitation, and wildfire. The sectors most impacted are (in order of number of sites) healthcare, renewable energy, and then digital. Healthcare sites are leased clinics, where climate risk can be factored into lease renewal decisions.

Physical risk assessment

One NZ

Mitigating physical climate risk

For Infratil, one of the key mitigants to risk, including risks associated with the physical impacts from climate change events, is diversification. Not only are Infratil's portfolio companies geographically and sector diverse, but the physical assets within the portfolio companies are also geographically diverse across the jurisdictions in which they operate, except for Wellington Airport.

Whilst a pervasive, systemic risk such as the exposure to the physical impacts from climate change cannot be avoided altogether, this diversification by geography, sector, and asset type helps to limit the financial impact from climate events in any one year.

Many of our portfolio companies are increasingly undertaking work on identifying, mitigating, and reducing risks to their assets from the physical impacts of climate change. In doing so, they deploy a range of mitigation strategies including insurance and incorporating resilience considerations into site selection, design and construction.

In addition to geographic diversity, some other examples of mitigants deployed within the portfolio companies include:

- Wellington Airport is investing in adaptive capacity of its assets by upgrading marine defences and stormwater infrastructure.
- RetireAustralia has ongoing programmes of roofing repairs and preventative maintenance, helping to ensure roofs are tied down and regular monitoring and maintenance of stormwater infrastructure is undertaken.
- CDC's data centres incorporate a range of design characteristics that support resilience against a range of risks, including physical climate risks.
- As noted in our FY2023 CRD (page 7), Longroad is trialling the next generation of innovative solar trackers that have special features to help protect the solar panels from hail.
- RHCNZ and Qscan diagnostic imaging clinics are on a range of leases, typically with an initial medium-term tenor (albeit often with a right of renewal). This provides a mitigant to physical climate risk in that the business can choose not to renew a tenancy if the risk of an extreme weather event is deemed to be unacceptable.

Transition risks and opportunities assessment

To assess the potential transition impacts of climate change on our four platforms we took a dual approach utilising both qualitative and early quantitative analysis.

Whilst Infratil's enterprise risk management system focuses on risks at the portfolio level, for the purposes of assessing transition risks and opportunities, we considered each platform separately, as we expect that they will each experience different impacts due to the varying nature of each sector.

Consistent with the approach for our FY2023 CRD, our analysis explored the climate-related transition risks and opportunities for each platform across short, medium, and long-term horizons under the Transition Assessment Scenarios set out below.

Summary of scenarios explored

Below is a summary of the four scenarios which we have selected for climate change transition assessment. Apart from the addition of a Baseline scenario, the climate scenarios are consistent with those used for our FY2023 disclosures (which used our own, unadjusted valuations as the baseline). Further information on these scenarios and the assumptions behind them are outlined in Appendix 2.

Transition Assessment Scenario	Baseline	Organised & Decisive	Delayed & Disorganised	Too Little, Too Late
Temperature above pre-industrial levels (1850-1900)	2050 – 1.9°C 2100 – 3.1°C	2050 – 1.5°C 2100 – 1.5°C	2050 – 1.7°C 2100 – 1.7°C	2050 – 2.2°C 2100 – 5.0°C
Summary of Oxford Economics' Scenario Description	Some action by governments, albeit somewhat delayed, sees carbon emissions reduce but to a lesser extent and slower than the Organised & Decisive and Delayed & Disorganised scenarios. Out to 2050, global growth is only fractionally higher than these scenarios but will be negatively impacted further out as the physical impacts of climate change cause financial harm.	Immediate and coordinated global action by all stakeholders is undertaken to meet mitigation goals, this allows for a phased and moderate economic response with short-term economic pain inflicted as immediate steps are undertaken to reduce emissions for a long-term benefit.	Delayed and disorganised global action which requires a severe response by stakeholders to meet mitigation goals. This scenario is characterised by a delayed implementation of climate policies with significant action not implemented until 2030 though in the long run the economy benefits from the severe actions undertaken.	Limited climate action and failure in meeting Nationally Determined Contributions.[15] This scenario is characterised by little to no action towards climate policies and with increasingly severe economic impacts resulting from climate inaction as we move through the timeline with the long run outcome being significant impacts on day-to-day life and significant economic pain.

Oversight of the scenario modelling exercise has been provided by Morrison employees and Infratil representatives who sit on the boards of our portfolio companies and other sector experts.

15. All About the NDCs | United Nations

Transition risks and opportunities assessment

Quantitative assessment

Our quantitative modelling exercise is an initial assessment subject to a number of limitations. As a starting point, we used our internal portfolio valuation models to test the impact of the Transition Assessment Scenarios on our baseline valuation outputs. We chose to use our internal valuation models because they are an existing tool that integrates well with the Oxford Economics outputs. The main focus of this quantitative assessment was the period covered by the detailed component of our valuation models, typically out 10-20 years (depending on the company). We then adjusted our terminal value estimates to capture the impact of the Transition Assessment Scenarios from this point out to 2050.

To provide an early indication of the financial impact under each scenario, we used the Transition Assessment Scenarios outputs to provide the macroeconomic scenario inputs into our valuation models. We also made assumptions about company-specific, non-macroeconomic variables that are expected to be impacted by the different climate change scenarios, such as capex being impacted by policies requiring more stringent building standards. We have also incorporated assumptions about how physical impacts from climate change might impact financial impacts, such as operating expenditure ('opex') being higher due to greater maintenance required under a Too Little, Too Late scenario. This aspect was informed in part by the findings from our physical climate analysis covered in the previous section.

In FY2023, we compared the valuation outcome under each scenario to our current valuations. This year, we have progressed our understanding by comparing the valuation outcomes under our Organised & Decisive, Delayed & Disorganised and Too Little, Too Late scenarios to that observed using a suite of macroeconomic inputs from the Oxford Economics Baseline scenario. We did this to support consistency of approach (comparing 'apples with apples'). The Baseline scenario is intended to demonstrate a continuation of the current trajectory in terms of the global response to climate change.

In the next sections we set out the initial findings from our early quantitative and qualitative assessments for each platform. We have worked towards providing greater detail than what was disclosed in FY2023.

Given the significant uncertainties referred to here and on pages 1 and 14, we provide a narrative description (rather than quantitative outputs) of the findings from our quantitative analysis for each platform and at a portfolio level. Whilst we have made some progress, we are still refining our approach to quantifying the impacts to valuations.

We will continue to evolve our modelling and disclosures over time.

Qualitative assessment

In our qualitative analysis, in FY2023, we undertook an exercise with input from sector experts within Morrison to identify the potential climate-related risks faced by each of our platforms. We considered how each of our sector platforms are expected to perform in times of climate change related economic stress, and we considered how markets, governments, businesses, and society might respond under each Transition Assessment Scenario. This qualitative analysis helped to inform our quantitative modelling. It was focused on transition impacts rather than physical impacts, though some aspects, like insurance, relate to both.

As part of the qualitative assessment, we identified a number of transition risks and opportunities that might be faced by each of our platforms. These risks are not listed individually in Infratil's risk register, which is focused on risks relating to Infratil itself and its overall portfolio. We explored how these might impact the value of the platform and we estimated the severity of each risk (relative to the total fair value of each platform) under each scenario and over time.

As we worked through this assessment, we considered how our platforms may seek to mitigate the impacts of the identified transition risks or take advantage of identified opportunities. We also considered risks that relate to policy changes, technology, shifting market and consumer preferences and reputation.

This year, we have reviewed and updated the outputs from our FY2023 CRD qualitative assessment.

Summary of portfolio level impacts

At the portfolio level, in our analysis of the Transition Assessment Scenarios out to 2050, we observed that Infratil has some opportunities to improve overall portfolio value under an Organised & Decisive scenario and vulnerability to minor negative impacts under a Delayed & Disorganised scenario. The portfolio may have greater vulnerability to negative impacts under a Too Little, Too Late scenario, but at this stage we consider it to be a less likely scenario (though as mentioned, it provides a useful scenario to support assessment of potential financial impacts from physical climate risks).

Here, we set out a brief description of the impact under each scenario at the overall portfolio level:

Organised & Decisive: Under this scenario, we observe an overall uplift in the value of the portfolio, driven primarily by the Renewable Energy platform, where values are bolstered by an increase in generation development combined with high electricity prices in the short to medium term. The impact to portfolio value is directionally the same, but slightly higher in percentage terms, than what we observed in our FY2023 analysis.

Delayed & Disorganised: This year, we saw a small negative impact to valuations, slightly lower than observed in our FY2023 analysis. We observed an increase in the valuation of our renewables platform, compared to a negative impact last year.

We note the complexity of modelling this scenario, given significant changes in behaviour, prices and polices occur towards the end of/just after our valuation model timeframes, which need to be factored into the terminal value assumptions.

Too Little, Too Late: Under this scenario, our analysis showed negative impacts to valuations across the portfolio, similar to our analysis in FY2023, but to a greater degree. This is largely due to lower global economic growth (under this scenario, Oxford Economics' modelled GDP growth has deteriorated compared to last year), the financial consequences from the physical impacts of climate change, and a constrained ability to pass on cost increases given pervasive and increasingly severe economic stress under this scenario. The modelling shows that our Renewable Energy platform is also negatively impacted by the absence of supportive policies, despite electricity demand and prices remaining firm (due to a lack of drive for energy efficiency gains).

In the following pages, we explore the impacts of our climate scenarios at a sector level.

Summary of scenario analysis

Our transition modelling shows a correlation between action to reduce global warming and the value of our portfolio: more decisive action under the Organised & Decisive scenario provides the best outcome for Infratil's portfolio. Conversely, the portfolio is most vulnerable to minor negative impacts under a Delayed & Disorganised scenario.

Climate-related impacts to long-term growth, the cost of the physical impacts from climate change, and renewable electricity demand and prices are the key drivers of impacts to value.

Digital infrastructure

KLON-01 and KLON-02 at the Harlow Campus

Key modelling adjustments

GDP
CPI
Maintenance capex
Growth capex
Sales cadence
Interest rates

Summary of quantitative assessment

We assessed the climate transition impacts to the digital infrastructure platform from the Transition Assessment Scenarios against our modelled baseline, using our internal valuation models. Our findings this year were directionally consistent for each climate scenario compared to our findings in FY2023.

Under the Too Little, Too Late scenario, we see the largest divergence in value for our digital infrastructure platform, with long-term global GDP growth declining towards zero as the impacts of climate change start to dramatically affect the macroeconomy. We also anticipate higher maintenance costs and capex for our digital assets under this scenario as businesses respond to the physical impacts of climate change and seek to further enhance resilience, for example greater investment in initiatives to support security of supply for electricity. These factors present a drag on cashflows into the future, given the ability to pass through cost increases is likely to be more challenging in this scenario. Together these impacts – lower growth and higher costs – are shown by our modelling to result in a negative deviation from our baseline valuation.

The modelled impact of the Delayed & Disorganised scenario shows the greatest negative deviation from baseline compared to the other platforms. This is driven by long-term weak GDP growth, higher maintenance and opex (on a large physical asset base) and fewer transition opportunities than in the Organised & Decisive scenario.

Higher long-term growth and lower climate-related maintenance and capex drag lead to higher terminal value assumptions under an Organised & Decisive scenario compared to the baseline scenario.

Digital infrastructure

Risk/opportunity rating key

High opportunity | Some opportunity | Insignificant risk | Minor risk | Moderate risk | Major risk | Severe risk

Horizon: Short (S), Medium (M), Long (L) term

Qualitative transition analysis

Transition risks		Relevant Horizon	Organised & Decisive	Delayed & Disorganised	Too Little, Too Late	Comments/Mitigants
Policy changes lift requirements for building standards, putting upwards pressure on construction costs and/or requiring retrofits.		M				Over time, where relevant, we will engage with our portfolio companies to encourage them to 'stay ahead of the curve' on energy efficiency and building standards. Infratil and its portfolio companies aim to stay abreast of and engage in policy and regulatory developments. Portfolio diversification is another mitigant, providing Infratil with options as to when and where to deploy capital into future developments. Risk impact will depend on the ability to pass through any increased costs.
New **technologies** required (e.g. next generation data centre cooling equipment, telco infrastructure equipment) which are more expensive and/or in scarce supply due to high demand.		M-L				Over time, where relevant, we will encourage our portfolio companies to: - develop/maintain strong relationships with relevant suppliers. - stay abreast of technology developments and explore the use of latest energy efficient technology in new builds/upgrades.
Higher **market** cost of electricity due to:	Higher carbon prices and/or cost or availability of renewable energy supply.	S-M				Over time, where relevant, we will encourage our portfolio companies to: - implement energy efficiency measures to mitigate rising costs, particularly in relation to cooling systems and equipment. - work with customers and suppliers to encourage them to upgrade to energy efficient technology in a timely way. For data centres, long-term contracts and pass-through of some electricity costs are risk mitigants.
	Greater cooling demand and cost of physical and transitional climate impacts on electricity. infrastructure.	M-L				
Market prices, terms and conditions for insurance becomes less attractive (and/or insurance availability declines).		M-L				Some of our portfolio companies are already starting to: - address issues with insurance in relation to high pricing or limited coverage by engaging with insurers. - investigate and deploy measures to improve resilience to physical risks. Risk impact will depend on the ability to pass through any increased costs.
Market preferences shift towards lower data usage, or lower emissions options for digital/data.		M				Infratil encourages and supports its portfolio companies to take credible action to reduce emissions and set SBTi targets. In New Zealand, CDC has received and maintained Toitū net carbon zero certification since its first year of operation, making it the first certified net carbon zero hyperscale data centre provider in the country; and One NZ has committed to setting a SBTi validated emissions reduction target.
Reputational impacts associated with increasing focus on the growing energy demand of data centres and affect that might have on energy markets and wider decarbonisation ambitions.		S-M				
Reputational considerations for lenders limit financial appetite/ increase pricing for companies that are high emissions and/or not reducing emissions sufficiently.		S-M				

Transition opportunities

Reduce costs and/or exposure to energy and carbon price volatility through energy efficiency initiatives and/or reducing carbon footprint.	S-M				Infratil supports and encourages its portfolio companies to understand, measure and reduce their emissions footprints, using recognised frameworks such as GHG Protocol, SBTi and GRESB. Blank cells in the Too Little, Too Late column reflect that the opportunity is not relevant or that stakeholders are expected to have ambivalent attitudes towards sustainability and climate initiatives in this scenario.
Reputation: Leverage strong sustainability and climate credentials to attract customers, capital and community support.	S-M-L				
Develop new **products/services** to support the transition to a low emission, climate resilient future.	S-M-L				For example, One NZ's SpaceX proposed offering is expected to support continued connectivity in face of disasters arising from the impacts of climate change.
Greater **market** demand for digital services e.g. for working from home/virtual meetings, technology infrastructure to support innovative climate solutions.	S-M-L				This demand may arise from a desire to reduce emissions (e.g. from commuting/travel, energy efficiency or grid optimisation) or it may be due to greater climate-related disruption (e.g. increased extreme weather events making commuting/travel difficult).

Renewable energy

Longroad Energy 243MW
El Campo wind farm, Texas

Key modelling adjustments

GDP	Renewable energy demand
CPI	Development cadence
Maintenance	Development margins
Capex	Interest rates
Electricity prices	Generation volume

Summary of quantitative assessment

We assessed the climate transition impacts to the renewable energy platform from our Transition Assessment Scenarios. Two of the key factors underpinning our modelling in each of the three climate change scenarios are the forecast renewable energy demand and electricity prices. Manawa Energy's valuation is particularly sensitive to the latter given its largely fixed-price offtake contracts are shorter (full exposure to market pricing from FY28 onwards) than Longroad's average offtake tenor of 15.9 years.

Under the Organised & Decisive scenario, total global energy demand declines as consumers and businesses aggressively seek to reduce consumption through energy efficiency and other measures – against this, the proportion of renewable electricity grows from around 40% currently to over 97% by 2050. With the strongest suite of supportive policies and incentives, the modelled impact under the Organised & Decisive scenario presents the greatest valuation upside compared to the baseline both for the Renewable Energy platform and the overall portfolio.

Under the Delayed & Disorganised scenario, supportive policies and demand for renewables development comes later in the modelled period, meaning valuation uplift is positive, but not as strong as the Organised & Decisive scenario.

Conversely, the Too Little, Too Late scenario sees a continued rise in global energy demand, but the proportion of renewable electricity remains constant at around today's levels. A lack of supportive policies and the negative financial and economic impacts from the physical effects of climate change see some fall in value relative to the baseline for this scenario.

Renewable energy

Risk/opportunity rating key

High opportunity | Some opportunity | Insignificant risk | Minor risk | Moderate risk | Major risk | Severe risk

Horizon: Short (S), Medium (M), Long (L) term

Qualitative transition analysis

Transition risks	Relevant Horizon	Organised & Decisive	Delayed & Disorganised	Too Little, Too Late	Comments/Mitigants
Market demand for renewables decreases – either as a result of overall energy demand decreasing and/or as a result of apathy towards decarbonisation of the energy system.	M-L				Infratil's renewable energy platform has opportunities to continue developing generation under all scenarios, though energy demand and the rate of energy transition are factors worth continuously monitoring. Having a portfolio that is diversified across geographies and jurisdictions that may diverge in this regard is expected to act as a mitigant to this risk, whilst also providing broad-based exposure to opportunities.
Policy changes increase consenting and compliance costs and/or reducing incentives for new and existing developments.	S-M				Infratil and its portfolio companies aim to stay abreast of and engage in proposed changes to regulatory/consenting rules. Governments and regulators are aware of the need for new renewable generation, which limits the risk of burdensome changes under Organised & Decisive and Delayed & Disorganised scenarios. Risk impact will depend on the ability to pass through any increased costs. Portfolio diversification is another mitigant, providing Infratil with options as to when and where to deploy capital into future developments.
Competitors might more rapidly deploy new energy **technologies** which might emerge that are more cost effective, efficient or have other features more attractive than current renewable energy technology.	M-L				Infratil and its portfolio companies aim to stay abreast of emerging technology developments, including through engaging with experts, in industry forums and (for portfolio companies) suppliers. Morrison's global energy expertise is helpful in this regard. Through Infratil-nominated board positions, we will support exploring, where appropriate, deployment of the latest generation technology in new builds/upgrades.
Grid capacity becomes further constrained as **market** demand for connections grows and 'must run' renewable generation increases creating peaks in market supply which increase the risk of curtailment.	S-M				Where feasible, and practicable, Infratil's renewable energy portfolio companies seek: - geographical diversity of generation to avoid too much supply in any given location. - to investigate/deploy storage options for grid excess either through battery technology or other types of grid scale storage. - to secure sites with the ability to sell into multiple markets and/or manage via offtake contract terms. A related opportunity associated with this risk is that existing generation sites and secured development opportunities with good grid connectivity and capacity characteristics may become more valuable.
Intense **market** competition for new project sites and grid access as capital flows into renewable energy development. In some regions, we are observing a constraint in new grid connections due to supply chain and labour shortages.	S-M				To mitigate this risk, where feasible and practicable, Infratil's renewable portfolio companies could seek to: - enter into contracting arrangements to secure revenue for generation projects. - secure options/sites for future development projects where appropriate. - lift in-house grid capability to support accelerating and securing grid access. Portfolio diversification is another mitigant, providing Infratil with options as to when and where to deploy capital into future developments. A related opportunity associated with this risk is that existing generation sites and secured development opportunities with good grid connectivity characteristics may become more valuable.
Supply chain constraints arise from high market demand for components for renewable energy generation. Additional pressure on the supply chain may arise from raw material shortages, political instability, or **regulatory changes**.	S-M				We encourage our portfolio companies to develop and maintain strong supplier relationships. For example, Longroad has established a deep relationship with First Solar, affording favourable procurement status and supply chain benefits. Depending on market conditions, our portfolio companies are able to deploy a range of strategies to support supply chain access, such as diversifying their supplier base, utilising portfolio 'buying power', and leveraging their reputation and networks. Morrison helps to organise a procurement forum for Infratil's renewable energy companies to facilitate discussion of procurement insights and challenges. A related opportunity associated with this risk is that existing generation sites and secured development opportunities with good grid connectivity characteristics may become more valuable.
Market prices, terms and conditions for insurance becomes less attractive (and/or insurance availability declines).	S-M-L				Some of our portfolio companies are already starting to: - address issues with insurance in relation to high pricing or limited coverage by engaging with insurers or utilising captive insurance. - investigate and deploy measures to improve resilience to physical risks. Risk impact will depend on the ability to pass through any increased costs.
Increasing focus on reducing embodied carbon in generation equipment (and/or costs increase due to higher **market** prices for carbon).	S-M				Over time, where relevant, we will encourage our portfolio companies to stay abreast of technology developments & deploy low carbon technology in new builds/upgrades where feasible. One example of this is Longroad's planned use of the new Series 7 solar panels in its Serrano development, which have a relatively low carbon footprint as detailed in the inset story on page 11. Risk impact will depend on the ability to pass through any increased costs.

Transition opportunities

Climate-friendly **regulations/policy** provide incentives to develop renewable energy generation and/or increase demand for clean energy.	S-M-L				Infratil and its portfolio companies are focused on staying abreast of, and engaging in, regulatory developments in relation to clean energy. Diversity across a range of jurisdictions increases the likelihood of being exposed to positive policy changes. This is not seen as an opportunity under the Too Little, Too Late scenario, as there are unlikely to be climate-friendly regulations.
New renewable energy generation, storage and transmission **technologies** might emerge that reduce costs, increase generation, or have other attractive features.	S-M-L				Infratil and its portfolio companies aim to stay abreast of emerging technology developments, including through engaging with experts in industry forums and (for portfolio companies) suppliers. Morrison's global energy expertise is helpful in this regard. Whilst technology developments might emerge under the Too Little, Too Late scenario, they are somewhat less likely – and the imperative for novel/more challenging innovations such as green hydrogen is a low probability under this scenario (hence this cell is blank).
The drive to decarbonise increases **market** demand for renewable energy from existing and novel/emerging technologies (e.g. sustainable aviation, green hydrogen) which presents new investment opportunities.	S-M-L				
Reputation: Leverage strong sustainability, climate, and resilience credentials to attract customers/contracts, capital, and community support.	S-M-L				Infratil supports and encourages its portfolio companies to understand, measure and reduce their emissions footprints, using credible frameworks such as GHG Protocol, SBTi and GRESB. The blank cell in the Too Little, Too Late column reflects that stakeholders are expected to have ambivalent attitudes towards sustainability and climate initiatives in this scenario.

Healthcare

Key modelling adjustments

GDP

CPI

Maintenance

Capex

House Price Index

As a preamble to the next two sections, it is worth noting that our quantitative and qualitative assessments of the healthcare and airport platforms need to be taken in context of their scale relative to the wider portfolio.

We have endeavoured to use the rating key to reflect the financial impact relative to the total value of each platform. This year, we have also added greater nuance to our rating key to distinguish the level of risk and whether a risk is relevant or not.

As at 31 March 2024, the healthcare and airport platforms made up about 11% and 4% of the fair value of Infratil's total investment portfolio respectively, compared to digital (62%) and renewables (23%). So, a 'minor' risk for the healthcare or airport platforms is likely to have a lower dollar impact than the same grade risk for digital or renewables.

Summary of quantitative assessment

We assessed the climate transition impacts to the healthcare platform from the Transition Assessment Scenarios. Our modelling shows that neither the Organised & Decisive nor the Delayed & Disorganised scenarios had a material impact on valuations for the Diagnostic Imaging businesses.

Oxford Economics' assumptions did not provide a forecast for population growth, as an alternative we estimate GDP growth is a reasonable proxy for population growth and have used this assumption to estimate demand for healthcare services. As a result, scanning volumes continue to grow under all climate scenarios, albeit at a slower rate in the Too Little, Too Late scenario which assumes macro-economic growth slows and unemployment increases. We recognise that the impacts to health in this scenario may spur greater demand for diagnostic imaging, but this is very challenging to model, and the general economic stress may limit Government and private ability to pay for health services.

We found it challenging to sensibly incorporate the Oxford Economics House Price Index into our modelling; while this is a key metric for RetireAustralia's valuation, it contributed to the best valuation performance under Too Little, Too Late scenario (albeit negative). This aspect of our modelling requires some further refinement and customisation, which we will look to undertake next year.

Healthcare

Rating key for opportunities and risks (taking into account existing mitigants already in place)

High opportunity | Some opportunity | Insignificant risk | Minor risk | Moderate risk | Major risk | Severe risk

Horizon: Short (S), Medium (M), Long (L) term

Qualitative transition analysis

Transition risks		Relevant Horizon	Organised & Decisive	Delayed & Disorganised	Too Little, Too Late	Comments/Mitigants
Market values for property respond negatively to economic conditions resulting from policy responses to address climate change.		M-L				This risk relates to RetireAustralia, currently the only portfolio company whose valuation is highly correlated to general property prices. As at 31 March 2024, RetireAustralia made up less than 4% of Infratil's investment portfolio (by fair value), but just over 30% of the healthcare platform.
Policy changes lift requirements for building standards, putting upwards pressure on construction costs and supply chains and/or requiring retrofits (impacting retirement village sector more than diagnostic imaging).		S-M				Over time, where relevant, we will engage with our portfolio companies to encourage them to 'stay ahead of the curve' on energy efficiency and building standards. Infratil and its portfolio companies aim to stay abreast of and engage in policy and regulatory developments. Risk impact will depend on the ability to pass through any increased costs to portfolio company customers. Infratil can choose when and where (which sector and jurisdiction) to deploy capital into future developments.
New **technologies** required (e.g. low-carbon diagnostic equipment, next generation HVAC systems) which are more expensive and/or in scarce supply due to high demand.		M-L				Over time, where relevant, we will encourage our portfolio companies to: - develop/maintain strong relationships with relevant suppliers . - stay abreast of technology developments and explore the use of latest energy efficient technology in new builds/upgrades.
Higher **market** cost of electricity due to:	Higher carbon prices and/or cost or availability of renewable energy supply.	S-M				Our healthcare companies have already started implementing energy efficiency measures to mitigate rising costs, particularly in relation to heating, ventilation and air conditioning systems and diagnostic equipment. Page 38 of Infratil's FY2023 Sustainability Report sets out some information of how RHCNZ is selecting and deploying energy efficient equipment. For retirement villages, deploying distributed renewable energy solutions such as rooftop solar will reduce carbon emissions and may improve security of supply/resilience. Page 20 of Infratil's FY2023 Sustainability Report sets out an example of how RetireAustralia is focusing on these issues at The Verge retirement village. Risk impact will depend on the ability to pass through any increased costs.
	Greater cooling demand and cost of physical and transitional climate impacts on electricity infrastructure.	M-L				
Market prices, terms and conditions for insurance becomes less attractive (and/or insurance availability declines).		M-L				Some of our portfolio companies are already starting to: - address issues with insurance in relation to high pricing or limited coverage by engaging with insurers or investigating captive insurance. - investigate and deploy measures to improve resilience to physical risks. Risk impact will depend on the ability to pass through any increased costs.
Reputational considerations for lenders limit financial appetite/ increase pricing for companies that are high emissions and/or not reducing emissions sufficiently.		S-M				Infratil encourages and supports its portfolio companies to take credible action to reduce emissions and set SBTi targets.

Transition opportunities

Reduce costs and/or exposure to energy and carbon price volatility through energy efficiency initiatives and/or reducing carbon footprint.	S-M				Infratil supports and encourages its portfolio companies to understand, measure and reduce their emissions footprints, using recognised frameworks such as GHG Protocol, SBTi and GRESB. Blank cells in the Too Little, Too Late column reflect that the opportunity is not relevant or that stakeholders are expected to have ambivalent attitudes towards sustainability and climate initiatives in this scenario.
Reputation: Leverage strong sustainability and climate credentials to attract customers, capital, and community support.	S-M-L				

Airport

Wellington Airport

Key modelling adjustments

Passenger forecasts

GDP

CPI

Maintenance

Capex

Interest rates

Summary of quantitative assessment

Due to our airport platform consisting solely of Wellington Airport, the risks and opportunities faced by this platform are those faced by Wellington Airport. We have leveraged the work already done by Wellington Airport to inform our own qualitative analysis of transition risks and the impact of the Transition Assessment Scenarios on the platform.

Our quantitative analysis showed a small negative impact to the airport valuation under the Organised & Decisive scenario, slightly larger negative impact under the Delayed & Disorganised, and somewhat larger negative impact under the Too Little, Too Late scenario.

The key contributions to the valuation impact are the GDP trajectories, tempered by the airport's regulatory pricing structures which allow for a reasonable level of returns across a range of market conditions. However, we acknowledge the ability to pass on all cost increases will likely be constrained under a Too Little, Too Late scenario, given the severity of the economic impacts from climate change over the long term.

Passenger numbers have historically been strongly correlated to GDP growth. Large capex decisions are critical junctures for the airport, with passenger volumes being a critical input into these decisions. Our modelling conservatively assumes all planned capex proceeds under all scenarios, whereas closer to final investment decision, any business case and underlying forecasts will be heavily scrutinised (by the Airport, Infratil and stakeholders), which would be a mitigant under the worst case Too Little, Too Late scenario.

Wellington Airport is undergoing its own exercise to examine the impacts of climate risks on the business, and we continue to work with them to inform our collective view of climate impacts. Wellington Airport recently released its first climate-related disclosures, available here.

Airport

Risk key for opportunities and risks (taking into account existing mitigants already in place)

High opportunity | Some opportunity | Insignificant risk | Minor risk | Moderate risk | Major risk | Severe risk

Horizon: Short (S - 0 to 3 years), Medium (M - 3 to 10 years), Long (L - 10 years to 2050+)

Qualitative transition analysis

Transition risks		Relevant Horizon	Organised & Decisive	Delayed & Disorganised	Too Little, Too Late	Comments/Mitigants
Government **regulation/ policy** results in:	increased costs (e.g. from higher carbon prices).	S-M				Wellington Airport is working to reduce its operational emissions footprint. The company engages with Government on regulatory and legislative changes and is working to provide infrastructure to support a shift to more sustainable aviation. Wellington Airport has started to incorporate assessment of infrastructure required for novel aircraft into its forecasting.
	a cap or reduction in passenger numbers or increase in opex/ capex.	M				
New **technologies** deployed by airlines (Sustainable Aviation Fuel, electrification of aircraft) which are more expensive and reduce passenger demand.		M-L				Airlines have strong incentives to drive a commercially viable transition to sustainable aviation. Wellington Airport is working alongside the aviation sector to achieve this outcome.
Reputational considerations e.g. if the Airport fails to make credible progress on targets; or lenders limit financial appetite/increase pricing for companies that are associated with high emissions and/or not reducing emissions sufficiently.		S-M				Wellington Airport regularly engages with its stakeholders, is working on emissions reduction initiatives, is seeking to improve its Airport Carbon Accreditation rating and has committed to set a SBTi validated target. Sustainable finance can act as a mitigant to this risk - targets relating to the abovementioned initiatives have been embedded in some of Wellington Airport's funding through sustainability linked loans. Notwithstanding these mitigants, this remains a relevant risk given ongoing scrutiny of the climate-related impacts of the airline sector.

In addition to the above, we note the following characteristics that act as mitigants to all the above transition risks:

- the Airport has some diversification to its revenue base with 57% from aeronautical activities and 43% from commercial activities in FY24, with 20% of commercial revenue uncorrelated to passenger numbers.
- the Airport's regulatory pricing regime is a mitigant to transition risks by providing a degree of certainty of returns on committed aeronautical capex. Nonetheless, future large capex decisions will need to be made in light of any assessed risks to passenger numbers, including climate-related risks.

Transition opportunities

Introduction of low-carbon flights provides a **market** opportunity for a low emissions service that competes with alternative carbon-dependent transport options.	S-M-L				For example, electric aircraft on short-haul routes might become an attractive, sustainable transport option compared to car or ferry. Wellington Airport is currently engaged in initiatives to support low/zero emissions flights - refer pages 7-15 of its 2024 Kaitiakitanga Report. The blank cell in the Too Little, Too Late column reflects that stakeholders are expected to have ambivalent attitudes towards sustainable aviation initiatives in this scenario.

Draft Transition Plan

We have developed a draft transition plan for Infratil that pulls together the elements of Infratil's strategy and sustainability strategy that collectively describe Infratil's 'targets, including any interim targets, and actions for its transition towards a low-emissions, climate-resilient future' (as defined in NZ CS1).

In preparing this draft Transition Plan, we have had regard to the UK's Transition Plan Taskforce (TPT) guidance for Asset Owners and international peer companies.

The three key actions in the draft Transition Plan are:

1. Making and reporting progress against Infratil's SBTi targets.
2. Active investment management with portfolio companies on climate-related risks and opportunities through the investment process.
3. Collaboration and advocacy with stakeholders, third parties and peers, including with lenders to explore opportunities in sustainable finance.

Infratil's Board has approved this draft Transition Plan. We will review it annually, including in FY2025 as we seek to align with the anticipated NZ CS requirements. We will also monitor relevant developments from the Australian climate disclosure regime.

Infratil's draft Transition Plan for a transition to a low emissions, climate-resilient future

Actions

Science based emissions reduction targets

Infratil has committed to:

- maintain zero absolute scope 1 and 2 emissions; and
- reduce scope 3 emissions by achieving its SBTi target, which aims for 60% of its portfolio (by value) to have SBTi validated targets by FY2028 and 100% by FY2030; and
- reduce scope 3 emissions from business travel 25% by FY2030 from FY2023.

Infratil will consider setting a Net Zero target once SBTi has finalised its Net Zero framework for Financial Institutions.

Climate-related risks and opportunities

Infratil is maturing its processes and engaging with its portfolio companies to better understand, manage and disclose physical and transition impacts of climate change under various scenarios.

This provides insights on managing/mitigating climate risks and opportunities to integrate into the investment process.

A key role Infratil's portfolio can play in a just transition is the opportunity to develop cost-efficient, clean generation through its renewable energy platform.

Collaborate and advocate

To support our work on climate-related issues, we collaborate with technology providers (e.g. Persefoni and Jupiter Intelligence) and third-party experts (e.g. Oxford Economics).

We seek and share insights with stakeholders, portfolio companies and peers, and advocate for the right market and policy settings to support the transition.

Over time we may collaborate with lenders to integrate our ESG objectives into our capital structure through sustainable finance.

Means (climate integration)

Investment strategy

- We review our investment strategy in light of the latest views on megatrends and industry tailwinds, including in relation to climate.
- Some of our investments, such as global renewable energy and digital platforms, have important roles to play in the transition.

Screening & due diligence

- Material climate issues are identified and considered as part of the DD process for new investments, with reference to Infratil's sustainability strategy and objectives.
- Per our Exclusion Policy, we avoid investments that, in our view, are likely to harm the environment or are harmful to society.

Active investment management

- We identify and actively manage climate-related risks and opportunities in our portfolio as we seek to optimise value through good management of our investments.
- We support our portfolio companies to understand, measure and manage climate impacts and set their own SBTi targets.

Benchmarking & reporting

- We measure and report emissions and other key climate metrics and support our portfolio companies to do the same.
- At least annually, we will report progress against our SBTi target.
- We benchmark against recognised standards, such as GRESB and CDP.

Foundations

Infratil's strategy & sustainability strategy

We invest in ideas that matter; decarbonisation is a macro-trend tailwind that supports the rationale behind our renewable energy platform. Our investments are diversified by sector and geography, which increases our resilience to climate risks as well as providing exposure to climate-related opportunities. 'Climate & Nature' is one of the four pillars of Infratil's sustainability strategy.

Infratil's climate governance

Stakeholders want to see Infratil acting as a responsible steward with robust governance practices appropriate to its structure so that climate-related issues are managed well. Infratil's Board has ultimate responsibility for oversight of climate-related risks and opportunities; integration of climate into the investment process (see above) is also key to management of climate-related risks and opportunities.

Market standards, frameworks and regulatory settings

We seek to understand and comply with evolving climate-related policies and regulations as they can impact risks, create new market opportunities and drive innovation.

We recognise that adherence to recognised market standards and frameworks will give Infratil's stakeholders confidence in its approach to managing climate-related risks and opportunities.

Risk Management

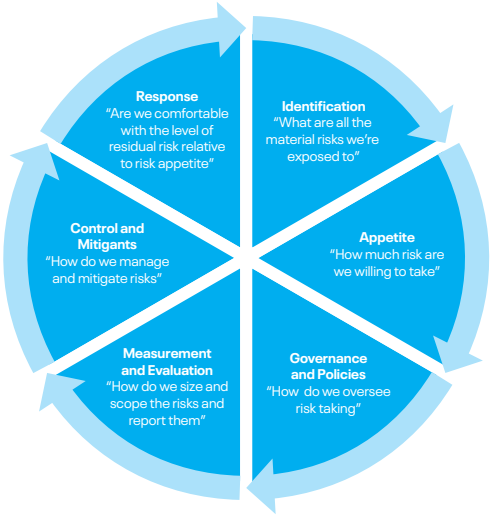
Managing risks, including climate risks, and integrating ESG and climate considerations throughout the investment lifecycle are key factors that support the long-term success and resilience of our business, and that of our portfolio companies. There are three approaches with Infratil's portfolio that, in combination, act as key mitigants to the impact of climate-related physical and transition risks:

- **Diversification:** Infratil's investments are diverse by sector, geography, and asset type and Infratil consciously determines the composition of its portfolio over time. Most of Infratil's portfolio companies also have a broad geographic distribution of their own assets across the jurisdictions in which they operate, which provides protection against a range of climate-related risks.
- **Exclusion:** Infratil's Exclusion Policy, summarised below, limits Infratil's exposure to businesses that are likely to be materially impacted under the Organised & Decisive or Delayed & Disorganised scenarios.
- **Engagement:** Infratil engages with its portfolio companies on ESG matters, including in relation to climate-related risks and opportunities, and is seeking to improve and mature our approach to assessing these risks and opportunities.

Risk Management processes

Infratil includes assessment of climate risk as part of its broader approach to risk management through its enterprise risk management system, which is summarised in the following diagram.

Infratil refreshed its risk framework and risk register in 2023. Workshops were held with sector teams to identify material risks, including, where relevant, climate-related risks that are material to Infratil. These risks were then assigned to one of Infratil's four principal risk categories: portfolio; operational; stakeholder management; and regulatory and compliance; with climate-related risks appearing in each category. In many cases, climate-related risks are an aspect of a broader risk, for example, the risk 'attracting and retaining talent' makes specific reference to having sufficient climate expertise within the business.



The risks in Infratil's risk register that have relevance to climate-related issues are summarised in the table at pages 15-16.

Following these workstreams, a formal Risk Management Policy was developed and approved by the ARC in early 2024.

Infratil's sustainability and climate-related risk assessments have been able to draw on insights from Infratil's 2023 ESG materiality assessment, our Jupiter climate physical risk assessment (see pages 18-22) and our climate transition risk modelling (see pages 24-33).

All risks, including climate-related risks, undergo the same risk assessment process, though the approach may differ depending on the nature of the risk. Infratil applies a '5 x 5' risk matrix and assessment methodology for assessing each risk; assigning a likelihood rating (from rare over a long-term (> 10-year) horizon, through to almost certain in the next six months) and impact rating (from no impact through to severe impact), producing an overall risk score which is plotted on a risk 'heat map'.

When preparing the heat map, the likelihood and impact for some climate risks, such as ESG litigation and stakeholder activism, are quantified using subjective judgement, informed by market precedents, and adjusted for the nature of Infratil's portfolio. We are starting to quantify other climate-related risks, such as physical and transition risks using available tools and technology – further details on Infratil's approach and the time horizons considered are set out in the Strategy section of this report.

Morrison, on behalf of Infratil, provides regular reporting to the ARC, approximately every six months. All risks in the register are assessed and reported via the heatmaps, along with the controls and treatments and commentary for those risks with the highest residual risk rating. Particular attention is given to strategic risks that have the potential to materially impact the overall performance of the Infratil portfolio.

Under the recently refreshed risk framework, the ARC has responsibility for monitoring compliance and reviewing and recommending any exceptions to the Risk Management Policy to the Board (if practicable) or the Board Chair for approval. Any crystallised risks or residual risks outside risk tolerance levels are communicated to the Board by the ARC Chair as part of the summary of each ARC meeting provided at each subsequent Board meeting, or earlier if appropriate.

Portfolio companies

As noted on page 12, through our investment management processes and board representation, Infratil looks to the board and management teams of each portfolio company to have robust governance and risk management processes in place to effectively identify, assess, and monitor the operational and strategic risks relevant to each individual business, including in relation to climate change.

As part of our approach to responsible investment, Infratil will not invest in organisations that derive material earnings directly from activities that, in our view can harm the environment, such as:

Extracting, processing and transportation of thermal coal

Oil exploration and production

Generating electricity using fossil fuels*

* Unless we are satisfied the entity has or can feasibly develop a credible 1.5°C aligned transition plan and will commit to setting emissions reduction targets that are validated by the Science Based Targets initative (SBTi).

Metrics and Targets

Longroad Energy's Sun Streams 2, solar farm, Arizona

Approach to emissions measurement and reporting

Infratil is an infrastructure investor with no directly employed staff, offices, facilities or direct products or services. The management of Infratil's investments is undertaken by its Manager, Morrison. Infratil owns no material assets other than its portfolio investments and cash deposits from time to time. Infratil therefore has no Scope 1 or 2 emissions. The material sources of emissions for Infratil are therefore all Scope 3 emissions.

The dominant source of Infratil's Scope 3 emissions is from emissions associated with our investment portfolio. We also report emissions associated with Infratil Board travel. Infratil measures and reports emissions in line with the GHG Protocol[16], PCAF[17] and its Basis of Preparation.

In accordance with PCAF, Infratil reports its share of emissions from each portfolio company in proportion to Infratil's share of total capital associated with that company (including both debt and equity).

By way of example, for an entity with $1 million of debt and $5 million of equity, if Infratil owns a 40% stake in the equity ($2 million), it will report 2/(1+5) = 33% of the entity's emissions as being attributable to its investment. The proportion of emissions allocated, here 33%, is known as the **attribution factor**.

Infratil has adopted the operational control approach, with all portfolio companies treated as investments, rather than deeming operational control for those where Infratil owns more than 50%. Therefore, emissions from the portfolio companies are all consistently reported in Scope 3 Category 15 (investments). Further rationale and details can be found in Infratil's FY2024 Basis of Preparation. Infratil has sought independent, expert advice that supports this approach. KPMG undertook a review of Infratil's FY2022 GHG emissions data and provided limited assurance over Infratil's FY2023 and FY2024 GHG emissions data.

When reporting its own Scope 3 Category 15 (investments) emissions, i.e. the attribution of the emissions of its portfolio companies, Infratil includes its portfolio companies' Scope 1 and 2 emissions.

This year we had sufficient coverage of portfolio company Scope 3 Category 6 (Business Travel) emissions reporting to also include this data where it was available. We will encourage our portfolio companies to continue expanding the extent and quality of Scope 3 emissions reporting, so that Infratil can increasingly include more Scope 3 categories over time.

In line with PCAF, we have also reported Infratil's financed emissions relating to Wellington Airport's Scope 3 emissions, including in relation to aircraft fuelling. Other than emissions relating to the Airport's staff business travel, we have stated its Scope 3 emissions separately from the other financed emissions to provide greater granularity, and because we do not have wide coverage for this category across the portfolio.

Organisational boundary

As set out in Infratil's FY2024 Basis of Preparation document, and in line with the GHG Protocol, Infratil has set organisational boundaries that capture the most material emissions, while endeavouring to optimise consistency, transparency, and relevance.

Entities included in the FY2024 emissions reporting boundary are all Infratil's portfolio companies excluding IIPL and Clearvision. In FY2023, Infratil's emissions reporting boundary was the same, but it also excluded the then newly established Mint Renewables and Fortysouth.

Climate metrics

Measuring the emissions performance of Infratil's investment portfolio through market-standard metrics provides stakeholders with information to understand the emissions and climate-related characteristics of Infratil's portfolio, and how they compare with recognised market benchmarks. As well as reporting operational and financed emissions, on the next page we provide additional climate metrics relevant to Infratil, including those referenced in NZ CS 1.

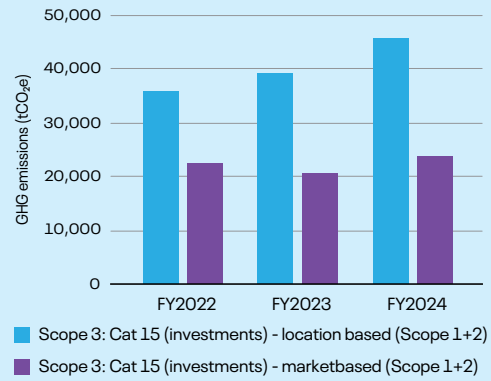
This year, we surveyed our portfolio companies to obtain a broader data set for climate-related expenditure/investment set out in the table on page 38.

16. The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2018) (the GHG Protocol)
17. PCAF (2022). The Global GHG Accounting and Reporting Standard Part A: Financed Emissions. Second Edition.

Metrics and Targets: emissions

Infratil's operational and financed emissions (tCO_2e)	FY2024	FY2023	FY2022
Scope 1: Infratil has no operational assets or facilities	Nil	Nil	Nil
Scope 2: Infratil has no offices or facilities that use electricity	Nil	Nil	Nil
Scope 3: Cat 6 (business travel)	224	212	Not measured
Scope 3: Cat 15 (investments) – market based (Scope 1+2)	22,863	20,222	22,206
Scope 3: Cat 15 (investments) – market based (Scope 1+2 + defined 3[18])	24,774	Not measured	Not measured
Scope 3: Cat 15 (investments) – location based (Scope 1+2)	45,376	38,789	34,873
Scope 3: Cat 15 (investments) – location based (Scope 1+2 + defined 3)	47,287	Not measured	Not measured
Scope 3: Cat 15 (investments) – immediate row above + all Airport Scope 3	128,864	Not measured	Not measured
Weighted average PCAF data quality score[19]	1.6	2.0	2.2

Renewable energy contracts have helped to constrain growth in financed emissions



Portfolio financed emissions metrics by sector[20]

FY2024	Digital	Renewables	Healthcare	Airport	Total
WACI[21] (tCO_2e/NZ$m revenue)	35.6	24.4	10.5	6.4	25.9
WACI (tCO_2e/US$m revenue)	59.7	40.8	17.6	10.7	47.9
Emissions intensity (tCO_2e/NZ$m invested)	2.0	0.5	2.6	0.6	1.6
Emissions intensity (tCO_2e/US$m invested)	3.3	0.9	4.3	1.0	2.7

FY2023	Digital	Renewables	Healthcare	Airport	Total
WACI (tCO_2e/NZ$m revenue)	52.2	17.6	21.0	8.1	36.4
WACI (tCO_2e/US$m revenue)	83.3	28.1	33.6	13.0	58.2
Emissions intensity (tCO_2e/NZ$m invested)	2.7	0.8	3.1	0.8	2.1
Emissions intensity (tCO_2e/US$m invested)	4.3	1.2	5.0	1.2	3.4

Portfolio financed emissions by sector (tCO_2e)

FY2024	Digital	Renewables	Healthcare	Airport	Total
Total - market based (Scope 1+2)	16,928	1,764	3,792	378	22,863
Total - market based (Scope 1+2 + defined 3)	17,920	2,064	4,358	432	24,774
Total – location based (Scope 1+2)	38,870	1,759	4,369	378	45,376
Total - location based (Scope 1+2 + defined 3)	39,862	2,058	4,935	432	47,287
Weighted average PCAF data quality score	1.5	1.8	2.0	1.0	1.6

FY2023	Digital	Renewables	Healthcare	Airport	Total
Total - market based (Scope 1+2)	13,783	1,918	4,129	392	20,222
Total – location based (Scope 1+2)	31,626	1,918	4,853	392	38,789
Weighted average PCAF data quality score	2.0	2.0	2.0	2.0	2.0

Total financed emissions (Scope 1+2 market based) have increased 3% since FY2022, due to growth in the digital platform and the increase in One NZ ownership. Financed emissions decreased for all other sectors. Against this, as shown in the blue bars in the graph above, location based Scope 1+2 emissions increased 30% over the same period, highlighting the importance of portfolio companies securing renewable energy supply. Renewable electricity contracts reflect 22,513 fewer tonnes of financed Scope 2 emissions in FY2024 (18,567 in FY2023).

Infratil's business travel emissions increased slightly (6%), largely due to a small uptick in aggregate long-haul passenger-km. Financed emissions relating to portfolio company business travel were 1,911tCO_2e.

Wellington Airport expanded its Scope 3 emissions reporting boundary in FY2024. Under PCAF we are required to disclose all financed Scope 3 emissions for Wellington Airport, which for FY2024 were 81,631tCO_2e, of which 99.8% relates to aircraft refuelling, and 54tCO_2e to staff business travel. Including all of the Airport's Scope 3 emissions would increase the company's emissions intensity metric from 0.6 to 131.5 tCO_2e/NZ$m invested.

Both WACI and emissions intensity decreased, reflecting absolute emissions reduction in all platforms except digital, combined with increased revenue (as a proxy, proportionate EBITDAF increased 60%) and value (fair value of the portfolio increased $4.3 billion or 45% in FY2024). PCAF data quality score improved (decreased) with some portfolio companies undertaking their own assurance/external reviews.

18. For FY2024, defined 3 includes Portfolio Company Scope 3 Category 6 (Business Travel) financed emissions
19. PCAF uses a five step data quality scale from 1 (best quality) to 5 (estimated). More detail can be found here.
20. Portfolio company Scope 1 and 2 emissions on a market basis.
21. WACI – Weighted Average Carbon Intensity. Sector metrics are not portfolio weighted to allow for comparison to peers and benchmarks

We have restated FY2023 Manawa Energy emissions to reflect a change in our interpretation for incorporating Minority Interests in line with PCAF. Consequently FY2023 market and location based financed emissions for Renewables have increased by 129 tCO_2e. We have also restated the Airport FY2023 WACI metrics, which were previously portfolio weighted.

Climate metrics

Metrics

Metric	FY2024	Comment
WACI – portfolio company Scope 1 & 2 emissions (market based)	25.9tCO_2e/NZ$m revenue (FY2023 36.4) 47.9tCO_2e/US$m revenue (FY2023 58.2)	The Weighted Average Carbon Intensity ('WACI') of Infratil's portfolio reflects the carbon emissions associated with Infratil's portfolio company investments per million dollars of each portfolio company's revenue. Individual company WACI is aggregated on a weighted basis, according to the company's fair value compared to the portfolio fair value. WACI provides insight into emissions intensity on an activity basis and is useful for comparison within sectors, to gain an understanding of each company's 'carbon efficiency' relative to its industry peers.
Economic Emissions Intensity – portfolio company Scope 1 & 2 emissions (market based)	1.6tCO_2e/NZ$m invested (FY2023 2.1) 2.7tCO_2e/US$m invested (FY2023 3.4)	Economic Emissions Intensity ('EEI') is an alternative measure of emissions intensity to WACI. It reflects the carbon emissions associated with Infratil's portfolio company investments against every million dollars of money invested by Infratil. EEI provides insight into the emissions relative to the value invested and allows for normalisation of emissions intensity where portfolio value is growing over time. It is useful for comparison of Infratil's portfolio against other portfolios or funds.
Portfolio coverage – validated SBTi targets	0% of portfolio companies (by value) (FY2023: 0%)	We note that in August 2023, both Wellington Airport and One NZ committed to setting SBTi emissions reduction targets. In March 2024 the Airport made a submission to SBTi and the company has stated that it is aiming to have its target validated in FY2025.
Portfolio coverage – commitment to SBTi targets	30% of portfolio companies (by value) (FY2023 0%)	Proportion of the portfolio (by fair value) of companies that have committed to setting SBTi emissions reduction targets, being the fair value of Wellington Airport and One NZ compared to the fair value of the total portfolio (excluding Clearvision and IIPL).
Amount or percentage of assets, or other business activities aligned with climate-related opportunities	$3.2 billion invested in renewable energy platform as at 31 March 2024 (FY2023 $2.5 billion).	Fair value of Infratil's investment in our renewable energy platform as per page 27 of Infratil's FY2024 Annual Report. Except as noted below, we have not identified financial values for specific climate-related opportunities in the other sectors, though some companies have or are planning products and services that have relevance to climate opportunities. One such example is the renewable energy options offered by CDC to its customers, many of whom have carbon targets, which, along with its low water use, are competitive differentiators for the company. Another is the SpaceX product being developed by One NZ, which would provide greater connectivity in the event of disasters, including climate-related events.
Amount of expenditure/investment deployed toward climate-related risks and opportunities	**FY2024 expenditure** $1.0 billion (FY2023 $0.4 billion) $7.6 million $3.1 million $1.3 million **Future expenditure** NZ$2.2 - $2.8 billion* $35.0 million* $25.0 million*	**FY2024 expenditure** Total proportionate capex relating to Infratil's renewable energy platform (p26 of Infratil's FY2024 Annual Report). Total proportionate expenditure by portfolio companies relating to decarbonisation initiatives, carbon credits, energy efficiency and renewable energy supply. Total proportionate expenditure by portfolio companies on initiatives to support resilience (noting climate resilience may not be the sole outcome/driver). Total Infratil and proportionate expenditure by portfolio companies on climate-related regulatory requirements, emissions reporting, disclosures, assurance, targets, sustainable finance, ESG/climate assessments (including GRESB, CDP) and supporting technology (e.g.: Oxford Economics and Persefoni). **Future expenditure** FY2025 capex guidance for Infratil's renewable energy platform (assuming NZD/USD at 0.6) as set out in Infratil's FY2024 investor presentation (slide 32).* Wellington Airport's disclosed FY25-29 expenditure on marine protection structures providing resilience against seismic and climate-related events.* Wellington Airport's disclosed FY25-29 expenditure on decarbonisation and transition initiatives.
Renewable electricity (owned) - generation capacity - generation volume	 2,281MW (FY2023 2,117MW) 6,043GWh (FY2023 5,750GWh)	 Total renewable electricity capacity of the portfolio companies in Infratil's renewable energy platform.* Total renewable electricity generation by the portfolio companies in Infratil's renewable energy platform.*
Renewable electricity pipeline	Over 50GW (FY2023: over 30GW)	FY2024 renewable energy platform development pipeline as per pages 43-49 of Infratil's FY2024 Annual Report.*
Internal emissions price	Neither Infratil, nor any of its portfolio companies have an internal emissions price in place.	Infratil's New Zealand based portfolio companies (41% of the portfolio by fair value) are either directly or indirectly impacted by carbon prices set through the New Zealand Emissions Trading Scheme (ETS) which averaged over NZ$60/t$CO_2$e (spot) and over NZ$75/tCO_2e (5-year) in FY2024 (~NZ$77 spot and ~$87 5-year in FY2023).
Management remuneration linked to climate-related risks or opportunities	n/a	With no directly employed staff, Infratil does not set any remuneration linked to climate risks and opportunities, however some of our portfolio companies have such pay structures in place. Some examples include Wellington Airport executive remuneration having an ESG modifier; Manawa Energy has incentive arrangements for management which include climate-related KPIs.
Amount or percentage of assets or business activities vulnerable to transition risks	Up to 5% of Infratil's assets (being the fair value of Infratil's investment in the Material Portfolio Companies).	The modelling under our Quantitative Assessment (page 22) showed a potential negative impact to the combined fair values for Infratil's investment in the Material Portfolio Companies of up to 5% under the Delayed & Disorganised climate scenario out to 2050. The Too Little, Too Late may have a greater negative impact on value, but at this stage, we consider it a less likely scenario. Our Quantitative Assessment also accounted for some physical impacts such as increased opex due to greater maintenance.
Amount or percentage of assets or business activities vulnerable to physical risks	Up to 5% (by value) of Material Portfolio Company Assets are At Risk[10].	This is the total proportionate insured, replacement or fair value of Material Portfolio Company assets that are assessed as being in the top two exposure bands (high/highest exposure) and vulnerable under a SSP5-8.5 scenario by 2050 relative to the total portfolio fair value. The At Risk assets are predominantly in Renewables and Healthcare and the dominant perils are flood, precipitation, and wildfire. Due to limitations with Jupiter assessing sea walls, we have excluded Wellington Airport from this assessment and point the reader to the future resilience expenditure noted above, as well as the company's own Climate Related Disclosures.

* not adjusted for our proportionate equity share i.e. these are gross, not proportionate values

Targets

Targets

a) Investment portfolio target

Infratil's target set out below has been validated as meeting the SBTi's requirements under a portfolio coverage approach, meaning it is aligned with limiting global warming to 1.5°C for portfolio company scope 1 and 2 emissions:

Infratil commits to:

- **60% of its portfolio by fair value setting SBTi validated targets by FY2028; and**
- **100% by FY2030, from a FY2023 base year.**

Progress as at 31 March 2024

- 0% of Infratil's portfolio has set SBTi validated targets.
- 30% of Infratil's portfolio, being Wellington Airport and One NZ, have publicly committed to setting SBTi targets.

In 2023, Infratil announced that it had set near-term emissions reduction targets across our portfolio and operational activities, in line with the SBTi's Financial Sector Science-Based Targets Guidance.

The SBTi is a global body enabling businesses to set ambitious emissions reductions targets in line with the latest climate science. Aligning with the SBTi framework is intended to give Infratil's stakeholders confidence that the emissions reduction targets are credible, comprehensive and in alignment with the science to support meeting the goals of the Paris Agreement.

As set out above, there are two limbs to Infratil's SBTi target – one is focused on emissions reduction in Infratil's investment portfolio (Scope 3, category 15), the other is focused on maintaining zero Scope 1 and 2 emissions and reducing emissions from board travel (Scope 3, category 6).

Our plans to achieve the targets do not include the use of any offsets (i.e. carbon credits). The boundaries for the targets align with Infratil's emissions reporting boundaries – details of which can be found in Infratil's FY2024 Basis of Preparation.

As at 31 March 2024, there were no companies in Infratil's portfolio with SBTi targets. However, both Wellington Airport and One NZ have registered their commitments to setting a science-based emissions reduction targets that will be submitted to the SBTi for validation.

Infratil aims to achieve 100% portfolio coverage by 2030, 10 years ahead of the timeframe required by SBTi. Infratil plans to review this target every 5 years, or if there is a material change to the portfolio, in line with SBTi requirements. We also plan to review and update the target if we are confident that it will be met earlier. Any new companies to Infratil's portfolio that don't have a SBTi target will have a grace period of up to two years before they must be included in the portfolio coverage calculation.

Infratil's strategy to achieve the portfolio coverage target is to leverage our influence and engagement with the portfolio companies directly and through Morrison. This can be done at a number of levels: asset managers engaging with the portfolio company management teams; Morrison sustainability executives engaging with and supporting the businesses; and Infratil's board appointees providing constructive oversight. Working in collaboration with the co-investment partners will also be an important limb of the strategy. In addition, Infratil intends to continue to target sectors, such as renewable energy, that support decarbonisation and uphold our investment screening on high emissions intensity sectors.

All portfolio companies were made aware of Infratil's intention to set a SBTi target and many entities now have work underway to understand their emissions profile, measure, and report emissions and to establish their own SBTi targets (albeit over a range of timeframes). Under the SBTi sector frameworks, each portfolio company can set targets that are relevant and appropriate to their sector, and some of the smaller companies will be able to set targets under the SME Framework.

We intend to regularly report progress against the target publicly, as part of the asset management process and to the Infratil Board. When material portfolio changes occur (for example, as a result of a new investment or divestment), Infratil plans to undertake modelling to understand the implications for Infratil's progress against the target.

Infratil intends to make our expectations clear from the outset with newly acquired or established portfolio companies through our asset management and portfolio company engagement processes. Infratil selected these actions because they best suit Infratil's approach to engagement on material issues with its portfolio companies, it provides clarity of expectations and progress for all stakeholders and allows for flexibility across different sectors and company sizes.

b) Operational targets

In addition to the portfolio coverage target, Infratil has also set the following operational emission reduction targets that have been validated by SBTi. The Scope 1 and 2 targets, being zero absolute emissions, are aligned with limiting warming to 1.5°C. The scope 3 component for business travel is in line with the SBTi requirements for this source of emissions, meaning it is aligned with limiting global warming to well below 2°C:

Infratil commits to:

- **maintain zero absolute scope 1 and 2 GHG emissions through FY2030 from a FY2023 base year.**
- **reduce absolute scope 3 GHG emissions from business travel 25% by FY2030 from a FY2023 base year.**

Progress as at 31 March 2024

- Infratil's Scope 1 and 2 GHG emissions were zero in FY2024.
- In FY2024, Infratil's scope 3 business travel emissions were +6% from FY2023.

The baseline year for our operational targets was selected as being representative for travel, being a period that was not impacted by Covid disruption and at a stage where Infratil had established a globally diversified portfolio.

Infratil's strategy to achieve this target is to restrict travel by directors where appropriate, particularly international travel; to increasingly consider alternatives to travelling using digital solutions and to adopt lower emissions transport options where available e.g. train travel in Europe.

Appendix 1

Physical climate risk scenarios

Scenario Global warming by 2050 Global warming by 2100 above pre-industrial levels (1850-1900)	**SSP1-2.6** Midpoint ~1.7°C Midpoint ~1.8°C	**SSP2-4.5** Midpoint ~2.0°C Midpoint ~2.7°C	**SSP5-8.5** Midpoint ~2.4°C Midpoint ~4.4°C
Emissions trajectory	Global net GHG emissions are cut rapidly reaching net zero around 2070 and become negative after that.	Global net GHG emissions rise slightly from current levels before starting to fall around mid-century, but do not reach net-zero by 2100.	Current global net GHG emissions levels roughly double by 2050 and triple by the end of the century.
Policy and socioeconomic factors	Societies switch to more sustainable practices, with focus shifting from economic growth to overall well-being. Technological innovation occurs with a focus on carbon sequestration technologies. This is the 'Paris Pathway' which is only possible if countries deliver on COP26 pledges.	Socioeconomic factors and technological trends follow their historical trends, with no notable shifts. Progress towards sustainability is slow. Development and income growth proceeds unevenly. This is the pathway we are on if countries follow current policy settings.	SSP5-8.5 can be considered a 'no climate policy' scenario. Overall rates of technological progress are modest. This scenario is associated with high consumption, energy demand and energy carbon intensity.
Macroeconomic trends	Moderate economic growth and a focus on sustainable development leave the world, on average, facing moderate challenges to mitigation and adaptation, but with significant divergence across and within countries.	Limited progress on development, slow income growth, and lack of effective institutions, especially those that can act across regions, implies high challenges to adaptation in all regions.	The global economy grows quickly, but this growth is fuelled by exploiting fossil fuels and energy-intensive lifestyles.
Energy pathways	By 2100, energy demand has increased, but only modestly, with growth fuelled largely by renewables.	By 2100, energy demand has doubled, with growth fuelled predominantly by increases in fossil fuels and, to a lesser degree, renewables.	A lack of focus on energy efficiency means that by 2100, energy demand has more than trebled, fuelled predominantly by fossil fuels.
Carbon sequestration/land use	Effective international cooperation to reduce emissions through land use. Methane emissions reduce consistently through to 2100.	Some limited international efforts to reduce emissions by limiting deforestation and agricultural emissions. Methane emissions start to reduce from around the mid-2030s.	Global use of cropland increases out to 2070 driven by the socio-economic context. Land (forest) cover steadily declines out to 2060 then remains constant. Methane emissions continue to increase until eventually declining towards the end of the century.

Other than temperature rises, Jupiter's climate models do not directly incorporate these factors into their bespoke modelling. Rather, the above descriptions serve to inform the reader about the factors associated with each of the SSP-RCP scenarios.

Appendix 2

Transition Assessment Scenarios:

Scenarios	Baseline	Organised & Decisive	Delayed & Disorganised	Too Little, Too Late
Global warming above pre-industrial levels (1850-1900)	1.9°C 2050 3.1°C 2100	1.5°C 2050 1.5°C 2100	1.7°C 2050 1.7°C 2100	2.2°C 2050 5.0°C 2100
Oxford Global Economic Model nomenclature	**Baseline**	**Net Zero**	**Delayed Transition**	**Climate Catastrophe**
Summary of Scenario Description	Medium to high reference scenario resulting from no additional climate policy. SSP3-7.0 has particularly high non-CO2 emissions, including high aerosols emissions.	Immediate and coordinated global action by all stakeholders to meet mitigation goals, allowing for phased and moderate economic responses.	Delayed and disorganised global action requires eventual severe response to meet mitigation goals.	Limited climate action results in failure to meet current nationally determined contributions.
Assumptions	All currently announced carbon reduction policies that are sufficiently detailed are said to be implemented. This means that carbon neutrality targets of some significant economies are not included due to lacking sufficient policy detail.	Net zero carbon emissions are achieved in 2050 through early policy action, technological advances, and global coordination. The impact on the economy is modest with higher investment helping to offset carbon taxes.	Climate policies are introduced relatively late, from the 2030s, requiring governments to eventually implement stronger policy action to achieve ambitious climate goals. Difficulties decarbonising and aggressive carbon taxes create substantial inflationary pressure prompting greater, more rapid investment in energy efficient technologies.	Governments fail to meet their policy pledges and the concentration of greenhouse gases in the atmosphere intensifies. Rising global temperatures result in severe physical damage that accelerates over time. High risk that climate systems reach tipping points.
Key implications:				
Physical:	Medium physical risk	Low physical risk	Low to moderate physical risk	Very high physical risk
Frequency and severity of climate events and level of mitigation	Increased impact and frequency of extreme weather events compared to today, though physical damage is only partly mitigated, limiting long-term economic growth	Some increase to impact and frequency of extreme weather events. Physical damage mitigated.	Moderate increase to impact and frequency of extreme weather events. Physical damage largely mitigated.	Large increase in the frequency and strength of extreme weather events which are expected to have a dramatic impact on the built and natural environment. Severe irreversible physical damage.
Transition Risks:	Medium level of transition risks	High level of transition risks	High level of transition risks, but delayed to 2030 and more intense than Net Zero	Little to no transition risks compared to other scenarios
Government regulation	Currently announced climate policies are implemented, but globally announced policies are expected to fall well short of the carbon reductions agreed in the Paris Agreement.	Governments implement stringent policies to limit global warming to 1.5°C, and global net zero CO_2 emissions in 2050. Aggressive, globally coordinated carbon pricing and technological investment support a move to cleaner, more efficient energy consumption.	Governments do not ramp up efforts to limit global warming until 2030. Therefore, more stringent policy is required to achieve similar climate outcomes to the Organised & Decisive scenario by 2050, resulting in greater economic impacts.	Governments fail to meet their nationally determined contributions. Carbon prices remain low or non-existent, and governments make no investment towards climate resilience.
Energy transition and energy markets	Despite falling oil and coal demand, the global energy mix is still dominated by high emissions fuel sources, though the electricity mix becomes significantly cleaner towards 2050 with ~75% of electricity generation coming from low carbon sources.	Significant reduction in energy consumption and carbon intensity of generation as the world shifts towards cleaner electricity. By 2035 demand for coal and gas halves and is almost zero by 2050. Electricity prices rise significantly at the start of the scenarios when there is still dependence on taxed fossil fuel inputs, but as cheaper renewables and nuclear technologies are adopted, prices start to fall.	There are significant reductions in energy consumption and the carbon intensity of energy generation with the transition towards cleaner electricity from 2030 to 2050. Because the Delayed Transition starts later, the energy mix is not quite as clean as the Organised & Decisive scenario.	Overall energy demand grows beyond baseline levels, with a greater reliance on carbon-intensive fossil fuels. Fossil fuels with higher marginal costs are required to supply increased demand, leading to higher overall energy prices than under the Organised & Decisive and Delayed & Disorganised scenarios.
Technology progression	Low levels of technological innovation occur with little to no new carbon sequestration technologies, though green energy investment is expected to reach US$86tn by 2050.	Technological innovation occurs with the main focus on carbon sequestration technologies, energy efficiency and renewable capacity.	Technological innovation occurs, though delayed to the 2030s due to the delay in government policy, with the main focus on carbon sequestration technologies (albeit at a lower level than the Organised & Decisive scenario), energy efficiency and renewable capacity.	Low levels of technological innovation occur with little to no new carbon sequestration technologies and only token investments into energy efficiency or renewable energy.
Carbon Price	Carbon prices are instituted based on current policies, with the prices expected to grow in line with mandated price paths, reaching US$54/$tCO_2e$ in 2050.	Carbon prices are instituted immediately and aggressively via a globally coordinated effort, reaching ~US$726/$tCO_2e$ by 2050.	Carbon prices are finally implemented in 2030, and at this point is instituted quickly and prices move higher aggressively, reaching ~US$540/$tCO_2e$ by 2050.	Carbon prices languish at current levels and only apply in jurisdictions with existing legislation resulting in a price of ~US$54/$tCO_2e$ in 2050.
Inflation	Under the Baseline scenario Inflation is expected to grow at a flat ~3% p.a. till 2050. Price growth is expected to remain subdued in the Baseline compared to the Delayed & Disorganised and Too Little, Too Late scenarios due to differing assumptions around the level of government intervention and physical damage arising from climate change.	Higher taxes and carbon prices, initially inelastic demand for fossil products and the associated sharp rise electricity prices lead to significant inflationary pressures, which slowly fade as economies transition away from taxed products. Inflation peaks early at ~6% in 2026 as carbon prices have their greatest impact. As the economy adjusts, inflation declines towards long-term baseline by the 2040s. Central banks look through the inflation impacts, managing inflation expectations through communication instead of rate hikes.	The peak in inflation is delayed compared to the Organised & Decisive scenario due to the lag around ramping up climate policy from global governments which does not occur until 2030. Inflation peaks at ~4% around 2031 before declining back to ~3% by c2038. Central banks look through the inflationary impacts, managing inflation expectations through communication rather than direct rate hikes.	Rising prices for key production inputs and food (higher temperatures and extreme weather events damage crop yields) cause a prolonged increase in global inflation versus baseline levels. Inflation, and to a lesser extent interest rates, are permanently elevated compared to baseline. By 2050, the absolute inflation index value is more than 21% higher than the baseline inflation index. Central banks hike policy rates to endeavour to manage inflation expectations and to help bring demand more in line with supply.
GDP	Baseline global GDP is expected to grow at a 2.1% CAGR from now until 2050. From 2022 to 2035, global GDP is forcast to grow at 2.4% and from 2035 to 2050 it is expected to grow at 1.8%.	From now till 2050, real GDP growth is lower than baseline as inflation from carbon prices eats away at real incomes, this impact is strongest up until the early-2030s where global GDP growth is expected to be 3.7% below the baseline forecast on an absolute basis. Once the world has adapted to a low carbon economy, the benefits of higher investment in the early years of the transition and lower relative temperatures is expected to benefit GDP growth, with GDP growing faster than baseline through to 2050. The GDP Cumulative Average Growth Rate ('CAGR') from 2035 to 2050 is 1.9% compared to baseline of 1.8%. In the second half of the century GDP is expected to grow above the baseline forecast due to mitigated climate risks and as benefits of higher investment and moderate temperatures are realised.	Under this scenario, real GDP is expected to experience a sharp decline in growth from 2030 as decisive government policy action impacts investment decisions. Until 2030 global GDP growth is expected to remain at baseline levels, but by 2045 global GDP is 3.5% below the baseline forecast as policies impact economic growth. GDP growth will recover above baseline growth by the end of the 2040s with the net result that GDP is 3.4% below the baseline forecast by 2050. GDP growth CAGR from 2035 to 2050 is 1.7% compared to baseline of 1.8%. Eventually, the low-carbon economy settles at a new equilibrium and overall GDP ultimately increases above baseline.	In this scenario global productivity and output decline as the impacts of climate increase and the costs and impacts of physical damage materialise. GDP CAGR from 2035 to 2050 is 0.4% compared to baseline GDP growth of 1.8%. By 2050, Global GDP is 21% below the baseline (in absolute dollar terms) as physical risks start to impact on business performance. This scenario leads to 'economic annihilation' (in Oxford Economics' words) by 2100 as temperatures increase to 5°C above pre-industrial levels, which is estimated as the threshold for mass extinction.
Consumer Preferences	A lack of education around climate impacts and slow development of efficient technologies means consumers continue current patterns of consumption.	Consumers move rapidly and decisively to low emissions products and services from circa 2025 onwards. Discretionary spending levels are lower initially, then increase from c2030 onwards.	Consumers eventually move to low emissions products and services from 2030-35 onwards. Discretionary spending levels are lower from 2030 due to more persistent high inflation.	Consumers are apathetic towards climate change initiatives and are slow to adopt new technologies and ways of living. Little to no demand for sustainable and climate friendly products and services. Low discretionary spending due to persistent high inflation, high remediation costs (and high insurance costs or no/limited availability).

The scenarios underpinning the Oxford Economics' Global Climate Scenarios used in our FY2024 transition analysis are:

- REMIND (Regional Model of Investments and Development) MAgPIE (Model of Agricultural Production and its Impacts on the Environment) Integrated Assessment Model (IAM) outputs from the Network for Greening the Financial System (NGFS) 4th vintage (published November 2023), specifically based on the Net Zero, Delayed Transition. This data source is used for the (i) carbon pricing, (ii) electrification and electricity supply mix, and (iii) energy efficiency assumptions in the 'Net Zero' and 'Delayed Transition' scenarios.
- IEA World Energy Outlook 2023 for energy investment assumptions (published October 2023) in the 'Net Zero' and 'Delayed Transition' scenarios and carbon price baseline forecast
- IPCC Special report on Global Warming of 1.5°C (published October 2018) for range of carbon capture assumptions in the 'Net Zero' and 'Delayed Transition' scenarios.
- Circular economy and fossil fuel supply assumptions in the 'Net Zero' and 'Delayed Transition' scenarios are based on Oxford Economics' assumptions.
- The 'Climate Catastrophe' scenario is based on Oxford Economics' assumptions across carbon pricing, circular economy, energy investment, carbon capture, electrification and electricity supply mix, energy efficiency, and fossil fuel supply.

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