

Our energy.
Our future.



Whakamana i te mauri hiko tū mai Aotearoa.

We empower the energy future for New Zealand. From generation sites around the country, to industry, cities, towns and rural communities, we provide the connections that power our economy.



Empowering the
energy future for
New Zealand.

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About this report

Integrated and accountable

Our integrated report sets out to explain how Transpower draws on and interacts with the various natural and human capitals or taonga that feed into our organisation. It also seeks to detail how we manage, sustain, protect and build on these through the work we do in empowering Aotearoa New Zealand's energy future.

As the owner of the country's transmission grid, and the operator of the electricity system, our work has the potential to affect every New Zealander. Electricity is an essential lifeline utility. While its flow is invisible, the work we do to keep this energy flowing has many different physical touchpoints. Our assets are located across the length and breadth of the country, and we rely on close collaboration with industry, communities, landowners and iwi. We are mindful of this dual privilege and responsibility, and it directly informs our reporting goals.

Alongside this, we have a range of statutory reporting requirements as a regulated State-owned Enterprise and NZX-listed company. The report aims to present a clear and accessible record of our business information and our progress against a wide range of environmental, social and economic measures. To ensure this information is as accurate as possible, our financial statements are independently audited by Sam Nicolle of Ernst & Young (EY) on behalf of the

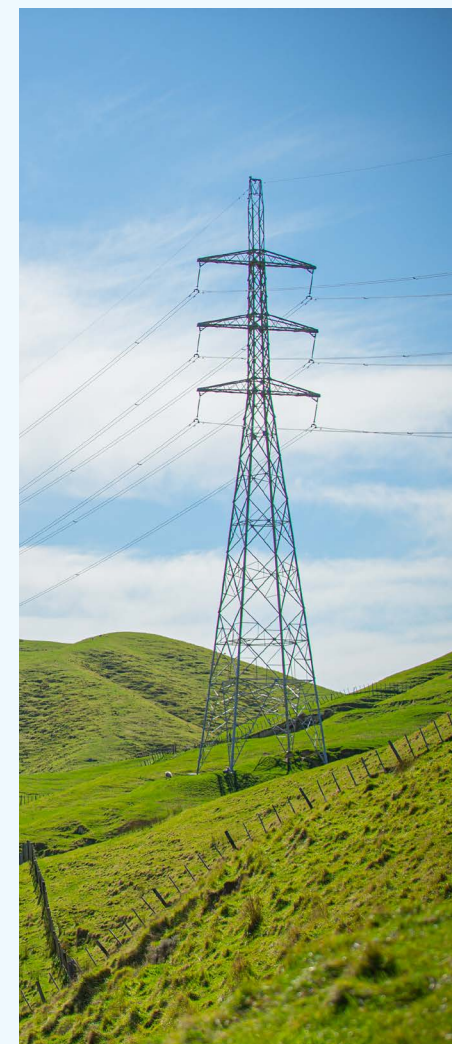
Auditor-General. Our greenhouse gas (GHG) emissions inventory is also assured by EY in accordance with the International Standard on Assurance Engagements (New Zealand) 3000 and 3410 Assurance Engagements on Greenhouse Gas Statements issued by the External Reporting Board. We have been working with an independent assessor appointed by the Sustainable Business Council to evaluate our progress against the World Business Council for Sustainable Development reporting framework. Data that does not go through an external assurance process is subject to robust internal review to ensure accuracy.

Our report provides additional insight into how we are meeting the key initiatives laid out in our strategic framework and highlights some of our specific challenges and achievements over the past year. It also provides detail on the progress we are making in our adoption of the Task Force on Climate-related Financial disclosures (TCFD) reporting standards, and our preparation for the Aotearoa New Zealand Climate standards, the first of which will be issued by the External Reporting Board in December.

What has changed

This year we conducted a new materiality assessment to refresh our understanding of our stakeholders' perspectives. This has helped us to better understand the impact we have as an organisation, those whom we affect, and the issues that continue to matter the most. We have prepared this report to provide a transparent and comprehensive window into how our work over the past year is navigating and responding to these issues. Last year, content was grouped around our six key performance outcome measures. This year, in recognition of the interdependence between our own targets and the key material issues identified by our stakeholders, we have taken a more narrative approach and address these intersections across four thematically grouped chapters.

This new approach helps us to tell the story of Transpower within the wider context of the national electricity sector and the step changes that are occurring to meet decarbonisation goals both in Aotearoa New Zealand and across the world.



Who we are

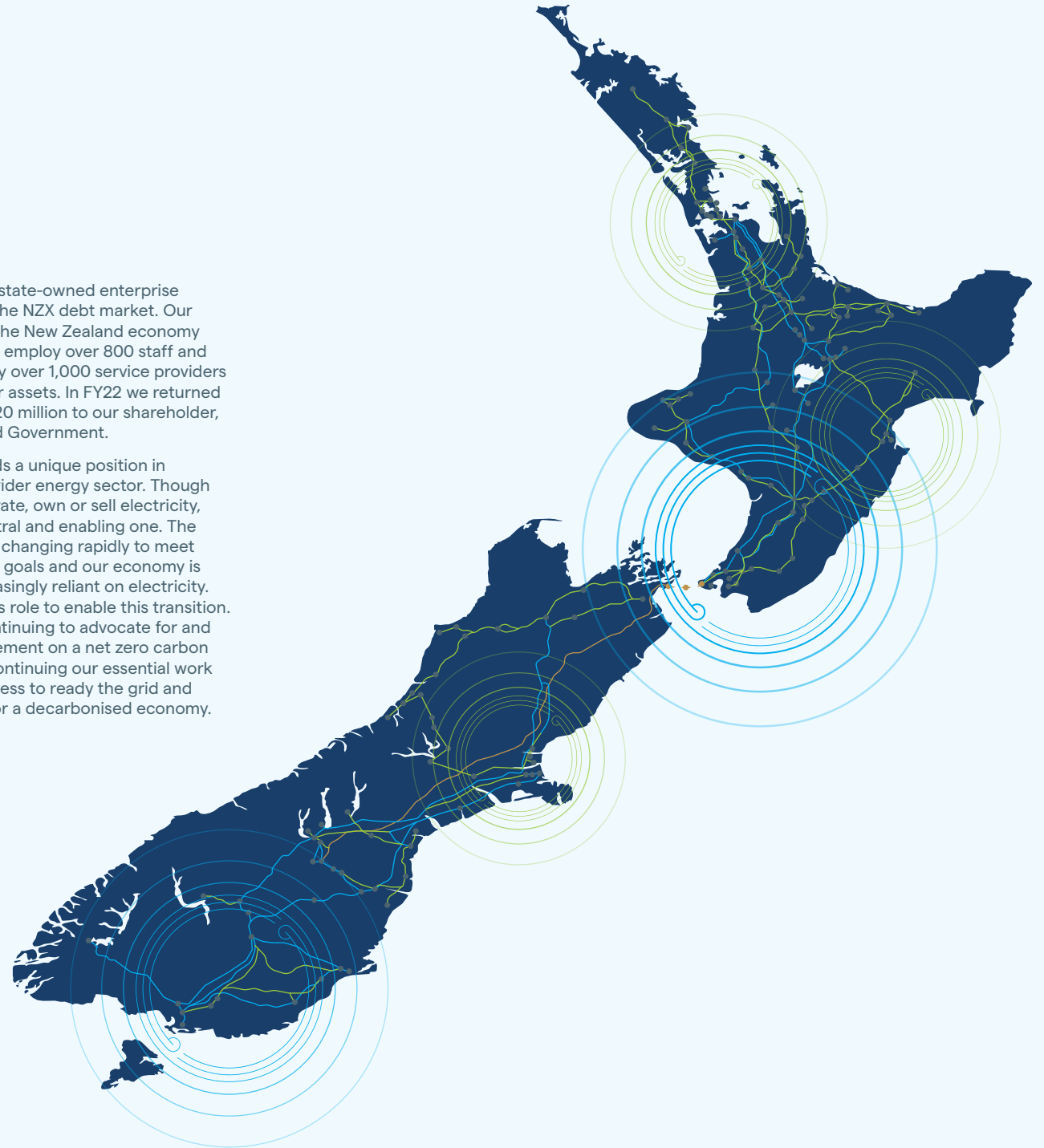
Transpower New Zealand is committed to empowering the energy future of New Zealand – **Whakamana i te mauri hiko tū mai Aotearoa.**

There are two key parts to our business. We are the owner of Aotearoa New Zealand's national grid – the high voltage transmission network that carries electricity around our country. Our national grid is essential infrastructure that transports bulk electricity from where it is generated through to cities, towns and some major industrial users. The grid connects with smaller lines companies who package and deliver that power to the doorsteps of New Zealand's homes and businesses. Our transmission network includes over 12,000 km of transmission lines, 25,000 transmission towers and 170 substations – assets that are worth more than \$5 billion and provide direct benefit to the whole country.

Transpower is also the system operator. We are responsible for managing the real-time power system and operating the wholesale electricity market. In this role we are regulated by the Electricity Authority in accordance with the rules and regulations that define the market structure in New Zealand. Because there is only one national grid, our transmission network is a natural monopoly and is regulated by the Commerce Commission.

Transpower is a state-owned enterprise and is listed on the NZX debt market. Our contribution to the New Zealand economy is significant: we employ over 800 staff and indirectly employ over 1,000 service providers who work on our assets. In FY22 we returned a dividend of \$120 million to our shareholder, the New Zealand Government.

Transpower holds a unique position in New Zealand's wider energy sector. Though we do not generate, own or sell electricity, our role is a central and enabling one. The energy sector is changing rapidly to meet decarbonisation goals and our economy is becoming increasingly reliant on electricity. It is Transpower's role to enable this transition. We do so by continuing to advocate for and promote engagement on a net zero carbon future, and by continuing our essential work across the business to ready the grid and power system for a decarbonised economy.



Where we fit in

We own and operate New Zealand's national electricity transmission network and run the electricity market system.



- 1 Generation**
Generation companies generate power from wind, thermal, hydro and geothermal. They sell the power they generate on the electricity market. Emerging distributed generation includes electric vehicles, batteries and solar photovoltaic.
- 2 New Grid Connects**
As New Zealand moves to electrify its economy, Transpower is receiving more requests to connect to the grid. This includes new generation such as solar and wind, as well as new industrial demand.

- 3 Transmission**
Transpower transports high voltage electricity from where it is generated to distribution companies and some large directly connected customers.
- 4 Industrial Customers**
A few major industrial companies receive their power directly from Transpower.
- 5 Substations**
Substations reduce the voltage at the point where electricity is delivered to distribution companies – our customers.

6 System Operator
Operates the wholesale electricity market and manages system security.

- 7 Distribution**
The lower voltage electricity is transported by distribution companies to homes and businesses throughout New Zealand.
- 8 Commercial**
Some commercial customers that consume large quantities of energy purchase power directly from the wholesale electricity market.

- 9 Retail**
Retailers buy power on the electricity market, package it together with other costs of delivering power (transmission and distribution), and on-sell it to customers.
- 10 Domestic and Business Users**
Domestic and business users receive their electricity directly from retail companies, which deliver power to homes, businesses and commercial operations using distribution companies' lines.



The year in numbers

^ 7.1%

\$166.6m

NET PROFIT AFTER TAX

v 3.4%

\$885.2m

REVENUE

v 8.1%

\$323.1m

CAPITAL EXPENDITURE

\$120m

DIVIDENDS PAID OUT TO THE CROWN

1100 MW

NEW NORTHWARD TRANSMISSION ENABLED BY OUR CLUTHA UPPER WAITAKI LINES PROJECT

\$375m

FUNDS RAISED IN BOND ISSUES

\$437.1m

MAINTENANCE, REPLACEMENT AND ENHANCEMENT EXPENDITURE

\$33.7m

TAX PAID

1

FIRST TRANSMISSION COMPANY IN THE WORLD TO GAIN GREEN FINANCING CERTIFICATION

1000+

SERVICE PROVIDER EMPLOYEES (WORKING ON TRANSPOWER ASSETS AT ANY TIME)

829

STAFF

25,883

LANDOWNER INTERACTIONS

124

CONNECTION ENQUIRIES

\$761,479

FUNDS GRANTED TO COMMUNITY PROJECTS

Our strategic framework



OUR PURPOSE **Whakamana i te mauri hiko tū mai Aotearoa**
Empowering the energy future for New Zealand

OUR STRATEGY **Transmission Tomorrow**

OUR STRATEGIC PRIORITIES

- Evolve our services to meet customers' needs
- Play an active role in enabling New Zealand's energy future
- Sustain our social licence to operate
- Match our infrastructure to need over time
- Accelerate our organisational effectiveness

OUR PERFORMANCE

- Safety:** The safe operation of our assets and the protection of everyone near them
- People:** Diversity in our approach and excellence in our operation
- Relationships:** Stakeholder needs are met and relationships are enduring
- Sustainability:** Addressing climate change, being environmental stewards and supporting our communities
- Customers:** Ensuring a secure and reliable supply all connected parties
- Financials:** Delivering results that meet expectations and create a sustainable business

OUR BEHAVIOURS Nimble and considered > Inclusive and decisive > Courageous and caring

Transpower's *Whakamana i Te Mauri Hiko* report (2020) outlines our understanding of the local and global movement to decarbonise and presents our detailed vision of the work required to move towards a net zero carbon future. *Whakamana i te Mauri Hiko* provides the context within which we developed our strategy Transmission Tomorrow. To ensure we deliver on our purpose of empowering New Zealand's energy future, Transmission Tomorrow outlines the five strategic priorities that underpin Transpower's work.

We must:

- Evolve our services to meet customers' needs
- Play an active role in enabling New Zealand's energy future
- Sustain our social licence to operate
- Match our infrastructure to need over time
- Accelerate our organisational effectiveness

In our operational planning each year we develop key initiatives against each strategic priority. These ambitious targets ensure we deliver on strategic priorities in the year ahead while keeping a clear vision of what success will look like in the medium and long term.

Looking ahead

In the year ahead, we will continue to deliver on our roadmap to improve our customer connection process and implement our customer engagement plan. As a key part of our enabling role, we will sustain our sector-wide advocacy and continue to support the regulatory, legislative and policy agenda that is moving Aotearoa New Zealand toward a net zero carbon future. Our planning for the grid of the future will also evolve, and we will submit our first major capex proposal in our Net Zero Grid Pathways (NZGP) programme. Our Sustainability Strategy will move into its second year with a focus on bedding in our waste minimisation and Biodiversity Strategy. To further support Transpower's social licence to operate we will continue to develop a strong view of the information, market and standards that will be required to ensure the smooth running of a highly renewable and distributed electricity system. As we look toward building and maintaining our grid infrastructure for the future, we will continue to invest in our future workforce and support our service providers into the first year of their new grid maintenance contracts. We will also build on our effectiveness as an organisation by honing our innovative approach, and supporting the development and deployment of new enabling technologies.



Scan to visit:
**Transmission
Tomorrow**



Progress against our strategic priorities

Strategic Priority	Initiative Name	Status	Comments
 <p>Evolve our services to meet our customers' needs</p>	Deliver customer connection process improvements	✓	Delivered improved process to accommodate embedded generation
		✓	Established customer connection process services levels, KPIs and reporting
	Implement customer engagement plan	✓	Rolled out Individual Engagement Plans for all customers
		✓	Improved customer engagement, from 54% in July 2020 to 71% in July 2022
 <p>Play an active role in enabling New Zealand's energy future</p>	Contribute to net zero carbon policy agenda using Whakamana Te Mauri Hiko	✓	Provided inputs to Government for Emissions Reduction Plans, Infrastructure Strategy and Resource Management reform
		✓	Refreshed Transmission Tomorrow; Completed consultation on potential for Renewable Energy Zones in NZ
		◐	Continued collaboration with EECA and North Island Electricity Distribution Businesses on process heat
	Deliver phase 1 of Net Zero Grid Pathways	✓	Finalised Net Zero Grid Pathway (NZGP) Scenarios
 <p>Sustain our social license to operate</p>	Deliver year 1 of sustainability plan	✓	Determined resilience criteria for climate change related risks
		✓	Finalised long-term SF ₆ strategy and reduction plan to 2030
	Deliver Transmission Pricing Methodology (TPM) and Real Time Pricing (RTP) for Electricity Authority	✓	Delivered TPM guidelines to the Electricity Authority
		✓	Piloted components of new Transmission Pricing Methodology
		✓	Deployed Phase 2 of Real Time Pricing system
 <p>Match our infrastructure to need over time</p>	Implement service provider contract reset	✓	Awarded Grid Service Contracts and commenced transition to new service providers
		✓	Delivered end-to-end planning providing year 1 & 2 work for new service provider contracts
	Implement year 1 of Asset Management and Network Risk Improvement roadmap	✓	Developed and improved Asset Health models
 <p>Accelerate our organisational effectiveness</p>	Implement data and analytics operating model	◐	Delivered major technology change with Cloud Data platform
	Reposition People Strategy in an electrification context	✓	Refreshed People Strategy
	Continue to refine and pilot the Wonder Project	✓	Refined Power Challenge programme based on pilot
		✓	Completed ambassador and teacher training ready for Term 3 Power Challenge in schools

Key:

- ✗ Not achieved
- ◐ Some progress
- ◑ In progress
- ◒ Significant progress
- ✓ Achieved

How we create value

Inputs

Transpower is responsible for planning, building, maintaining and operating the national grid. Our role is to transport energy from where it is generated to where it is used.



Manufactured Capital
Our physical assets, our offices, technology and grid infrastructure



Human Capital
Our employees and Service Providers; their knowledge, skills and diversity



Intellectual Capital
Our knowledge translated into service specifications, standards, policies and procedures, how we innovate and teach



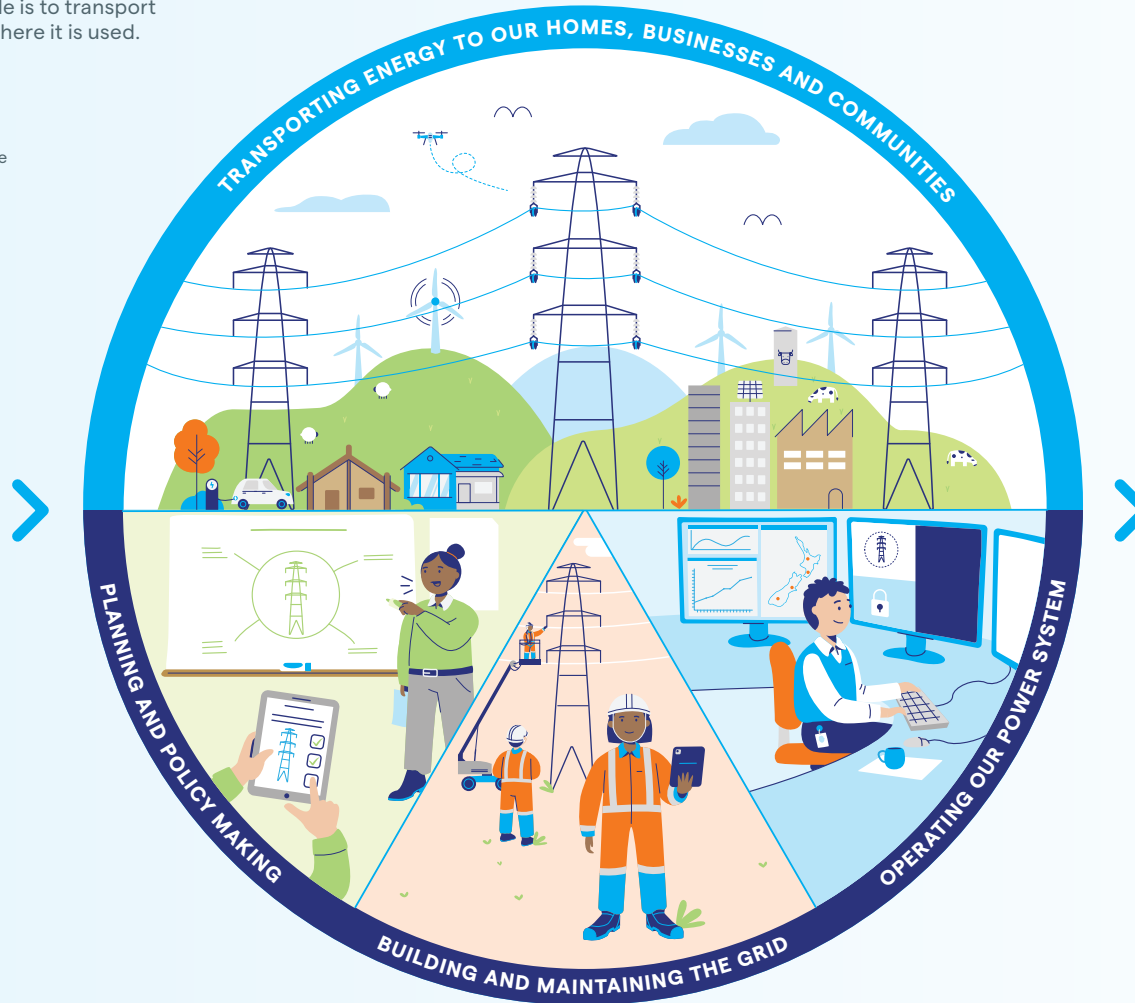
Natural Capital
The natural resources we use and the natural and cultural characteristics of where our assets are located



Social Capital
Our relationships with all stakeholders and how we give back to communities



Financial Capital
Income from our regulated and unregulated activities



Safety
The safe operation of our assets and the protection of everyone near them



People
Diversity in our approach and excellence in our operation



Relationships
Stakeholder needs are met and relationships are enduring



Sustainability
Addressing climate change, being environmental stewards and supporting our communities



Customers
Ensuring a secure and reliable supply for all connected parties



Financial
Delivering results that meet expectations and create a sustainable business

OUR PURPOSE

Whakamana i te mauri hiko tū mai Aotearoa Empowering the energy future for New Zealand

Chair report

On behalf of Transpower's Board of Directors, I am pleased to bring you this Integrated Report and to update you on the work Transpower has undertaken over the past year.

In 2021, our first integrated report established Transpower's commitment to the principles of Integrated Reporting and was recognised with the 'Best Newcomer' award in the CPA New Zealand Integrated Reporting awards and highly commended in the 'Listed Companies' section of the awards. This year we have sought to build on this commitment by improving the transparency and accessibility of our business information, and further exploring the interdependence between the resources we draw on and the value that Transpower creates as an organisation.

In Aotearoa New Zealand, as across the globe, we are heeding a growing call to action in the electricity sector, at a time when we are still navigating the economic and workforce impacts of COVID-19, as well as other global turbulence. We remain mindful of these challenges, but recognise that it is a time when New Zealand will be placing growing reliance on electricity as its primary energy source. This will present growth and opportunity for our sector. The potential for economic and environmental impact, as well as for transformative innovation and collaboration, is significant. Those who work in electricity have a unique responsibility to enable the transformation of our economy in a sustainable and equitable fashion.

Our sustainability governance

The Board acknowledges that addressing and mitigating the effects of climate change is of prime importance for our stakeholders, and has continued to set expectations around Transpower's responsibilities and stewardship in this area. In May, Transpower launched its Green Finance Programme, an important step in ensuring that the capital flows supporting Transpower's work are fully aligned with our sustainability objectives. The Programme covers both existing and future issuances of Transpower's debt instruments and establishes us as the first transmission grid globally to be certified under the Climate Bonds Initiative's Electrical Grids and Storage criteria. We are proud to be leading on global best practice in this area.

The Board is pleased with the company's steady progress against the targets set by the Sustainability Strategy and its success in embedding sustainability measures into business as usual over the past year. Of particular note is the continued reporting of greenhouse gas emissions, which is now firmly established within the organisation. A work programme that will ensure continued progress against our Sustainability Strategy milestones has been approved by the Board for the coming year. Alongside this we are entering year three of our programme to implement the Task Force on Climate-related Disclosures (TCFD) framework and are preparing to meet the External Reporting Board's Aotearoa New Zealand Climate Standard 1 by the end of FY24.



Transpower is strongly placed to meet the challenges and opportunities that await the sector and we look forward to the year ahead.

Financial results

Transpower's consistent financial performance has been preserved over the past year despite growing headwinds. Concerted planning and careful procurement have ensured we continue to deliver projects and complete grid maintenance promptly and efficiently, notwithstanding the ongoing impacts of COVID-19. The delivery of our Clutha Upper Waitaki Lines Project ahead of schedule and under budget is a strong case in point.

Net profit after tax was \$166.6 million, a 7.1% increase from the prior year, due to a decrease in depreciation, amortisation, asset write-offs and impairment. Operating revenue declined by 3.4% to \$885.2 million. This is largely due to two capital contribution projects that were recorded as revenue in the previous period.

Operating expenses were \$311.1 million, a 3.9% increase from the previous year, in line with the half-year report which tracked an increase due to regulatory passthroughs and growing employee costs. Capital expenditure was \$323.1 million, an 8.1% decrease from the same time last year, largely due to unfavourable weather conditions impacting tower painting schedules, and ongoing supply chain and resourcing constraints, as well as savings on the Ōtāhuhu transformer's replacement project.

A final dividend of \$72 million has been declared, representing 60% of the expected full-year dividend forecast in Transpower's 2021/2022 Statement of Corporate Intent. Our full financial statements can be found from [p.105](#).

Transpower is in a strong position to undertake significant volumes of work in the years ahead,

supported by new grid services contracts in place to ensure continued investment in our key workforce. We have firmly bedded in and continue to deliver on the capital programme of our third Regulatory Control Period (RCP3). As we respond to the increased impetus and urgency to decarbonise our economy, and work to mitigate the infrastructure risks of climate change, we look toward the forthcoming regulatory period that will commence in 2025. In readiness for our RCP4 proposal to the Commerce Commission, Transpower is currently conducting a programme of detailed forecasting and consultation. This process is crucial to ensure that expenditure, revenue and performance indicators are set at the right level to enable the smooth delivery of the country's decarbonisation objectives. Throughout the coming transition, we remain keenly focused on the expectation of our Shareholder and customers.

Changes at Board level

I joined the Transpower Board of Directors together with Heather Simpson in December, and was appointed Chair in May. I would like to acknowledge the exceptional contribution of our outgoing Chair Pip Dunphy and give thanks to Dean Carroll for ensuring strong governance continuity in his role as Acting Chair. Michele Embling was welcomed to the board in March 2022 and, in July it was my pleasure to welcome Parekawhia McLean (Ngāti Mahanga, Waikato, Ngāti Maniapoto) and Vanessa Oakley as directors also. I would like to acknowledge the fine contribution of our outgoing Board members Kathy Meads and Bill Osborne, and thank them for their support of the company.

Finally, I would like to thank my fellow directors, Chief Executive Alison Andrew, and everyone on the team at Transpower for their drive and commitment in ensuring Transpower is enabling Aotearoa New Zealand's net zero carbon future.

Transpower is strongly placed to meet the challenges and opportunities that await the sector and we look forward to the year ahead.



Dr Keith Turner
Chair

Chief Executive report

The last year has been one in which our people have shown flexibility and commitment as we have successfully delivered on our strategic priorities in an environment still facing the disruptions of the COVID-19 pandemic. Transpower has built on organisational strengths while remaining responsive to the challenges and opportunities shaping our sector.

In Aotearoa New Zealand we are at a key point in the transition to a decarbonised economy. Transpower's role is to enable the significant increase in electricity that will be needed to drive decarbonisation, while ensuring the reliable and secure operation of the grid and market system. We are in a strong position to continue delivering the work this enabling role requires.

Accelerating towards net zero

Our *Whakamana i Te Mauri Hiko* programme lays out Transpower's vision of the energy future. Over the past year, via our regular six-monthly reporting, we have continued to position this analysis in the context of the post-COVID-19 economy. We have been active within the sector in an advocacy and advisory role, providing technical input to policy that will drive the Government's net zero carbon goals, including the Emissions Reduction Plan and Te Waihangā | New Zealand Infrastructure Commission's Infrastructure Strategy.

The Emissions Reduction Plan released by Government this year included the first emissions budget for the country and establishes significant drivers toward the electrification of transport and process heat. It confirms the view that electrification will be the key to reducing emissions from the energy sector, and that infrastructure will need to grow to enable decarbonisation.

We are already witnessing growing demand for electricity in New Zealand. Our 10 highest daily peak loads over the past decade have all occurred in the past year, with six of the top ten occurring in 2022. Industrial load is also set to increase. Alongside the rise from process heat, data centres will be a key player driving this demand, as evidenced by projects from DCI Data Centers, Datagrid and Amazon. In response, we are seeing a growing pipeline of interest from new renewable generation to connect to the grid. The number of enquiries for new grid connections has doubled over the past financial year, and we expect this rate to continue rising. We are supporting several ongoing renewable projects, including the 168 MW geothermal powerplant in Tauhara which is due to start commissioning in mid-2023, and

the 176 MW Harapaki wind farm, which is set to come on stream in 2024. In addition, several large new solar projects are in the pipeline, with one grid-scale project firmly committed for next year. Based on current predictions, we expect to see a total of at least 1 GW of solar generation connected to the grid by the end of 2024.

In order to ensure our services meet the changing needs of our new and existing grid-connected customers, we have improved our connections processes and engagement over the past year. We are providing more information and support for connections, and are developing a connection management system that will ensure enquiries are streamlined and prioritised in an efficient and equitable fashion. In this context, we are also pleased to report another strong year for grid performance, having maintained our best-ever performance metrics from FY21.

Enabling electrification

In a context of rapid change and escalating demand, the electricity sector must respond with innovative thinking and smart decision making. Transpower aims for this in our Net Zero Grid Pathways (NZGP) programme, which is the work to plan and deliver our future grid infrastructure investment. In May we completed our successful Clutha Upper Waitaki Lines (CUWLP) project, the first milestone in this programme. With tight deadlines and an agile approach to problem solving, the project was completed ahead of schedule and under budget, with a strong safety record. It is an example of how Transpower is maintaining the momentum of its capital projects in spite of supply chain disruptions, by planning ahead, communicating well and ordering early. The



While there are challenges ahead, we feel that this is an exciting time to be part of the electricity industry in New Zealand.

project effectively doubled the electricity we are able to move from Southland to the north.

Our NZGP programme continues to plan for forthcoming demands on Aotearoa's grid capacity. At the end of 2021 we released a document outlining the five most likely future supply-and-demand scenarios. Building on the Ministry of Business, Innovation and Employment's (MBIE's) existing models – and factoring in uncertainty around the New Zealand Aluminium Smelter's exit, the outcomes of the New Zealand Battery Project, and closure of the Huntly Rankine units – we have narrowed our grid investment plans to a shortlist of potential projects for a Major Capital Proposal. Our preferred option amongst these is an upgrade to the grid in the centre of the North Island and the interisland HVDC link to maximise the capacity of the existing assets. Following consultation, we will take a proposal to the Commerce Commission later this year for approval. Our next phase of NZGP will look at what new assets we will need to build to expand grid capacity.

Collaboration and communication

In New Zealand we are fortunate to have access to a wealth of renewable resources. As we continue to enhance the grid to connect more renewable generation and to allow for increasingly distributed electricity resources, it is Transpower's role to ensure that our system continues to operate securely and reliably.

When it comes to New Zealand's generation balance, our country faces changing and increasingly interdependent pressures. It is becoming clear that our national security of electricity supply challenges will only be solved with greater collaboration between industry, regulators, crown agencies, customers and

market participants. Following the power system events of 9 August, Transpower has been committed to improving the clarity and consistency of our communication processes. We acted quickly to respond to the event and, working with the Electricity Authority, have provided detailed responses to all recommendations that emerged from four different internal and external reviews.

In May we hosted a successful industry exercise simulating a generation shortfall event. Exercise Shortfall allowed us to test our improved processes as system operator and reinforced the importance of clear channels of communication and well-established decision-making pathways between system operator, industry, media and consumers. Since Exercise Shortfall (which you can read about on [page number to come] we have had the chance to put our refined processes to the test and successfully managed a grid emergency in June.

Another significant focus is our work on delivering the new Transmission Pricing Methodology (TPM) in line with the Electricity Authority's timeline. This two-year delivery programme covers design, implementation and ongoing delivery of the new TPM. Transpower is working to implement the Authority's policy decisions into pricing, supported by guidance, and will communicate the first set of prices under the new TPM to customers in early December 2022.

Meeting our targets

Over the past year the business has successfully met 15 of the 17 company targets that we set in our Statement of Corporate Intent. Given the nature of our business, the health and safety of our workers is one of our

top priorities, and we were pleased to see a strong Health and Safety outcome this year. Both our high potential incident frequency rate and our total recordable injury rate were below target.

Our company engagement has remained high and we have continued to achieve survey results that place us in the top 25th percentile of the energy and utilities sector internationally. To increase our responsiveness through this channel, our surveys are now conducted monthly and include the chance for dialogue between staff and people leaders. Our staff have enjoyed the chance to reconnect back in the office, and several events have been run by our Transpower Community groups. Our Muslim Community organised a successful Eid-ul-Fitr celebration and, following Aotearoa New Zealand's first public Matariki holiday, staff across all offices had the chance to come together to share kai.

We particularly value the ongoing commitment and engagement of our people in the context of a challenging global labour market. The work we do relies on a highly trained workforce, and our forecasts suggest that by 2030 the number of service providers needed to provide grid infrastructure work will undergo a 60-100% increase. We are committed to celebrating the excellence and innovation present in our workforce, and look forward to formally recognising this in our inaugural Transpower Engineering and Technology Awards later this year.

We are conscious, also, of making investments to support strongly the engineers of the future. This year we entered the second pilot phase of our Wonder Project Power Challenge – a school-age programme set to inspire the next generation of STEM experts. Our sights

are also set on strengthening our existing graduate programme, to increase our support of engineering students around the country. Our most significant workforce investment over the past year, however, has been the award of our new grid service contracts in May. The new contracts represent more than \$2 billion of forecast expenditure in the next decade. This will allow us to support our future maintenance and project delivery while also ensuring our service providers have the confidence to invest in their workforce so that they can develop and retain specialist talent in New Zealand.

Looking to the future

During the year we announced two changes to our General Management Team. We welcomed Catherine Shaw into the role of Chief Financial Officer in February 2022. More recently, Chantelle Bramley has taken up the role of General Manager Strategy and Customer.

While there are challenges ahead, we feel that this is an exciting time to be part of the electricity industry in New Zealand. I would like to thank our Chair Dr Keith Turner and the Board, as well as the General Management Team for their hard work and commitment. My thanks also to the wider Transpower whānau for their dedication over the past year, and their energy and innovation as we look to the future.



Alison Andrew
Chief Executive



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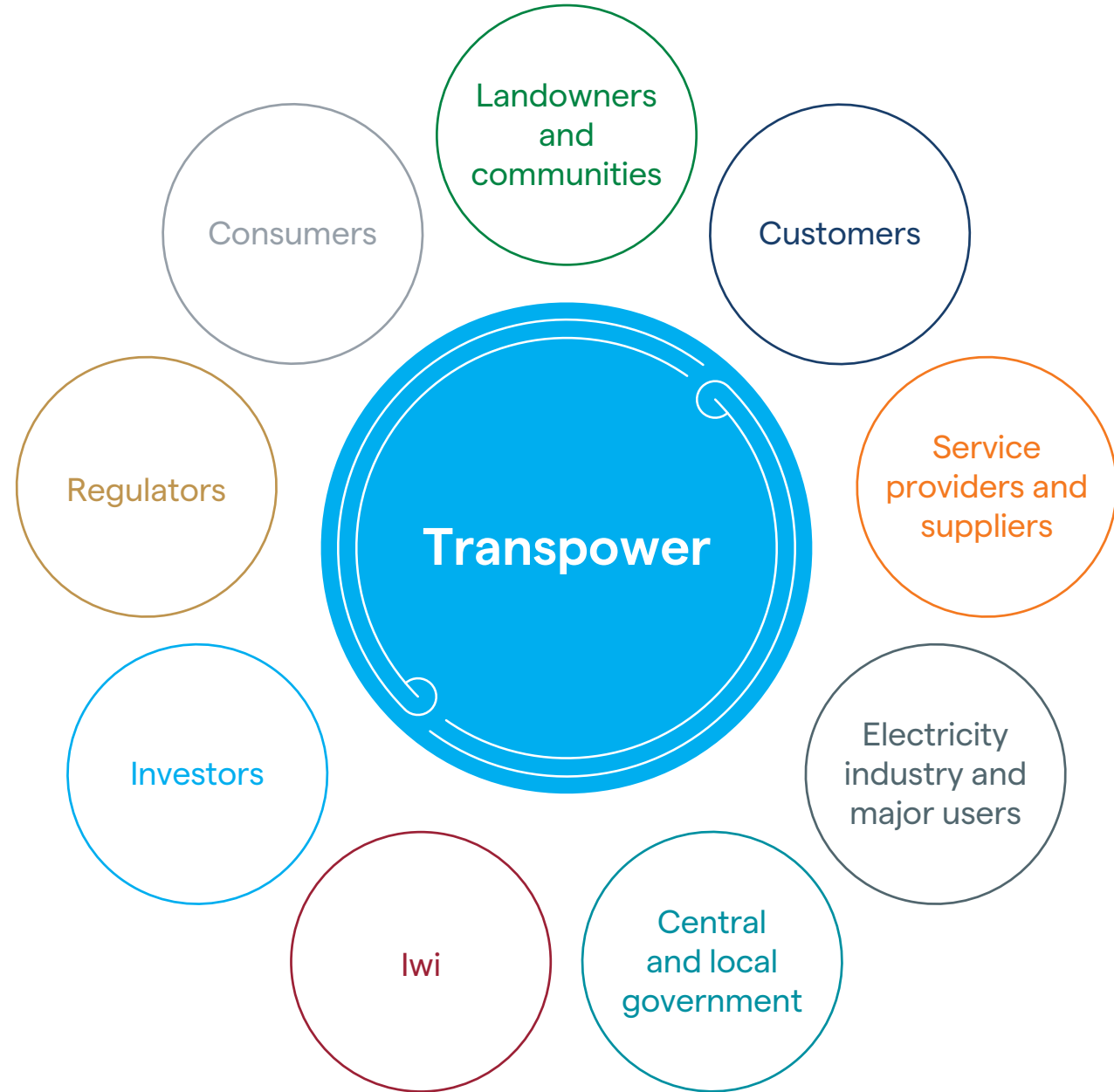


Our material issues

Our key stakeholder groups

We engage with these groups on a regular basis and aim to meet face-to-face as much as possible.

We provide updates monthly through digital channels including our emailed bulletin *News from Transpower*, hold regular in-person and online meetings and events, and produce quarterly performance reports and an annual self-review. Our service providers and customers have access to additional information via a log-in section of our website. We measure our engagement approach through annual surveys with key stakeholder groups including our landowners, customers and regulators.



Transpower's work is collaborative. We have a high level of involvement with stakeholders at every stage of our organisation's value creation, and our strategy and activities are shaped by these interactions.

Our stakeholders include:

Landowners and communities

New Zealanders with towers on or lines running over their properties. We also engage with the Department of Conservation, and organisations representing landowners, including Federated Farmers of New Zealand and the Forest Owners Association.

Service providers and suppliers

We contract service providers to complete maintenance and project work on the transmission network. We also source support and equipment from external companies for project services, engineering design, facilities management and IT services.

Customers

Companies that connect directly to the national grid (including distribution companies, electricity generators, direct connections, major industrial companies, and developers).

Electricity industry and major users

We liaise extensively with electricity market participants in New Zealand and abroad.

Central and local government

As a state-owned enterprise, the Government is a key stakeholder, as are local authorities which manage compliance of our assets and our work with the Resource Management Act.

Iwi

Our assets can be located on iwi-owned land throughout Aotearoa New Zealand. We engage iwi on resource management and heritage-related matters in completing work on the grid.

Investors

Transpower is quoted on the NZX debt market and has numerous investors who hold debt securities.

Regulators

We have two regulators. The Commerce Commission regulates our economic return and performance, and represents the rights of consumers. The Electricity Authority regulates our industry standards and revenue allocation for pricing.

Consumers

All electricity consumers are affected by the work we do to bring electricity to communities.



A materiality update

It is vital that we understand what matters most to our stakeholders, and have a clear view of how they perceive Transpower and the impact we have as an organisation.

In readiness for our first use of the <IR> framework in our FY21 Integrated Report we conducted a detailed materiality assessment working in partnership with independent consultancy Proxima. This included in-depth interviews with representatives from our main stakeholder groups, as well as detailed surveys that went out to our General Management Team, a sample of staff and our eight-member Consumer Advisory Panel. This assessment provided us with a robust insight into the issues our stakeholders see as the central ones facing Transpower, their views on our current performance and the extent to which we are addressing expectations.

Understanding our material impacts

In 2021, the Global Reporting Initiative (GRI) updated its standards to ensure that organisations provide a more complete picture of the impacts of their work on the economy, the environment and society in general. In addition to capturing how these issues influence stakeholder decision-making, the new GRI standards seek more clarity on whether an impact from an organisation's activities is actual or potential, and whether it can be understood as positive or negative. The updated standards also require greater clarity on a material issue's causal link to the organisation (i.e., do Transpower's activities cause or contribute to an impact or are they directly linked to an impact via association?).

Through FY22, we worked again with Proxima to ensure our grasp of Transpower's material issues reflected these changes and to ensure our strategic priorities and focus areas remain relevant. Rather than seeking to capture the perceived influence of external issues on Transpower's activities, we wanted a better perception of our external impacts. On our behalf, Proxima engaged with a range of experts and stakeholders, including:

- Customers, including distribution businesses and electricity generators
- Central government and shareholders
- Regulators
- Youth consumer representative

Our FY22 materiality update worked to identify the positive and negative impacts that arose within our material topics, and to provide a significance score for each out of 100, derived from the impact's potential scale, scope and severity, as well its likelihood of occurring. This has allowed us to compare and evaluate our differing impacts within the matrix below.

The process revealed a high degree of alignment with the outcomes of the materiality assessment recorded in our FY21 Integrated Report. Our three top materiality issues remain the same: climate change mitigation and adaptation (the leading issue for both the 2020 and 2022 materiality assessments); customers and consumers; and community and landowner relationships.



Scan to visit:
Global Reporting Initiative's (GRI) Standards

Our top three issues

Climate change mitigation and adaptation

Society's transition to a low carbon economy remains our top materiality issue. It is highly important for our stakeholders and perceived as a challenge with impact on the wider energy sector and New Zealand as a whole. Stakeholders identified Transpower's key material impact here as the work the organisation is doing to enable New Zealand's transition to a low carbon economy, and to promote a more highly renewable grid, and noted it as an area where Transpower has the potential to deliver wider value beyond our operations as a grid owner and system operator.

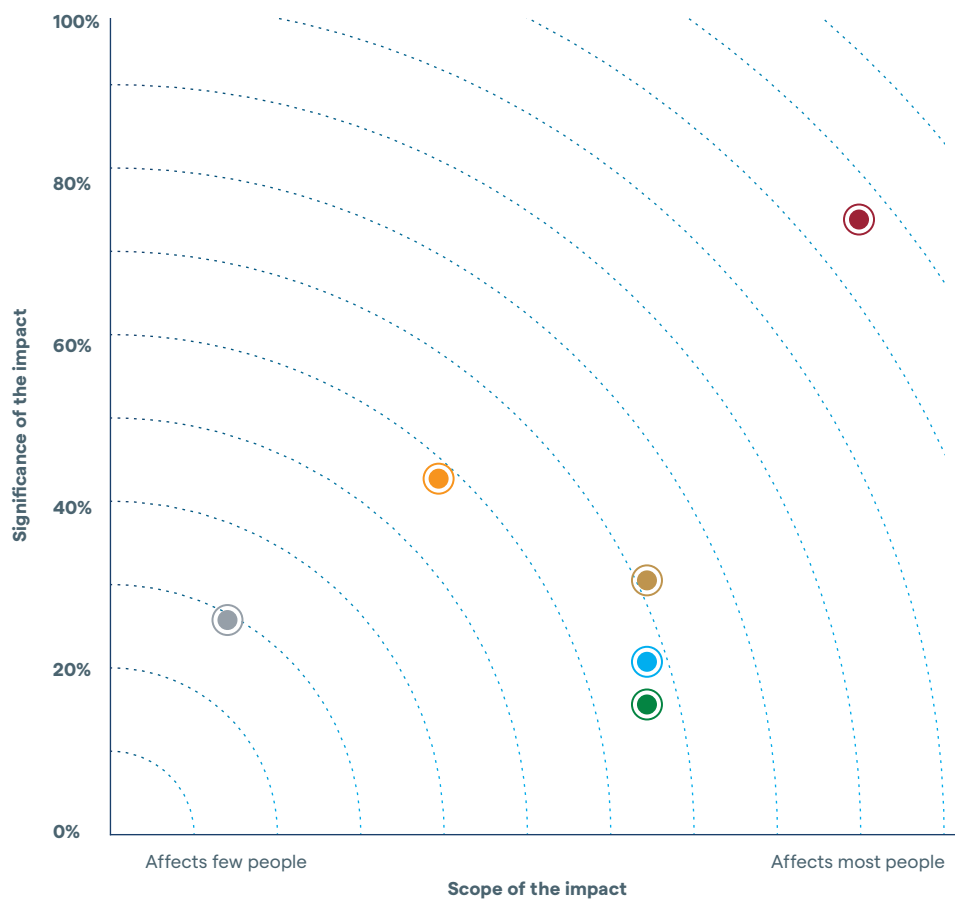
Customers and consumers

Our stakeholders have highlighted the serious economic and social impacts a disrupted power supply can have on our customers and consumers, as well as the positive impact of our work to meet growing electricity demand by processing a higher number of new connection enquiries.

Community and landowner relationships

Transpower recognises the potential impact our work can have for landowners. We work extensively with landowners and communities to build and maintain positive relationships that benefit all parties and ensure we can collectively carry on with our activities. We continue to measure our key performance outcomes in this area.

Materiality Matrix



- Climate change mitigation and adaptation
- Good governance
- Community and Landowner relationships
- Advocacy
- Future workforce
- Cybersecurity

Other materiality issues in the mix

Advocacy – Stakeholders recognise that Transpower is in a unique position to have an impact on and enable the ongoing decarbonisation of the electricity sector, and to inform related policy discussions and decisions. Feedback reflected on Transpower’s positive impact in this space through our research and innovation and our commitment to fostering an ongoing dialogue with those who are helping to shape a net zero carbon future.

Environmental stewardship – Our stakeholders recognise the potential impact Transpower has on the physical environment as we build, upgrade, operate and maintain the national grid through a wide range of ecosystems across New Zealand. Transpower’s Biodiversity Strategy takes a proactive stance via its commitment to a kaitiakitanga role in our day-to-day activities and a net biodiversity gain from future major projects.

Future workforce – Transpower’s ability to recruit skilled engineering professionals is seen by our stakeholders as having an ongoing impact on our value creation as an organisation. Our stakeholders recognise that we have a vital role in attracting, training, and retaining a skilled workforce and that this benefits the wider New Zealand energy sector and ensures we can deliver on our decarbonisation goals.

Good governance – Transpower’s stakeholders have high expectations of our governance, particularly in our assurance of financial and non-financial disclosures. They recognise the potential ongoing impact that long-term integrated thinking will have for the electricity sector. Our stakeholders consider it essential that our senior leadership are educated in environmental, social and governance issues to ensure robust decision-making and operations.

Cybersecurity – Risks to the electricity market and grid due to cyber attacks continue to concern our stakeholders. Transpower’s robust cybersecurity and ongoing monitoring mitigates this risk.

Our Sustainable Development Goals

Transpower is a member of the **Sustainable Business Council** and **New Zealand's Climate Leaders Coalition**. In addition to our materiality assessment, we have also assessed how our material issues relate to the **United Nations Sustainable Development Goals**. The four SDGs where Transpower's work has a direct impact are listed below, along with four further goals to which we contribute indirectly. We have also mapped these SDGs against our specific report sections in the index below.

Direct impact



SDG 7
Ensure access to affordable, reliable, sustainable modern energy for all.



SDG 9
Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.



SDG 13
Take urgent action to combat climate change and its impacts.



SDG 15
Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat deforestation, and halt and reverse land degradation and halt biodiversity loss.

Indirect impact



SDG 5
Achieve gender equality and empower all women and girls.



SDG 8
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.



SDG 11
Make cities and human settlements inclusive, safe, resilient and sustainable.
























SDG 12
Ensure sustainable consumption and production patterns.

See page [p.38](#) for more information on our sustainable business leadership.




Material issues index















Material issue	Sustainable Development Goals	Material impacts	Material impact definition	Relevant section of report	
Climate change mitigation and adaptation <ul style="list-style-type: none"> • Manufactured capital • Human capital • Intellectual capital • Natural capital • Social capital 	 SDG 9 Industry, innovation and infrastructure	Support the transition to a low carbon economy	Electrification leads to decarbonisation, enabling net zero carbon goals	<ul style="list-style-type: none"> • Empowering our energy future • Sustainable business leadership 	
		 SDG 13 Climate action	Responsibility for greenhouse gas emissions	GHG emissions from transmission losses and SF ₆ gas use across the national grid	<ul style="list-style-type: none"> • Sustainable business leadership – Our carbon footprint
			Promoting renewable energy generation and carbon reduction initiatives	Reducing the impacts of the electricity system by enabling and incentivising renewable energy generation	<ul style="list-style-type: none"> • Sustainable business leadership
			Climate change impacts from use of non-renewable energy sources	Ongoing role of thermal gas and coal electricity generation in NZ's electricity system	<ul style="list-style-type: none"> • Sustainable business leadership
Customer and consumers <ul style="list-style-type: none"> • Manufactured capital • Human capital • Intellectual capital • Natural capital • Social capital • Financial capital 	 SDG 7 Affordable and clean energy	Impact to consumers due to disrupted electricity supply	Planning for potential power supply disruptions arising from insufficient electricity generation	<ul style="list-style-type: none"> • Empowering our energy future 	
		 SDG 9 Industry, innovation and infrastructure	Increasing the electricity supply by connecting a growing number of new generation customers	Facilitating and enabling the increased demand for new electricity generation customer connections	<ul style="list-style-type: none"> • Empowering our energy future • Our evolving relationships
			 SDG 13 Climate action	Electricity affordability	Increasing the capacity and resilience of the transmission network in a transparent way to support electricity affordability
Community and landowner relationships <ul style="list-style-type: none"> • Manufactured capital • Human capital • Natural capital 	 SDG 9 Industry, innovation and infrastructure	Visual impact of our towers and transmission lines	Communities are affected by the physical presence of transmission lines and associated structures	<ul style="list-style-type: none"> • Our evolving relationships 	
		 SDG 11 Sustainable cities and communities	Potential safety impacts associated with the installation, operation and maintenance of transmission lines on private land	The presence and functioning of transmission lines on or across some areas of private land may potentially cause harm to people and communities	<ul style="list-style-type: none"> • Sustainable business leadership • Our evolving relationships • Our targets and performance
			 SDG 15 Life on land		
Advocacy <ul style="list-style-type: none"> • Human capital • Intellectual capital • Natural capital • Social capital • Financial capital 	 SDG 7 Affordable and clean energy	Increased adoption of new technologies in the electricity market	Supporting research and innovation and adopting new technologies to improve the operational performance of the national grid	<ul style="list-style-type: none"> • Sustainable business leadership • Supporting our people 	
		 SDG 9 Industry, innovation and infrastructure	Regulatory changes to achieve a more efficient and effective electricity system	Proactive engagement and advocacy to ensure the ongoing development and maintenance of the national grid infrastructure	<ul style="list-style-type: none"> • Empowering our energy future • Sustainable business leadership
			 SDG 13 Climate action		

Material issue	Sustainable Development Goals	Material impacts	Material impact definition	Relevant section of report
Environmental Stewardship <ul style="list-style-type: none"> Manufactured capital Human capital Natural capital Social capital 	 SDG 12 Responsible consumption and production	Harm to the natural and physical environment	Minimising adverse effects on the environment associated with the operation and maintenance of the national grid	<ul style="list-style-type: none"> Sustainable business leadership
	 SDG 15 Life on land	Pollution of the environment from Transpower's operations	Operating and maintaining Transpower's assets can inadvertently result in pollution or contamination to air, land and waterways.	<ul style="list-style-type: none"> Sustainable business leadership
Future workforce <ul style="list-style-type: none"> Human capital Intellectual capital Social capital 	 SDG 5 Gender Equality	Low employee retention rate due to tight labour market and low unemployment	Addressing current and future electricity sector skill shortage challenges through training, remuneration and personal development opportunities	<ul style="list-style-type: none"> Our evolving relationships Supporting our people Remuneration
	 SDG 8 Decent work and economic growth	Workforce competency	Ensuring the ongoing competency and wellbeing of the electricity sector workforce through training and skills development	<ul style="list-style-type: none"> Our evolving relationships Supporting our people
	 SDG 9 Industry, innovation and infrastructure	Insufficient talent attraction	A lack of structured career development leads to an inability to attract potential employees affecting organisational culture and success	<ul style="list-style-type: none"> Supporting our people
Good governance <ul style="list-style-type: none"> Human capital Intellectual capital Social capital Financial capital 	 SDG 7 Affordable and clean energy	Long-term planning and integrated thinking	Ensuring longer-term electrification and decarbonisation strategy is placed above short-term financial drivers.	<ul style="list-style-type: none"> Sustainable business leadership
	 SDG 9 Industry, innovation and infrastructure			
Cybersecurity <ul style="list-style-type: none"> Manufactured capital Human capital Intellectual capital 	 SDG 8 Decent work and economic growth	Risks to the electricity grid and market due to cyber attacks	Potential social and economic effects from cyber attacks on the electricity market and the integrity of the national grid	<ul style="list-style-type: none"> Supporting our people
	 SDG 9 Industry, innovation and infrastructure			
	 SDG 11 Sustainable cities and communities			

Sustainability Strategy progress 2021/22

Key: ⊗ Not achieved ◐ Some progress ◑ In progress ◒ Significant progress ✔ Achieved

Challenge	Focus	Strategic Outcome	KPI	Indicator
Climate change				
	Enabling renewable and electrification connections	We integrate new renewable supply and electrification load from process heat and transport	Increase MW of renewable generation connected annually	✔
		Advocate for a net zero emission grid with our customers	Demonstrate energy sector leadership by driving electrification of transport and process heat	◑
		We enable customer choice by connecting diverse technologies in a timely and cost-effective manner	Reporting on sector's progress towards net zero carbon to inform industry decarbonisation	◑
	Planning networks	We ensure the grid is resilient to climate change, reporting to TCFD framework	Undertake a detailed assessment of climate-related transition risks, physical risk and liability risks by June 2023	◑
			Climate risk scenarios fully integrated into asset planning decision framework and asset health and network risk framework by June 2023	◑
		Ensure the grid backbone is enhanced, through Net Zero Grid Pathways, to enable electrification and new renewable generation	Implementation of Net Zero Grid Pathways programme	◑
	Carbon footprint	Our carbon footprint is reduced 60% by 2030, on track to achieve a net zero grid by 2050 (Controllable Scope 1 and 2 emissions from 2005 baseline)	Reducing SF ₆ losses through improved handling and management and implementation of a SF ₆ reduction plan to 2030	◑
			Converting 100% of Transpower's passenger fleet to EV/PHEV by June 2022	◑
			Reducing carbon emissions from our buildings through energy efficiency, building design and renewable energy opportunities	◑
			Reduce Scope 3 GHG emissions from service providers by June 2024 based on actual emissions	◑
Improve Scope 3 reporting through focus on capture of high carbon intensity suppliers by June 2023			◑	
Reduce Scope 3 GHG emissions from business travel	◑			

Challenge	Focus	Strategic Outcome	KPI	Indicator
Environmental stewardship				
	Natural environment	Using a kaitiakitanga approach, we restore the environment, creating a net gain in biodiversity	Delivering a net biodiversity gain for new Transpower projects from July 2023	
		Measurable improvement of our pollutants and discharges by 2030	Improve water quality and reduce run-off and contamination risks through improved management of Transpower activities across all of our operational sites	
	Material cycles	<p>The environmental impact of materials is minimised throughout the lifecycle</p> <p>Use resources efficiently, and minimise waste with measurable improvements by 2030</p>	Waste minimisation plan and waste reduction targets for key waste streams implemented by June 2022	
Sustainable business				
	Good governance	Decision frameworks consider social and environmental impact through asset life cycle	Inclusion of carbon and sustainability impacts in core Transpower decision making frameworks by June 2023	
		Transparent reporting of our impacts, aspirations and progress	Improve reporting standard to upper quartile of peer companies undertaking annual ESG reporting by June 2022	
	Our people	<p>Our people are highly engaged, skilled and capable</p> <p>Our diversity and inclusion is leveraged</p> <p>Our people are enabled through development and health and safety</p>	Maintain progress against gender diversity target (40/40/20)	
		Employee engagement survey results in top quartile for Energy and Utilities sector		
		Total Recordable Injury Frequency Rate (TRIFR) >6.0 and High Profile Frequency (HPIFR) rate >3.0		
Our communities				
	Iwi relations	We acknowledge mana whenua's connections to the land and partner to remediate the natural environment, minimising the impact of our work on sites of cultural significance	Honouring tikanga through implementation of refreshed Māori Engagement Strategy by June 2022	
	Community relations	<p>Connected to our communities and trusted by them</p> <p>Responding to opportunities to minimise our physical presence</p>	Review our community funding programmes to ensure alignment with Whakamana i Te Mauri Hiko strategic context by December 2021	
	Landowner relations	<p>We work with landowners to minimise impact on their land and reduce our footprint</p> <p>Ensure the public are safe around our assets</p>	<p>Achieve 85% landowner satisfaction in 2022 results</p> <p>Successful resolution of landowner issues and no adverse outcomes from Utility Disputes</p>	





**Empowering our
energy future**

Sustainable Development Goals

SDG 7

Affordable and clean energy

SDG 9

Industry, innovation and infrastructure

SDG 13

Climate action

Strategic Outcomes



Relationships



Sustainability



Financial



Customers

Whakamana i te Mauri Hiko

The Government has set a clear goal of a net zero carbon future for Aotearoa New Zealand. The coming years will see the end of our country's reliance on fossil fuel and a transition to sustainable energy sources that will secure our economy for future generations. This is a future that will be driven by electricity.

Transpower has two distinct roles in enabling this energy future. As grid owner, we will work to ensure that the national transmission network is prepared for the increased load that comes from electrification. We will also play a key role in enabling the rapid connection of new renewable generation. As system operator we will continue to manage the real-time power system and operate the wholesale electricity market in a manner that is able to support more renewable and distributed electricity.

Planning for, and modelling, our energy future has been at the heart of Transpower's work for several years. In 2018 we released *Te Mauri Hiko – Energy Futures*. This white paper outlined our initial understanding of New Zealand's most likely supply-and-demand energy scenarios out to 2050. *Whakamana i te Mauri Hiko – Empowering Our Energy Future* was published in 2020 as an update to this work. Further research allowed us to refine the original *Te Mauri Hiko* scenarios, taking into account national responses and international trends. *Transmission Tomorrow – Our Strategy* provides a framework that translates the *Whakamana i Te Mauri Hiko* context into action throughout Transpower's business.

Over the past year we have continued to position *Whakamana i Te Mauri Hiko* in the

context of impacts arising from the COVID-19 pandemic via our [six-monthly monitoring reports](#). This work has continued to shape our dialogue with the Government on their net zero policy.

Demand growth

The dominant theme of the past year is that an electrified future is coming at pace. In April 2022, the Intergovernmental Panel for Climate Change (IPCC) published a report calling on governments to accelerate their effort against climate change to remain under the 1.5 degree limit. In May, the New Zealand Government released its Emissions Reduction Plan (ERP), with the three carbon budgets for the period out to 2035. This plan supported our view that electrification will be key to reducing emissions from the energy sector, and confirmed the need for infrastructure growth to enable decarbonisation.

The two largest yields for decarbonisation are the electrification of industrial process heat, and the electrification of the transportation sector. To encourage and accelerate the transition, the Government has significantly expanded its [Government Investment in Decarbonising Industry \(GIDI\) fund](#). The previous three rounds of the fund were aimed at driving the decarbonisation of process heat in industry and have enabled the abatement of 7.4m tonnes of emissions. Transpower has continued to work closely with the Energy Efficiency and Conservation Authority (EECA) and electricity distribution businesses (EDBs) on a national fossil fuel database to ensure clear updates on process heat electrification demand.

The updated GIDI fund will provide a higher rate of investment over the next four years and will be spread more broadly, targeting decarbonisation projects of national significance as well as regional projects that optimise low emission fuel use. Business will increasingly be incentivised to install electrical equipment for industrial and commercial processes, and a transition towards electricity for space and water heating will be seen in commercial buildings.

Electric vehicle (EV) uptake is also being boosted by policy and funding. The Clean Car Discount (a rebate offered to buyers of imported EVs) was introduced in July 2021 and quickly initiated a record spike in registration of EVs and hybrid vehicles. These numbers will continue to rise as incentives for low-emission vehicles (and financial curbs on high-emitting vehicles) bed in. The Clean Car Standard is encouraging the importation of more zero emission and low-emission vehicles from 2023. EECA is currently seeking submissions on a roadmap for the development of the charging infrastructure that will be needed to support the electrification of our transport fleet.

Industry is also signalling growing electricity demand. In January this year, DataGrid purchased a 43-hectare site near Invercargill and applied for resource consent to build a 150 MW data centre. DCI Data Centres is planning a 10 MW data centre in 2023 and a 40 MW data centre in Auckland in 2024. Plans for data centres in New Zealand from Microsoft and Amazon Web Services continue to evolve. Another area that will drive industrial scale demand for renewably generated electricity is green hydrogen. Meridian Energy and Contact Energy are currently in detailed negotiations with two companies who could lead the

development of the world's largest green hydrogen production facility in Southland. This step change in projection for residential, industrial and commercial load growth is being registered clearly by EDBs across the country. Transpower's customer team is working to ensure we have clear oversight of these region-specific projections to assist in our pipeline planning and ensure our grid

investment and system development enables EDBs to manage this demand.

Consistent with modelling carried out by the Climate Change Commission and MBIE, our forecasts indicate that the grid must be able to provide for a 55% to 70% increase in demand for electricity by 2050 to enable decarbonisation.



Enabling new connections

To meet increased demand, we are seeing strong utility-scale interest in new grid connections. Our pipeline of enquiries is beginning to convert into committed projects both on the supply and the demand side. With increased investments in decarbonising New Zealand, we expect this trend to continue. Over the past financial year, Transpower saw a record number of grid-connected demand and renewable energy generation enquiries, the bulk of which came from solar and wind generation. We are currently progressing several large new solar projects, with one grid-scale solar project firmly committed and multiple others approaching this stage. Our current forecast is that we will see a total of more than 1 GW of solar connected to the grid within two years.

One of the biggest changes Transpower is experiencing in this space is a marked shift in our customer base. In the past we have typically processed a small number of connection requests from established New Zealand participants. These requests were most frequently for traditional generation technologies with long development cycle times. We are now managing a very large number of requests, increasingly from new entrants, to connect new generation technologies in ambitious timeframes. We are also seeing significant increase in industrial demand growth, driving an increase in load connection requests. With more complex customer requirements our connection process must work to ensure the timely delivery of mature projects, while also supporting the development and design of more speculative plans. For an update on the

improvements we are making to our customer connection processes, please see [p.48](#).

A significant piece of work that will support the streamlined connection and use of renewable energy supply to the grid is our development of a national consultation on Renewable Energy Zones (or REZs). REZs are a well-established global approach designed to increase renewable energy supply and use. Typically located in an area with rich natural resources, a REZ enables multiple electricity generators such as wind and solar farms to co-locate and share the costs of connection and network upgrades. Transpower has consulted nationally on the concept, and worked closely with distribution businesses Northpower and Top Energy prior to a further consultation on a Northland Pilot scheme.

Our initial consultation received 129 responses from a wide range of individuals, energy sector participants, businesses, iwi, local and central government, advocacy groups, and industry bodies. The responses were broadly supportive of developing REZs in New Zealand. However, the consultation has underscored the project's complexities. We are now undertaking further work to develop detail and clarity on what a REZ framework for NZ would include. Making REZs a reality in New Zealand will require a collaborative cross-agency approach. Transpower has recently met with the Ministry of Business, Innovation and Employment (MBIE), the Electricity Authority and the Commerce Commission to discuss this coordinated response.

A smart, hard-working grid backbone

The transition to a decarbonised future will rely on a robust and resilient transmission network. To keep pace with steady, and often complex, demand growth, and to deliver electricity where it's needed around the country, we must ensure the national grid is being built in the right place at the right time. Much of New Zealand's grid was built between the 1950s and the 1980s. Our asset management practice is helping us to optimise the renewal of these ageing assets, but end-of-life planning is one of many different factors we need to consider in ensuring the strength of our grid backbone. With this in mind – as well as the 10-year lead times for approving, consenting and building transmission lines – our investment decisions rely on clear modelling and economic analysis, as well as ongoing consultation with existing generators, future investors, the wider sector, and end users. To ensure our current grid infrastructure is maximised and can be adapted to meet evolving electricity needs, we must invest smartly to build our transmission network on a 'least regrets' basis.

The **Net Zero Grid Pathways (NZGP)** project represents Transpower's work in this area. Our NZGP work is separated into two phases. Phase One plans and delivers upgrade projects to maximise the grid backbone that is already in place, ensuring extended resilience out to 2035. We achieve this through a mixture of lower cost tactical upgrades and major projects that require Commerce Commission capex approval, such as our recently completed Clutha Upper Waitaki Lines Project

(CUWLP), which is highlighted as a case study on [p.36](#). Tactical work is underway at Atiamuri substation in the central North Island, as well as capacity upgrades for lines in the Wairakei-Whakamaru area. Our planning also includes continued consultation on the adoption of demand response across the sector to mitigate the need for additional transmission infrastructure.

To drive the decision-making for the next major Phase One project, in late 2021 the NZGP team released their vision of the five most likely future supply-and-demand scenarios facing the electricity sector. A shortlist of potential projects was published for further consultation in June. These present different approaches for staged grid updates through the Central North Island and the Wairakei region, as well as work to increase the capacity and resilience of the interisland HVDC cable link. Transpower has highlighted its preferred option and will take the proposal forward, subject to consultation feedback. From 2023 we'll be engaging with stakeholders to address the need for larger scale investment, including new interconnections to enable the energy transition to 2050.



Scan to visit:
Net Zero Grid Pathways (NZGP)

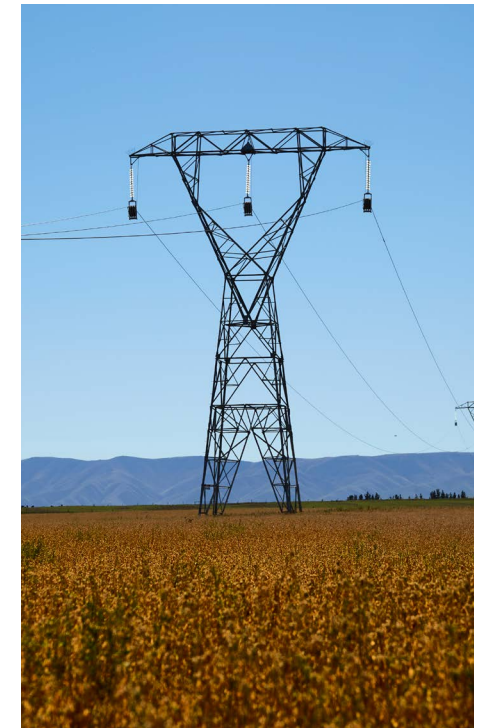
Uncertainties and the growing need for flex

We continue to face a range of uncertainties within the sector. In particular, as we plan for future infrastructure, we face the challenge of predicting demand growth. More widespread economic uncertainty – as the result of the ongoing impacts of the COVID-19 pandemic, as well as the war in Ukraine – will continue to have an impact on our own economy and the trends of base demand.

The New Zealand electricity market also anticipates continuing uncertainty around the potential closure of the Aluminium Smelter at Tiwai Point. Recent developments suggest a pathway for Tiwai to extend operations beyond the end of 2024. In addition, it appears increasingly likely that new demand materialising in Southland from green hydrogen and data centres could complement or replace Tiwai's load. Our CUWLP project provides for the transmission of electricity north from Southland in the event of Tiwai's closure.

This situation is indicative of a growing need for flexibility in balancing electricity demand and supply in the future. A higher balance of renewable energy means the sector must face the intricacies of integrating more intermittent generation into the power system. Alongside this, New Zealand needs to develop its thinking around dry-year solutions, as well as how we manage the rise in winter peak demand. Renewable energy storage is a potential piece of this puzzle: this year, MBIE's New Zealand Battery project will move into the feasibility investigation phase of its exploration

of pumped hydro as an option. In FY22 we worked with the Electricity Authority to deliver a roadmap of activities aimed at ensuring the system of the future can remain secure and resilient as Aotearoa transitions to a zero carbon future. We call this roadmap our **Future Security and Resilience (FSR) programme**. To deliver on this roadmap, we need to keep a clear view of the data and standards that will be required in order to run an effective and efficient electricity market.



The regulatory context

As the electricity industry mobilises to meet decarbonisation expectations, the supply side of the electricity system is being transformed by three key technologies: wind, solar photovoltaics, and batteries. On the demand side, the mass deployment of smart distributed energy resources (DER) will potentially revolutionise our ability to manage demand, and thus potentially smooth the more intermittent generation of renewables. The regulatory framework around these new technologies is also evolving. We continue to provide our insights to relevant agency groups to support the development of sustainable and flexible regulation. In particular we engage with two of the Electricity Authority's key advisory groups – the [Innovation and Participation Advisory Group \(IPAG\)](#) and the [Market Development Advisory Group \(MDAG\)](#) to ensure the flexibility of the market, and aid in determining the market settings necessary to operate the electricity system with 100% renewable generation.

Transpower recovers the annual cost of running the national transmission grid from its transmission customers, via a charge that is calculated according to the [Transmission Pricing Methodology \(TPM\)](#). Following a period of reform and consultation, in April, the Electricity Authority (the Authority) announced its decision to adopt a new TPM. The Authority has set a two-year delivery programme for this work, which covers design, implementation and ongoing delivery of the new TPM. We continue work to implement the Authority's policy decisions

into pricing and in early December 2022 we will communicate the first set of prices to our customers.

In the coming year, Transpower will submit a proposal to our other regulator, the Commerce Commission, on the service measures we aim to meet and proposed expenditure we expect to require over our next five-year period (or regulatory control period) for 2025–2030. In response to Commerce Commission request, we have improved our customer engagement around this submission and are currently entering a consultation period on our forthcoming proposal.



CASE STUDY

Clutha Upper Waitaki Lines Project (CUWLP)

The Clutha Upper Waitaki Lines Project (CUWLP), a critical piece of grid investment work for Transpower, was completed in May this year.

This project enables an 80% increase in the grid transmission capacity of the existing grid connection between the major power stations in Otago and Southland at the Waitaki Valley. The increased capacity also enables further renewable southern generation developments and will help us to avoid transmission constraints in the event that the Smelter closes or reduces its demand.

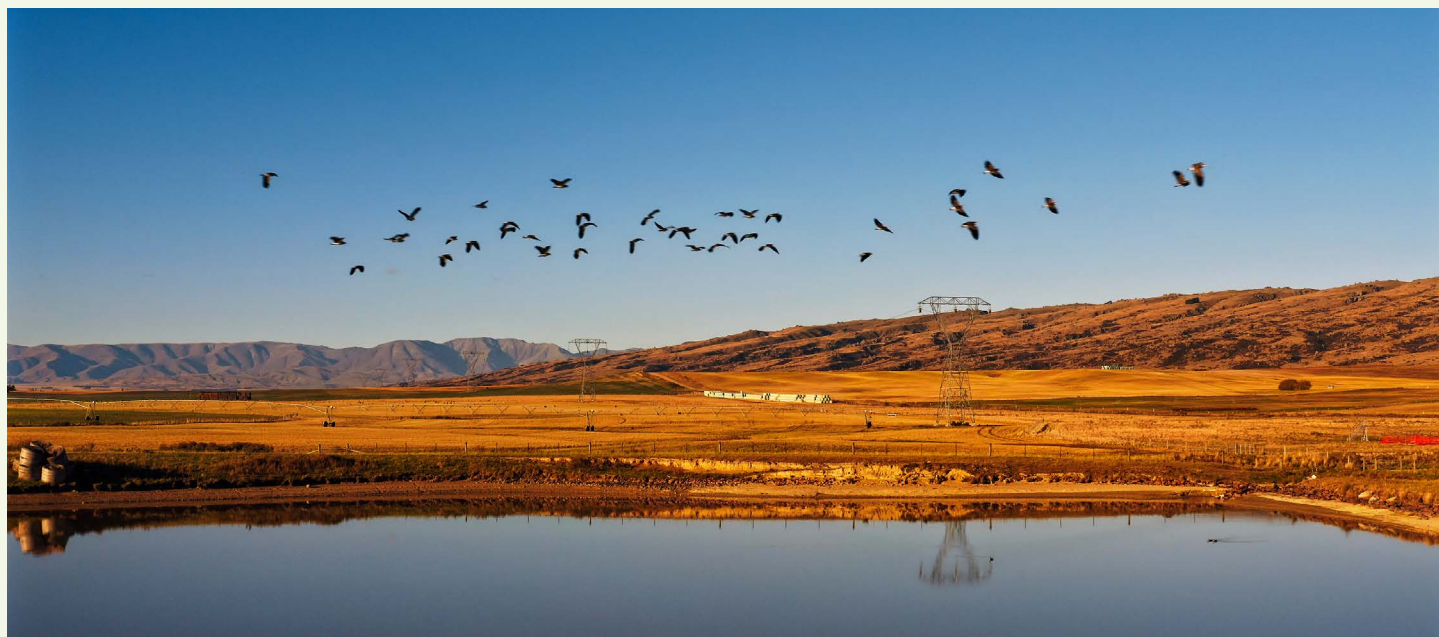
The CUWLP team faced considerable challenges from the outset due to the remote terrain and potential for extreme weather conditions. In the project's initial stages a multi-disciplinary team was put together for a project sprint to ensure

an innovative overview of the timeline and opportunities. The sprint helped to reframe the thinking around what was possible in a project of this scale. It gave rise to a new challenge statement: could we deliver the project in 18 months instead of three years, while retaining the same expectations for budget, quality and safety? The team rose to the challenge. When COVID-19 brought in work restrictions and supply-chain constraints this proactive approach paid off. Carefully planned and executed procurement was essential. The team ordered early, sourced alternative producers for materials, and invested in equipment that could be re-used throughout the sector. Helicopters were brought in to deliver equipment and concrete to remote locations inaccessible by vehicles. Project and service provider teams were housed in local accommodation rather than building a workers' village, and a fly-in fly-out workforce schedule was operated to address resourcing issues.



Scan to visit:

**Clutha Upper
Waitaki Lines
Project (CUWLP)**



The scale of the project was significant. The Roxburgh to Livingstone duplexing alone was 142 km long and required 900 km of wire and 25,000 insulators. In addition to lines work, the team also completed considerable 'enabling works', including the strengthening of 58 towers, the upgrade of 160 access tracks and the strengthening of 295 foundations. At the height of the project schedule, more than 100 service provider employees were working on different sites.

Despite the challenges faced and the accelerated timeline, the CUWLP project was completed seven weeks ahead of schedule and below budget, with a strong safety record for the approximately 245,000 hours worked.

It has increased the secure capacity of our network between Roxburgh and the Waitaki Valley from 600 MW to around 1100 MW – effectively almost doubling New Zealand's transmission capacity in the lower South Island.







Sustainable business leadership

Sustainable Development Goals

SDG 7

Affordable and clean energy

SDG 9

Industry, innovation and infrastructure

SDG 11

Sustainable cities and communities

SDG 12

Responsible consumption and production

SDG 13

Climate action

SDG 15

Life on land

Strategic Outcomes



Sustainability



Financial

A changing climate

As we face the realities of climate change it is increasingly clear that sustainability and business leadership are synonymous terms. Working to mitigate climate change and to shore up our natural and social resources for the future will also increasingly drive strong economic growth.

At Transpower, our long-term value creation is aligned with the global need to mitigate climate change. The role we play is fundamental to enabling Aotearoa New Zealand's transition to a decarbonised economy. Our biggest contribution is ensuring that electrification can progress at the speed required to reduce national emissions and diminish our reliance on global fossil fuel markets. In particular Transpower's work will enable the two main opportunities for decarbonisation – the electrification of New Zealand's process heat and its transport sectors. While supporting the move toward a net zero carbon future, Transpower also continues to look for opportunities to meet climate objectives through our own business processes.

Our leadership and advocacy role

The past year has seen an escalation in the environmental, economic and human effects of climate change around the globe. There remains a high degree of uncertainty around the exact scale and impact of this change, and this uncertainty will continue to shape the business environment in which we operate.

In order to ensure that the national grid is resilient to climate change we have undertaken a detailed assessment of climate-related risk scenarios, including transition, physical and liability risks. This modelling directly informs how we understand the future resilience of the grid and our assets, and shapes the decisions we make about our asset health and network risk. This work will ensure we are well positioned to report on our climate risks set out in the External Reporting Board's proposed [Aotearoa New Zealand Climate Standards](#) for Climate Reporting Entities.

Our goal is to provide thought leadership to the sector and to support discussion and

dialogue with those who are shaping the net zero carbon future. We take this work seriously, and provide regular technical and policy input to cross-government efforts around energy and infrastructure. Over the past year we have provided input to and feedback on the national [Energy Strategy](#) and on the Government's Emissions Reduction Plan, on Te Waihangā | New Zealand Infrastructure Commission's [Infrastructure Strategy](#), as well as the Ministry for the Environment's [Proposed National Policy Statement](#) on Indigenous Biodiversity. We have also continued our established Climate Leaders Coalition and Sustainable Business



Council membership commitments, and work closely to support electricity distribution businesses and electricity generators in meeting their decarbonisation milestones.

New Zealand's first climate-resilience [National Adaptation Plan](#), released in August, includes a specific action for the development of a Transpower Adaptation Plan to 'outline how Transpower will adapt to climate changes through the design, delivery, and operation of the national grid'. The Government's reform of the Resource Management Act (RMA) remains a keen area of interest for Transpower and one in which we continue to actively engage. In order to meet forthcoming emissions budgets it will be crucial that legislation continues to enable flexible and efficient consenting of electrification projects, as well as the maintenance and upgrade of our existing infrastructure.

Another way in which we aim to support the wider industry's transition to a net zero emission grid is through our work as a provider of impartial, evidence-based research. In November, our specialist metering and market services business Energy Market Services (EMS) launched a new grid carbon emissions intensity tracker, published free on EMS' market information dashboard 'em6'. The system works by using real-time electricity production data from every grid-connected generator in the country, and multiplying that by each generator's specific carbon emissions factor. This is a tool for industry, but also empowers consumers of all sizes who wish to track, minimise, offset or report their actual emissions. It also provides a window for energy consumers seeking to track New Zealand's progress towards a fully renewable grid.



Scan to visit:
[em6 App](#)

Green Financing Framework

In May, Transpower launched its Green Financing Framework, a crucial step that ensures our funding strategy is fully aligned with our sustainability objectives. The Green Financing Framework covers both existing and future issuances of Transpower's debt instruments – a debt book worth approximately NZ\$3 billion as at June 2022 – and has received certification under the Climate Bonds Initiative's global Climate Bonds Standard. Transpower is the first transmission grid in the world to receive this certification under the newly published [Electrical Grids and Storage criteria](#).

The development of a Green Financing Framework will present investment opportunities in a range of accredited debt instruments. These will be used to finance or refinance grid assets that will maintain and enhance a more highly renewable electricity grid.

Further information on the Green Financing Framework, including the Framework document, Climate Bonds Standard Certification and our Independent Assurance Report from auditors Ernst & Young ("EY"), is available on [Transpower's website](#).



Our carbon footprint

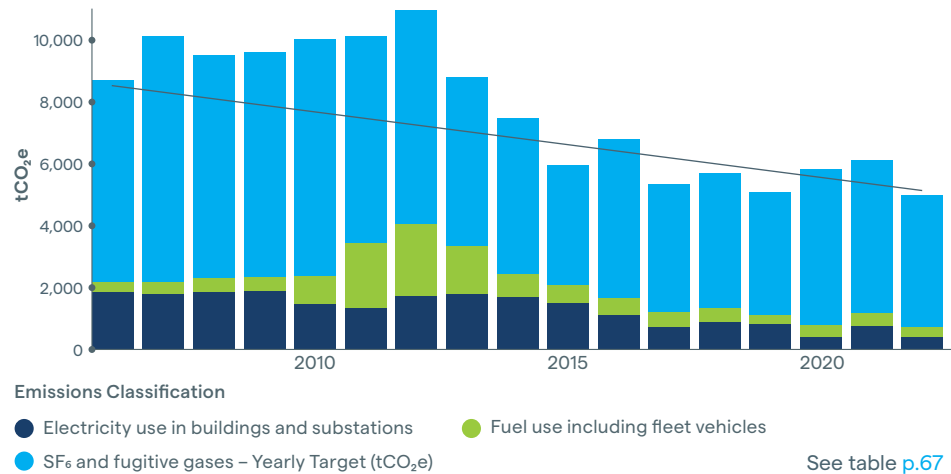
Given Transpower's pivotal role in enabling New Zealand's transition to a net zero carbon economy it is vital that we remain transparent and vigilant in the way we monitor, report and reduce our own carbon footprint.

Our climate reporting journey began in 2016, when we began voluntarily measuring and reporting our greenhouse gas (GHG) emissions. In accordance with the International Greenhouse Gas Protocol and ISO 14046, we report our GHG emissions annually. Since 2020 we have been working to ensure clear annual progression against the [Task Force on Climate-related Financial Disclosures \(TCFD\)](#)

framework. As part of our TCFD commitments for Climate Reporting Entities, we also publish a detailed annual report of our GHG emissions [on our website](#) assured by EY in accordance with the International Standard on Assurance Engagements (New Zealand) 3000 and 3410 Assurance Engagements on Greenhouse Gas Statements issued by the External Reporting Board.

Our total GHG emissions for FY22 are down 15% from FY21. Over the 2022 financial year, we have continued to refine our GHG emissions reporting framework to better identify the sources of our emissions. In 2021 we set an ambitious goal to achieve a 60% reduction of our controllable Scope 1

Controllable Scope 1 & 2 GHG Emissions Against Reduction Target



and 2 GHG emissions by 2030, a target that excludes emissions arising from transmission losses. In FY22, we saw a 43% decrease in our controllable Scope 1 and 2 GHG emissions against our 2005 baseline. We are well on track to achieve a net zero grid by 2050.

One challenge Transpower faces is that, as we enable the electrification of the economy by establishing new connection points and upgrading the national grid, our own carbon footprint is set to increase substantially. This is due to the likely rise in transmission losses – at least in the immediate term – as well as an increase in embodied carbon as part of the physical construction and upgrade of network infrastructure.

The term ‘transmission loss’ refers to the amount of energy that is lost in transit along transmission and distribution networks as well as at substations. The GHG emissions associated with these losses are tied to the electricity required to compensate for this loss, and calculated according to the relative carbon intensity of the generation mix. Due to our role in transporting electricity from generation sites to distribution businesses and consumers, Transpower has historically borne GHG emissions from transmission loss on behalf of the sector. As we grow the grid, the potential for transmission loss emissions may initially grow. However, as New Zealand moves towards more highly renewable electricity generation overall, this figure will reduce.

While we do not control generation investment decisions, Transpower plays a significant part in decarbonising the grid by advocating for more co-location of load and generation, and continuing to investigate other ways to minimise the need for additional transmission infrastructure. We continue to design, construct and operate new energy sources in the most carbon efficient manner possible, and have work underway to explore how best to minimise and manage transmission losses across the sector, as well as how we can best reduce the Scope 3 impacts of our increased infrastructure build.

It is important to note that any increase of our own carbon footprint will ultimately be offset by the net benefit to the country. Enabling electrification is the best way to reduce New Zealand’s overall emissions.

Scope 1 – Emissions from our operations

Scope 1 GHG emissions are those that arise directly from our operations. They include emissions from our use of gases and fuel, and include our fuel usage in vehicles. Our largest challenge in this emissions category is the use of sulphur hexafluoride (SF₆) particularly in the higher-voltage switchgear required for Transpower’s electricity transmission network. The insulating gas SF₆ is critical for the safe operation of high-voltage switchgear and there is currently no viable SF₆-free alternative. Our SF₆ strategy prioritises proactive leak detection and maintenance across our assets. We will retire low-voltage switchgear with SF₆-free alternatives at end of life where suitable, and continue to monitor international best practice for SF₆-free switchgear in our high voltage systems. In FY22 we committed to improving our understanding of our SF₆

emissions and continued a work programme that will help us better manage these losses across our network. We also prepared an SF₆ management strategy to ensure we meet our 2030 emission reduction target and net zero by 2050 aspirations. A key part of this will be addressing the technical issues with non-SF₆ gas alternatives to ensure the national grid can continue to run safely and reliably. Over the past financial year, our SF₆ emissions were down 14%. As the largest holder of New Zealand’s SF₆ we continue to share our approach to SF₆ best practice with other electricity distribution businesses and generators.

We are continuing to increase the number of battery and plug-in hybrid vehicles in our passenger fleet from 80% in FY21 to 90% in FY22. While we are slightly behind our target of achieving 100% conversion by June 2022, we have made significant progress on our FY18 count of 15% EVs across our passenger fleet. Our emissions from fuel use in vehicles and emergency generators were down 18% in FY22.

Scope 2 – Emissions from electricity usage

Transpower’s Scope 2 GHG emissions are those that arise from electricity usage in our buildings and substations, as well as transmission losses from the national grid as a whole. Scope 2 emissions make up the majority of our carbon footprint and, within this category, transmission losses are by far the largest contributor (77.4% of all our GHG emissions in FY22). In FY22 we reported a 17% decrease in transmission losses from the past year; however it is important to note that FY21 was notably high – the result of a dry-year reliance on non-renewable electricity generation.

Our approach to emissions from transmission loss are detailed above. We have also continued our work to minimise the carbon footprint of our operations in other areas of the organisation. A large-scale pilot installation of lightweight solar panels at our Bunnythorpe warehouse will provide a useful test case for carbon reduction opportunities across our operating sites. We have also installed EV fast chargers at the same warehouse, to promote the use of EVs for staff, service providers and Grid Skills training participants at this high-use facility.

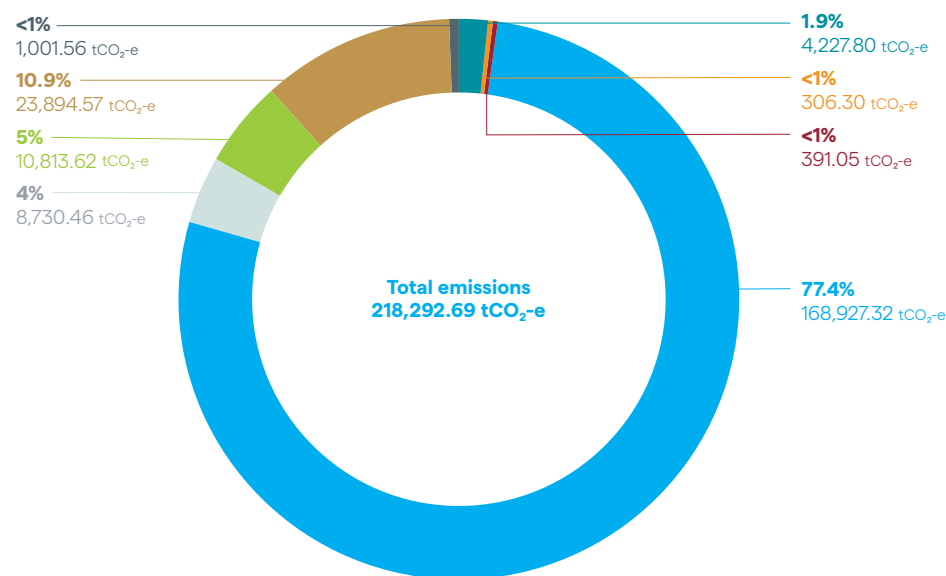
Scope 3 – Emissions from the supply chain

Along with ongoing refinements to our carbon accounting systems, we continued work across our supply chain over the past year to better understand, report and manage Scope 3 emissions. Through this we have been able to make a focused move from estimated to actual Scope 3 emissions, particularly from our major grid service providers. In large part as a result of this work programme, we have seen a 4% reduction in this emissions category over the last financial year. Other factors driving this decrease include a reduced capital expenditure programme and less site-based activity across FY22 due to COVID-19.

Improving oversight of our supply chain is a significant and ongoing piece of work for Transpower. At the end of FY22, 43% of our suppliers and service providers were reporting their actual GHG emissions data to Transpower. In June we signed new grid service contracts with our service providers, which will allow us to significantly increase our oversight of our Scope 3 GHG emissions data. The new contracts will allow us to ensure that service providers' work

programmes and activities are aligned with the sustainability targets set out in our own Sustainability Strategy. Year One contract targets are focused on establishing a carbon baseline report for all service providers, with further requirements for waste reporting and minimisation. For more about our grid service contracts reset, please see [p.51](#).

Over the coming years, we expect to see our Scope 3 GHG emissions data reflect increased physical construction and upgrade work to network infrastructure. However, we have work underway to explore how best to minimise embodied carbon for new sites and buildings. The build of a new control room at our Pauatahanui substation is a good example: construction with cross-laminated timber rather than concrete will ensure the substation has a much lower carbon footprint. The design of the substation also supports our resilience improvements by mitigating against future flood risk.



1.9%
Scope 1
SF₆ and other fugitive gases

<1%
Scope 1
Fuel use including fleet vehicles

<1%
Scope 2
Electricity use in buildings and substations

77.4%
Scope 2
Transmission losses

4%
Scope 3
Purchased goods and services, grid maintenance

5%
Scope 3
Purchased goods and services, other

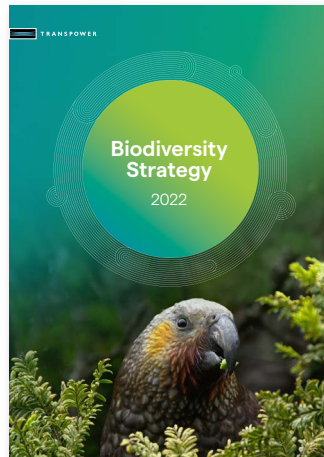
10.9%
Scope 3
Capital goods and construction

<1%
Scope 3
Other supply chain (inc. business travel, waste, employee commuting)

Environmental stewardship

According to *Te Mana o te Taiao*, the Department of Conservation's Biodiversity Strategy for Aotearoa New Zealand (2020), our biodiversity is in crisis. Climate change will potentially accelerate the biodiversity decline that is already happening across native species, ecosystems and environments. Our national grid is made up of around 12,000 km of transmission lines, 170 substations, and 25,000 transmission towers. These assets are located across the country, in a wide range of landscapes and ecosystems – many of which have taonga with high biodiversity value. Due to this, our routine maintenance activities and more major project works have the potential to significantly affect the surrounding environment. To date we have developed processes that support local and national environmental regulation and best environmental practice. However, we increasingly see the need to take a leadership role in safeguarding the biodiversity taonga around our assets.

In 2022 we finalised our Biodiversity Strategy, which enshrines a principle of kaitiakitanga in our work. We will continue to build a more integrated vision of biodiversity, ecosystem health and ecosystem services, one that is informed by te ao Māori and mātauranga Māori. Our initial goal is to avoid any decline in indigenous biodiversity arising from our assets or projects. The broader goal is to deliver a net biodiversity gain for new major Transpower projects from July 2023. We will work collectively with iwi and hapū in their rohe, as well as other key stakeholders, to ensure we meet this commitment.



CASE STUDY

Planting for biodiversity

Takapū Road substation connects several 110 kV transmission lines to the grid, and sends electricity to Waitangirua, Porirua, Tawa, Kenepuru, Ngauranga and Johnsonville.

For the last fifty years, the area around the substation has been shaped by major infrastructure, including the Transmission Gully motorway project. The current landscape is predominantly pasture and gorse.

In June, as part of the first major initiative under Transpower's Biodiversity Strategy, over thirty Transpower volunteers and pupils from Ngaio School's environmental group and the Kids Enhancing Tawa Ecosystems group (KETE) began an ecological restoration project near the substation. The group planted close to 1,000 plants around the substation, including ngaio, karamu, kanuka, harakeke and toetoe. The 2022 planting was part of a staged approach to increasing the biodiversity and water

quality of the area. This initial planting will create firebreaks and improve water retention; later planting will continue to encourage biodiversity. The planting project highlights the interdependence of the environmental and social taonga that underpin Transpower's work. We worked closely with The Growing Places Charitable Trust, Ngāti Toa Rangatira, councils, local schools and landowners to shape this investment in the biodiversity of the area.



Scan to visit:
Takapū substation restoration project







Our evolving relationships

Sustainable Development Goals

- SDG 5**
Gender Equality
- SDG 7**
Affordable and clean energy
- SDG 8**
Decent work and economic growth
- SDG 9**
Industry, innovation and infrastructure
- SDG 11**
Sustainable cities and communities
- SDG 13**
Climate action
- SDG 15**
Life on land

Strategic Outcomes



Relationships

Partnership and collaboration

The past two years have highlighted the importance and value of our relationships with our stakeholders. In our role as the owner of the national grid and system operator, Transpower works closely with a diverse range of stakeholders from all around the country.

We have different working relationships across stakeholder groups, and the way we engage varies accordingly. Our stakeholders have varied insights into the way in which Transpower creates and sustains value as an

organisation, and – alongside our materiality assessment process (see p.22) – we continue to seek feedback on these relationships.

Over the past year we have conducted surveys with stakeholders to ascertain satisfaction levels and ensure that we are providing the most appropriate service and value for their organisations. Overall, satisfaction levels across each group are increasing year-on-year:

Key:

- Up from the year before/Positive
- No change/Neutral

Stakeholder satisfaction

		FY22	FY21	FY20
Percentage of Customers who agree or strongly agree – to the seven customer engagement statements - Transmission customers	%	71.4	71.1	57.4
Satisfaction from Electricity industry participants and customers of System Operator performance	%	95	84	92
Landowner Satisfaction - Landowner satisfaction survey	%	94	-	91
Landowner Satisfaction - Number of claims against Transpower to Utility Disputes	Number	0	0	0

Working to deliver better customer outcomes

Our customers are those who connect directly to the grid. These are the 27 electricity distribution companies (EDBs), 10 directly connected major electricity users and six generators. While our customer base has historically been very stable, this is evolving with a large number of connection enquiries from new developers of grid scale solar and wind generation and new industrial load customers.

Over FY22 we have evolved many of our services to meet the changing needs of our customers, making the connections process more collaborative and providing more certainty around delivery times. We developed a new [customer-connection focused section](#) of our website, providing more clarity, guidance, education and support to prospective connectors. This helps those new to the connection process to understand the various stages, timeline and expected costs.

In the new web pages, we provide guidance for customers developing new generation, industrial plant or electricity network connections about technical requirements and regulatory obligations and how to contract with Transpower. We also set out our commitments in terms of turnaround times at each step of the customer journey to achieve our respective business objectives.

Deciding on the right location for new electricity generation is typically the first step for developers. In November 2021 we launched a new geospatial tool within our [Envision](#)

suite – the programme that takes our annually published Transmission Planning Report and shows it within an interactive geospatial information system. Envision Opportunities provides our customers with transmission capacity information allowing them to scope potential locations for new generation.

While there are many factors taken into consideration in a new connection proposal, including energy source, environmental approvals, constructability, and property rights, by providing detailed information about viable capacity at specific locations, Envision Opportunities can help developers save time as well as cost.

We have made further improvements to our customer connections over the past year, including a fast-track process for simple connections (both for load and generation). We have also streamlined a system whereby EDBs can independently investigate the impact of potential embedded generation projects on their future distribution network and their Transpower connection. We have begun to provide workshops to assist customers in prioritising their own, often multiple, connection proposals to ensure they are able to develop their own decarbonisation roadmaps.

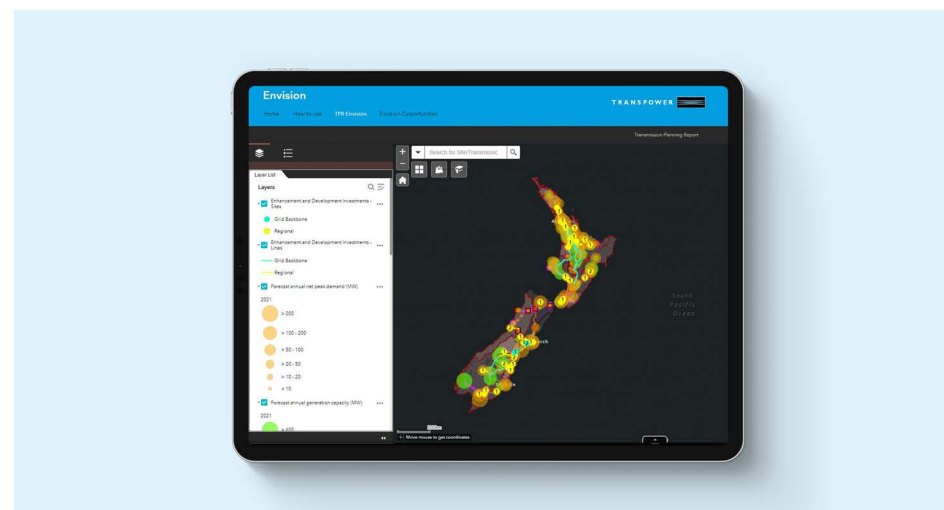
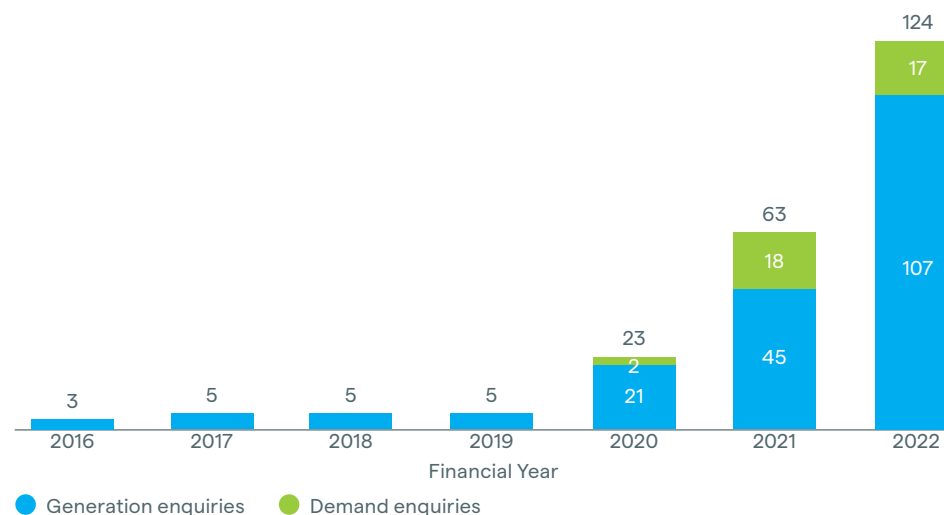
Many of the changes we’re making reflect the need to respond to the significant increase in connections enquiries. Transpower is a key enabler of Aotearoa New Zealand’s decarbonisation. We must therefore have scalable processes to manage the increases in renewable generation connections and electrifying loads. We are increasing internal resources to ensure we’re doing all we can to speed the process. In addition to our

resourcing, we’ve reviewed the efficiency of the connection process. We have consulted with industry on changes designed to limit highly speculative generation connection enquiries. We have proposed an application stage that requires customers to demonstrate capability and readiness, and that will ask projects to meet milestones to maintain their position in the connection delivery process. These changes are currently being refined and will be implemented in the second quarter of FY23.

Over the coming year, we will focus on further improvements like equipment standardisation and alternative modes of delivery, in order to build on the gains we have already made in efficiently connecting our customers.



Scan to visit:
Envision





[Transpower notifying power companies of concerns about peak winter demand] signals a better level of communication. Everybody's minds are very focused on not having outcomes like we had on August 9. I am not aware of any major concerns that are coming from the sector.

Lucie Drummond, General Manager of Sustainability, Mercury Energy. Stuff, 25 May 2022



Transpower has really developed its forecasting abilities.

John Harbord, Chair, Major Electricity Users Group. Stuff, 25 May 2022



It is pleasing to be able to report that Transpower met the expectations of its key government stakeholders for its communications on 23 June and other recent occurrences where market conditions were tight.

Wayne Eagleson, Director of consulting firm Thompson Lewis: review of Transpower communications during the 23 June grid emergency

Improving how we communicate

The events of 9 August 2021 revealed how quickly a major power system event can develop, and the complexity of managing such an event. Since this grid emergency, Transpower has worked with industry participants and the Electricity Authority to improve our systems and communications processes to ensure we retain the confidence of both the wider electricity sector and the general public.

The spotlight on Transpower's processes as system operator has been an opportunity to improve our protocols and oversight in this area. Since 9 August we have been fine-tuning the systems, tools and processes that control our communication across industry and out to key stakeholders and end consumers.

In May, Transpower organised an industry wide emergency exercise. The **Exercise Shortfall** scenario involved an icy extended morning peak; a cold snap moving up the country; and low wind generation. When a gas-fired generation unit was removed the scene was set for a generation shortfall that would demand industry-wide management.

Supported by a Coordinated Incident Management System (CIMS) response, Transpower's control rooms worked closely with control rooms at electricity distribution businesses (EDBs) around the country to remove controllable load from the system. To support EDBs to get the word out in a clear and unified way, Transpower provided templated messages that could be used

for websites, customer call centres and other media and social media. The exercise broadened the channels Transpower used to keep New Zealanders informed about the situation.

When a similar situation unfolded in real time on 23 June, the lessons of Exercise Shortfall were put into practice. Transpower issued a Grid Emergency Notice and coordinated clear communication to industry, media and key stakeholders. The situation was managed effectively with clear support from the sector and with a positive outcome for the whole country as the power stayed on.

As an industry we are seeing significant growth in demand for electricity at a time that intermittent generation like wind is making up more of our energy mix, and weather patterns are becoming more erratic. In addition, we will see more solar generation come online in the future increasing the amount of intermittent generation. This will require more active management of the power system to ensure there is sufficient generation offered to meet peak demand, particularly during cold winter mornings and evenings when the wind is not blowing and the sun is not shining. This will require proactive communication and a focus on building relationships throughout industry.

Contributing to community change

Transpower's **CommunityCare Fund** continues to invest in communities affected by Transpower assets and our projects. Over the past year we ran two funding rounds – Summer and Winter. Across the two rounds in

FY22, and with further grants via our project funds, we granted \$761,479 to community projects around New Zealand.

A selection of community projects funded in the FY22 year include a dedicated Search and Rescue emergency management facility in Ruapehu, funding towards the BMX track redevelopment in Alexandra, river kayaks for Murchison Area School, technical equipment for a community hub for rangatahi aged 15-24 in Auckland, a memorial refurbishment in Waitaki, solar panels for a community pool complex, a generator for Hunua School (mitigating the impact of power outages), trapping equipment and cameras for Save the Kiwi Project in Kaipara, and an EV charging station in Naseby.

Since the CommunityCare Fund was introduced in 2013, Transpower has assisted more than 570 community projects with a total funding value of more than \$12m.

To better focus the CommunityCare Fund on communities most affected by our assets, two key changes took effect from 1 November 2022:

- Community projects within 2 km of our lines are eligible to apply (previously 5 km)
- The maximum grant is now \$15,000 (previously \$50,000).

In conjunction with the CommunityCare Fund, a community and iwi partnerships programme is being developed to fund larger and ongoing projects which will have wide-reaching and long-term benefits.

Future-proofing grid contracts

Transpower outsources the provision of grid maintenance, project services, engineering design consultancy, facilities management, and IT services to specialist service providers. Our service providers have unique and specialist skills in civil works, engineering, and high voltage direct current (HVDC) systems. They add expertise and capacity to the Transpower team.

Over the past year, we reviewed the contracts and arrangements for how our grid maintenance work is carried out. We wanted to ensure we were best placed to provide long-term sustainable work and could develop, retain, and invest in a highly skilled workforce as we move into an era of increased demand. To achieve this, we ran a procurement process to select a community of service providers that would deliver the best outcome for New Zealand's transmission system and consolidate the number of regional contract areas.

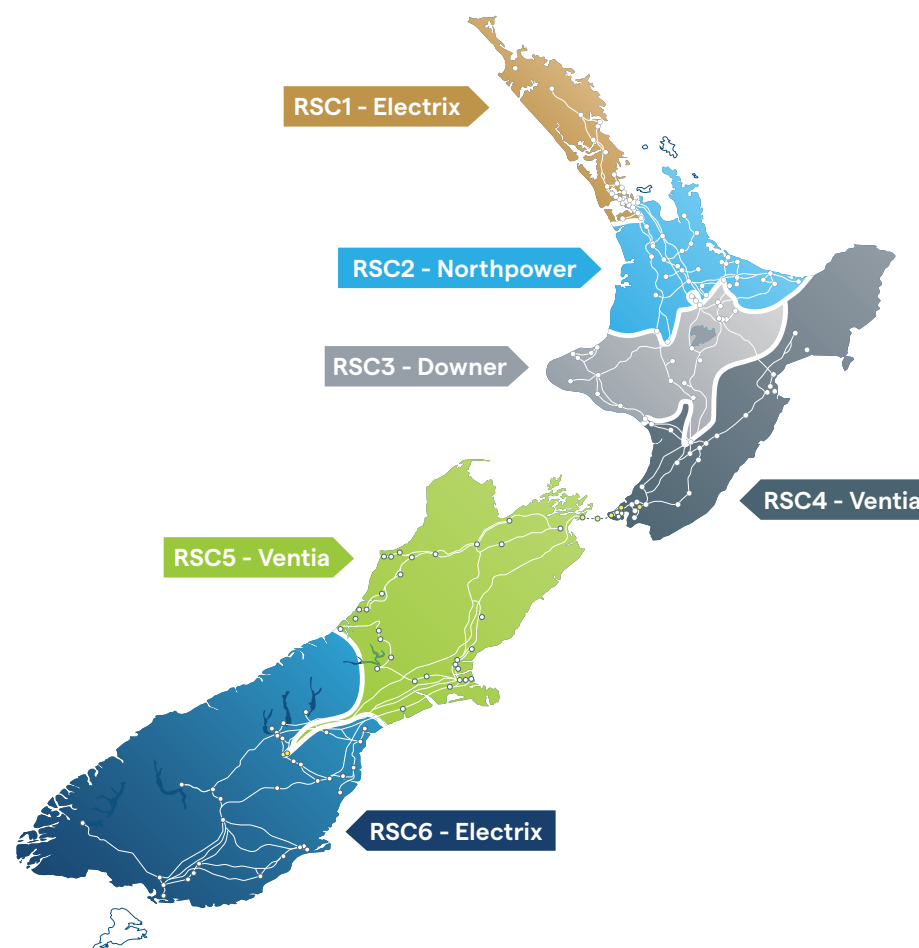
The new contracts are the foundation for the way we will work over the next decade. With more than \$2 billion forecast to be spent on the national grid over that time, we are entering an exciting and busy period of work that will ensure our critical infrastructure meets New Zealand's needs for the future.

The new model sees new Regional Service Contracts (RSCs) covering transmission lines and substations work within six new contract areas around the country (previously 22 areas). In addition, there are 10 Specialist Service Contracts (SSCs) covering services relating to high voltage cables, telecommunications

and other assets such as the HVDC; and three Contestable Work Panels used for major grid investment projects that sit outside the grid service contracts including general lines, substations, and heavy wiring.

The changes will build more local in-depth expertise, greater certainty and more opportunities for people who want to work in an industry powering our low carbon future. Our new contracts are focused on the long term and working together. They encourage everyone's participation in innovation, bringing new ideas and delivering new ways of working to our industry.

Regional Service Contracts



CASE STUDY

Tō mātou haerenga - our journey

Aotearoa New Zealand continues to see significant change in bicultural relations between tangata whenua and tangata Tiriti. As a state-owned enterprise and owner of the national grid, we are on a journey to build our competence in this space, and engage meaningfully with mana whenua.

We are committed to recruiting and retaining team members who identify as Māori, and aim to ensure a culturally safe and supportive work environment. While much of this work is led by our Whanaungatanga team, it is encouraged and embraced by all members of our staff.

We approach our work in the space of te ao Māori through a kaupapa of collaboration, and encourage staff to speak Māori in their day-to-day interactions as well as celebratory events such as Matariki, Waitangi Day, and Te Wiki o Te Reo Māori. We offer in-house te reo Māori courses and each quarter run a noho marae for staff. To date we have held 11 noho marae in different locations across the North and South islands. For many of our team, this is a

first immersion in te ao Māori and marae tikanga. The visit involves discussion of Te Tiriti o Waitangi, background on and guidance in meeting our goals for engagement with mana whenua, and the chance to sleep overnight in the whareniui.

Our high voltage network connects over the rohe of around 80 iwi and hundreds more hapū. We measure the strength of our relationships with mana whenua through our ability to undertake work on our assets with their blessing. Typically, we use our project work as a precursor to a longer conversation, which is often the first time such a dialogue has been held throughout our shared history. In the past year to support our journey, we introduced our Māori Partnership Strategy. The strategy

frames an approach that recognises the importance of the connection of mana whenua to the land, the past and to each other. We have targeted our focus based on upcoming operational and capital works and major projects (e.g. Net Zero Grid Pathways and Renewable Energy Zones). It is vital that we take into account the impact of our work in relation to culturally sensitive or archaeological sites, and the extent of Māori trust land under our lines, as well as legacy issues through the mamae and the history of transmission infrastructure development, or the impact of other electricity industry works.



Nā te whakarongo, titiro me te whakaaro ka puta mai i te korero.

Through looking and listening we gain wisdom.



Whakapapa, whenua and whānau

Transpower has a whakapapa that stretches over 100 years and includes the grid owner's use of the Public Works Act, a disregard for cultural taonga and a lack of meaningful consultation with Māori. Accordingly, for many iwi, memories of an initial interaction with our predecessors will not be fond ones. Our work today is in part to apologise for that time and our role in it, while committing to a much greater awareness and competence in te ao Māori as part of building enduring relationships for the future.

It is crucial that we avoid the transactional approach of the past by focusing on building relationships and trust foremost. We will continue to cultivate chances to speak and meet. Hui allow us to gain better understanding of mana whenua concerns and aspirations, and to learn how we can support these. Where possible we aim to seek clear overlaps between iwi goals and those of our own organisation – a starting point for strong collaborative practices. For example, in developing a biodiversity strategy that will allow us to deliver on our Sustainability Strategy goals, we

have sought to reflect and learn from local tikanga and a broader mātauranga Māori approach. We hope that, where possible, this supports the sustainability and biodiversity initiatives of mana whenua.

Many relationships are challenging. Our relationship with Ngāti He and Ngāi Tūkairangi is one that has been tested at times and one that we continue to foster and improve upon. In 2018 we were contacted by Māori landowners in Matapihi, together with Ngāti He and Ngāi Tūkairangi to explore the removal of the Hairini–Mount Maunganui A line from their horticultural land. At the time the A line was built, our predecessor, the New Zealand Electricity Department, had given assurances to iwi and hapū that the line could be shifted at some stage in the future.

The proposed work included removing two poles deteriorating in condition from Te Ariki Park (an urupā and sports field) and a section of line running over residential property on the Maungatapu side, and a lattice tower from the harbour. To remove the tower, Transpower needed to install large mono-poles on both sides of the harbour – both of which would be visible from the Maungatapu Marae and properties above

the line that looked towards the Mount. Investigations to mitigate the impact on one group were found to exacerbate the effect for others. Initially iwi and the Maungatapu Marae Committee were supportive of the project but this situation then changed. Project opponent, the Tauranga Environmental Protection Society, supported the Marae Committee and took a case to the Environmental Court, and to the High Court.

Throughout the legal process that has followed these events, Transpower has sought to engage with affected parties including the Maungatapu Marae Trust, local hapū and iwi, Regional and City Councils and communities on both sides of the harbour. Finding a path forward will rely on ongoing discussion and dialogue. We recognise that legacy issues, like this case, will take many decades to heal. We acknowledge this is a journey and that we will always need to continue to build our relationships and our understanding and awareness of te ao Māori.

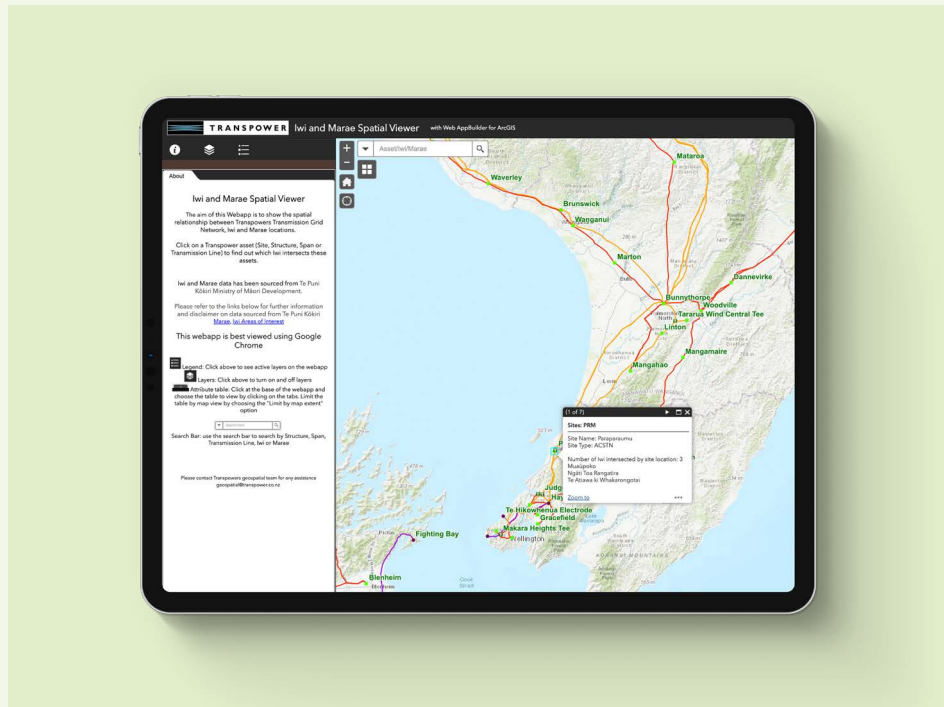
One area of positive growth over the past year has been the strengthening of our relationship with Pukerangiora and other Te Atiawa and Taranaki hapū. Transpower has been a key part of

conversations around connecting new underground cabling to the Huirangi substation in North Taranaki and removing structures relating to the New Plymouth grid exit from the Paritutu reserve land. For both projects we have sought to be active and respectful partners, to communicate clearly and in good faith, and above all to listen. We have been present kanohi ki te kanohi (face to face) in order to fully understand the impact of different proposals on the landscape and the diverging viewpoints of different iwi. It's our hope that through this process we've built our reputation as trustworthy partners in supporting the protection of iwi interests and, where possible, the restoration of mana to whānau and whenua.

Progressing knowledge

A key part of Transpower's journey is acknowledging all that we can learn from mana whenua. It is our goal to continue building meaningful collaborative relationships with iwi and hapū when our work affects their land. With this in mind, we are seeking to make the knowledge that we gain about land, through our operational and project work, available to mana whenua where this might usefully contribute to their knowledge base. Our geospatial mapping insights, for example, might be of potential value to iwi and hapū. Our ArcGIS maps detail the current state of the land and the physical presence of our network. However, by overlaying original maps

and late-19th century title deeds, these programmes might also allow iwi and hapū to explore the historic status of their land. This programme would also provide an invaluable look at changing topography and waterways, as well as important archaeological information in a 3D format. Our teams provide the data to mana whenua. From this point it becomes their property on which they are free to build. Over the coming year we will continue to build on our organisational capability to engage in te ao Māori, realising organisational capability and fostering an environment where biculturalism is celebrated.







**Supporting
our people**

Sustainable Development Goals

SDG 5

Gender Equality

SDG 7

Affordable and clean energy

SDG 8

Decent work and economic growth

SDG 9

Industry, innovation and infrastructure

SDG 11

Sustainable cities and communities

SDG 13

Climate action

Strategic Outcomes



Safety



People



Sustainability

A diverse and skilled workforce

We are proud of our people; they are our most valuable asset. We are a diverse and inclusive group who achieve an enormous amount as a team.

Transpower is committed to enhancing our people's working lives through innovation, professional development and training. We work to build staff health and wellbeing and foster recognition and equal opportunities.

Over the past year we have improved our gender balance across our General Management and Senior Management Team with more women in senior positions. At the same time, we are narrowing the gender pay gap (16.7% in FY22 versus 17.5% in FY21). Our regular employee engagement surveys continue to be well subscribed with 97% of staff participating overall during FY22. We continue to place in Workday's top 25% quartile for the energy and utilities sector for our employee engagement survey results. The average length of service at Transpower is 8.65 years, indicating staff feel valued, supported, and challenged at our organisation.

Each quarter we run the Tū Mai Aotearoa Awards, where we recognise those who provide a significant contribution to one of our three behaviours (nimble and considered, inclusive and decisive, and courageous and caring). In addition to the quarterly Tū Mai Aotearoa Awards, in FY22 we introduced a recognition programme that enables our people managers to more easily recognise the performance, contribution and achievement of our staff.

During FY22 we introduced a new biennial awards initiative – the [Engineering and Technology Awards](#) due to be held in November 2022 and open to Transpower staff, our service providers, and our external consultants and contractors. The awards have six categories:

- **Engineering by design:** demonstrating best practice engineering and technology by design to deliver an improved engineering and technology outcome.
- **Investment in our industry future:** exhibiting a significant investment in the engineering and technology future of our industry.
- **Collaboration:** highlighting a collaboration that results in an improved project outcome, innovation, growth of our engineering and technology capability, or has a significant positive impact on progress towards our energy future.
- **Sustainability:** An engineering or technology initiative or strategy that has or will provide long-term positive impacts on the environment.
- **Value engineering:** an engineering or technology project, initiative, innovation or strategy that demonstrates the greatest whole-of-life net benefits that support our energy future.
- **Complex and challenging:** a complex engineering or technology challenge resolved in an elegant and straightforward manner.

At the time of print, more than 100 nominations had been received for the inaugural awards, of which 40% came from wider industry nominators.

We also run the [Safety Thanks and Recognition \(STAR\) Awards](#) biennially celebrating excellence and leadership in the health and safety space industry-wide. The next awards event will be held in FY23

The continuing challenge of COVID-19

The health, safety and wellbeing of our staff is a priority for us at Transpower and we are committed to being a leader in safety by achieving an injury-free workplace for our employees, contractors, and those we work with. COVID-19 has continued to be a leading challenge to health, safety, and wellness in FY22. As an organisation we have negotiated the uncertainty that comes with the COVID-19 pandemic and Transpower has offered a continual process of support for our staff. We established a COVID-19 Policy and suite of protocols to provide guidance to staff, and those we work with. With the country traversing different traffic light settings over the past year, Transpower's teams settled into a flexi-time and flexi-place working model. Under the red setting, most staff worked from home, collaborating with colleagues virtually. Critical teams including control room staff and service provider colleagues continued to work on-site to keep the electricity flowing over these restricted periods, with Rapid Antigen Testing programmes in place. Professor Rod Jackson, Epidemiologist at Auckland University,



spoke to our team on several occasions about COVID-19, with hundreds of staff tuning in to his presentations virtually.

As we moved into the orange traffic light setting, Transpower made the decision to phase the return to the office. Additional protocols were established for the control room and warehouse staff, to manage the risk of COVID-19 transmission.

Staff returned progressively to the offices with an additional day in the office or on site each month. They appreciated this transitioned approach. A programme of events and activities was planned and undertaken across the offices to provide staff with the opportunity to reconnect with their peers. This was well received by staff.

As the pandemic continues and our borders open, we continue to evolve our COVID-19 and flexible work policies and guidelines whilst ensuring that our people remain connected with each other, and with their industry peers.

Embedding innovative technology

While Transpower has adopted a flexible work approach in our offices, we are also continuing to review how we use technology to ensure maximum efficiency in the assessment of our assets.

Our substations currently use copper cables to carry important protection and control functions from the outdoor switchyard to the control building. The control building protection relays (small computers) open circuit breakers to remove faults from the system and provide remote equipment control.

Our Digital Substation Programme, initiated in FY22, is set to revolutionise the protection, automation and control solutions for existing substations and new substations in development. By 2024, it is expected the new digital substation technology will be part of our design and construction process as well as our onsite commissioning.

In December 2021 we approved the first stage of the Digital Substation Programme, which saw the development of a Test Laboratory in our Waikoukou building. The lab is also being used as a training facility for designers and technicians, and Transpower Protection and Automation and Real Time Systems teams. The Digital Substation Programme is a collaborative project with teams from protection and control, hardware, software, networking and business processes involved.

In addition to the Digital Substation Programme, we continue to use and evolve robot and drone technologies for condition assessments of our substations and transmission lines. These technologies are helping us to meet our strategic priorities by accelerating our organisational effectiveness, and matching our infrastructure to need over time.

Over the past few years, we have worked with Massey University to develop and trial robotic technology. We now use a robot at Tuai substation near Lake Waikaremoana for diagnostic investigation and routine checks, as well as for fault response, equipment health monitoring, and verification work by engineering consultants. Due to the remote location of the substation, significant time and cost is typically involved in getting maintenance providers to the region. The

robot has allowed us to minimise site visits from our engineers, thus reducing travel time and expense, as well as our carbon footprint. The robot's camera is live-streamed; this allows our engineers and service providers to collaborate on inspections and event analysis, and to make timely decisions, particularly in situations where power needs to be restored.

In FY22 we completed our Digital Visual Data Capture (DVDC) project, which has established drone use as standard practice amongst our service providers for a range of specific inspection activities, including examining conductors, tower and poles, substation gantries and substation facilities. The drones quickly gather high quality imagery which is, once processed, assessed by our engineers for defects and monitoring. Drones are used instead of helicopters, to collect higher quality imagery, reducing our carbon footprint, and creating less disruption for those living in close proximity to our lines. Condition assessment data collected with drones has allowed us to better optimise our conductor replacement programme of work, resulting in savings for consumers.



Scan to visit:
Digital substation project



Laying foundations of change

Through harnessing the power of digital engineering, Transpower is changing the way we plan our future substations using Building Information Modelling (BIM). Digital engineering and specifically virtual reality (VR) and augmented reality (AR) allows engineers, and construction teams to digitally visualise planned work in the field before construction.

Over the past five years, Transpower has completed an investigative BIM programme, trialling different BIM techniques across 10 brownfield substation projects and exploring project delivery benefits.

This year as part of the BIM programme, we added a BIM Viewer to our toolkit which has enabled our project teams to access AR capability on their mobile devices. Using the viewer, engineers, planners and construction teams onsite can overlay 3D design models created using BIM applications on their screen in real-time – allowing them to see a visualisation of what the construction will look like before starting the build. This has allowed our teams to identify any possible construction issues at an earlier stage in the project timeline.

On a recent project the BIM viewer identified an issue with the planned foundation locations ahead of construction, saving hundreds of thousands of dollars in the process. Transpower is now embedding BIM technologies into its business-as-usual approach and is establishing a dedicated Digital Engineering team within the Information Services and Technology

group. This team will oversee the delivery of Transpower's BIM strategy across regions.

Preparing a digital safety net

Transpower has robust protocols and policies to ensure the continuity of our business services and the health and safety of our people when unplanned events occur. We also prepare for such situations by running simulations and event drills. Our focus in this area is preventing harm to our people and safeguarding the security of electricity supply in New Zealand.

Every two years Transpower represents New Zealand in GridEx – a global security exercise designed to test how we respond to and recover from simulated coordinated cyber and physical security threats and incidents. The GridEx concept originated in the USA and it has been adapted and customised for New Zealand. It involves a Transpower Incident Management Team representing Grid Operations, System Operations and the IST division, as well as our General Management Team. The exercise also includes observers from the National Cyber Security Centre (NCSC), CERT NZ, the Department of Prime Minister and Cabinet (DPMC), the New Zealand Police and Civil Defence Emergency Management (CDEM), an electricity generator and four electricity distribution businesses.

This year's exercise centred around the efforts of a well-organised and -resourced terrorist group intent on disrupting the electricity system in New Zealand. Over the course of 48 hours, the 40-strong Transpower team had to face a series of scenarios that unfolded and

escalated in real-time. Disruptions included a series of coordinated cyber-attacks and physical attacks on multiple Transpower sites and other key infrastructure locations.

Due to COVID-19 restrictions – which prevented the use of a single central war room – the group practised a distributed virtual approach and was able to clarify the direct support that is available in such situations from other agencies, including the New Zealand Police and the New Zealand Army.

Though the practice scenario may well be worse than any future real-life situation, such exercises are incredibly valuable for familiarising participants with intense and time-critical events. At Transpower we take our responsibilities on behalf of New Zealand very seriously – this is just another example of the great work being done to increase the resilience and reliability of our national grid.

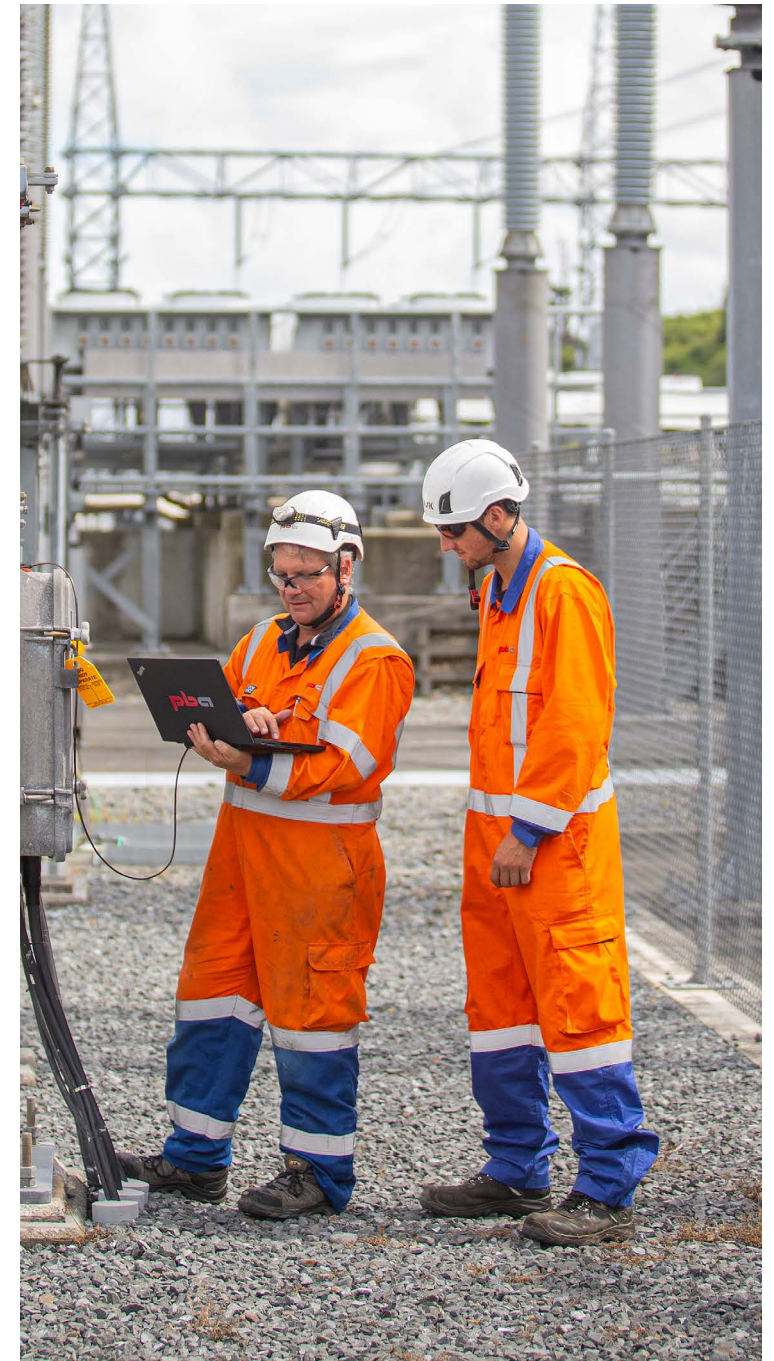
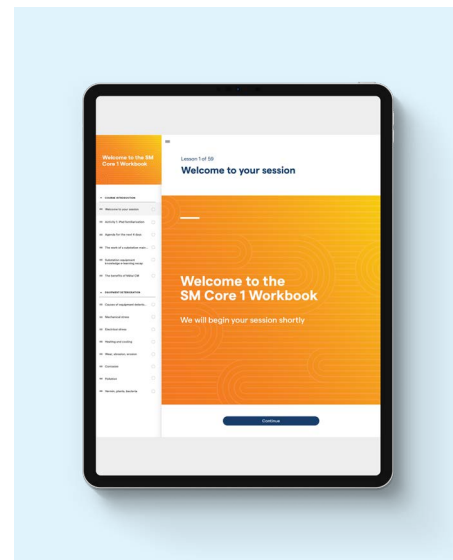
Grid Skills training powers ahead

Transpower Grid Skills is a registered Private Training Establishment (PTE) that provides training to support the development of our service provider staff. Grid Skills courses ensure our service providers' skills are up to date and compliant in all the work they do on Transpower assets and work sites.

In FY22, 1,726 people participated in training from 94 different organisations. Approximately 88% of the courses delivered last year were compliance based; the remaining 12% were focused on transmission trades training. Overall participation was slightly lower than in FY21. This was largely due to COVID-19 driven

disruptions to the scheduled delivery of face-to-face trades training courses.

This year, Transpower has been approved by NZQA to award the Certificate in Electricity Supply (Power Technician) – a Level 5 qualification – to learners who successfully complete the Grid Skills' Power Technician core training programme. This is the second qualification Transpower has been approved to award and the first qualification at Level 5. It's a significant step in our journey in the award of transmission sector certification. Transpower will continue working towards gaining NZQA approval to award other qualifications registered on the New Zealand Qualification Framework relating to the transmission sector field workforce.



CASE STUDY

Opening doors for New Zealand's next generation of engineers

To empower our energy future and meet the goals of *Whakamana i Te Mauri Hiko*, it is becoming increasingly vital that we are able to recruit from a highly skilled workforce, especially in the STEM (Science, Technology, Engineering and Maths) fields.

Our graduate programme is a crucial enabler of this. It is a win-win scenario. We can encourage some of the country's top engineering graduates into the workforce and support them in getting crucial experience within the industry; and in turn we are fostering a stream of talent that will help us deliver Aotearoa New Zealand's evolving electricity needs.

Every year, Transpower recruits a handful of engineering graduates from across the country. They are brought into the organisation on a two-year programme that provides them with experience in a range of placements across Grid Development, Grid Delivery and Operations. Some will likely be offered roles in Transpower before they have completed all programme placements. But by the end, all will have completed the requirements for full Engineering New Zealand professional membership. The Transpower Graduate Programme has been going for 20 years. It's a career-



shaping experience, and one that has provided a foundation for many who are in senior technical or management roles at Transpower and other organisations in the sector.

This year we welcomed six mechanical and electrical engineering graduates from Canterbury University, AUT, and Victoria University of Wellington into the programme. Their induction got off to a slightly unusual start with Transpower locked down under the COVID-19 red traffic light status. The programme was adapted to a mixed model of socially distanced in-person and online meetings and workshops.

Prior to joining their Transpower teams, the graduates were tasked with a fortnight-long engineering challenge: draw a complete picture of the current state of the energy sector in New Zealand and predict how Transpower might meet the growing demand for electrification and decarbonisation over the next 20–30 years. The graduates all reflected the experience was a useful source of experiential learning, replicating some of the real-life challenges of project work, and helping them to get comfortable asking questions. Visiting the Wilton Substation reinforced the nature of the work. It is one thing to examine an electrical diagram on paper, another thing entirely to be standing a short distance from high-voltage currents.

One of Transpower's ongoing goals is to improve the gender balance of our workforce.

Women are still under-represented across the engineering industry, and we are committed to shifting the balance. Our cohort this year featured four skilled female engineering graduates who had all made a mark at university. Many of the graduates drew attention to the importance of seeing women in senior organisational positions at Transpower, and the value of being able to engage in direct and down-to-earth discussion with a female CEO about her experiences in the industry.

The six young engineers are now immersed in Transpower's grid teams. There is a great deal to discover about the field they have stepped into. One of the strengths of the graduate programme is its flexibility, and that it provides a range of experience across the organisation.







Our targets and performance

Transpower measures its performance against the targets set out in its Statement of Corporate Intent, as well as against a wider range of environmental, social and economic measures.

Our Statement of Corporate Intent targets

Statement of Corporate Intent 2021/22

Performance area	Measure	2021/22	2020/21	2019/20	Target 2021/22
Safety and our people	Number of fatalities or injuries causing permanent disability	0	1	0	0
	Total recordable injury frequency rate (TRIFR) rolling 12 months	4.17	7.50	6.34	≤ 6
	High potential incident frequency rate (HPIFR) rolling 12 months	2.61	2.04	2.11	≤ 3
	Staff engagement	Top 25%	8.1	8	Top 25%
Sustainability	Deliver Year 2 milestones according to the Task Force on Climate-related Financial Disclosures (TCFD) framework	Achieved	Achieved	-	Meet target
	Deliver Year 2 milestones to position Transpower in the upper quartile on Environmental, Social and Corporate Governance (ESG) reporting framework within two years	Achieved	Achieved	-	Meet target
Service performance	Grid interruptions:				
	GP1 Achieve collars for occurrence (unplanned interruptions)	6	6	-	≥ 4 out of 6
	GP2 Achieve collars for average unplanned interruption duration	5	5	-	≥ 4 out of 6
	Grid availability:				
	AP1 HVDC energy availability	97.18%	98.67%	88.26%	> 96.75%
	AP2 Key HVAC assets availability ¹	97.57%	97.94% ¹	97.38%	> 98.6%
	Achieve system operation targets	Achieved	Achieved	Achieved	Meet target
Asset health measures	Power transformers	3.46%	1.97%	-	≤ 3.68%
	Outdoor circuit breakers	0.96%	1.09%	-	≤ 2.37%
Financial performance	Free funds from operations (FFO) interest coverage	6.2	6.8	3.9	5.8
	FFO/Debt	14.7%	14.5%	15.7%	13.8%
	Return on equity	8.1%	7.4%	10.1%	8.1%
	Return on capital employed ²	3.8%	3.5%	5.6%	3.9%

Comments:

¹As anticipated, the service measure moved below target for the year due to outages required for the work being carried out on the ongoing repair of the Pakuranga-Whakamaru-2 (PAK-WKM) cable joint failure, and Clutha Upper Waitaki Lines Project (CUWLP). The 2020/21 figure has been restated to include the impact of CUWLP and the PAK-WKM cable fault consistent with the 2021/22 figures.

² The return on capital employed was adversely impacted by the Software as a Service (SaaS) adjustment resulting in \$6.9m reclassified from capital to operating expenditure for the year.



Our environmental, social and economic targets

Environmental




Performance outcomes		Unit	Change	2021/22	2020/21	2019/20
Sustainability 	Environmental management					
	Significant/severe incidents	Number	—	-	-	-
	Moderate incidents	Number	✓	2	3	1
	Minor incidents	Number	✓	22	26	20
	Carbon emissions					
	Scope 1 emissions (emissions arising directly from our operations)	Tonnes CO ₂ e (equivalents)	✓	4,534	5,300	5,391
	Scope 2 emissions (emissions associated with electricity usage, including transmission losses)	Tonnes CO ₂ e (equivalents)	✓	169,318	204,699	169,609
	Scope 3 emissions (emissions arising from activities in our supply chain)	Tonnes CO ₂ e (equivalents)	✓	44,440	46,519	89,945
	Total carbon emissions	Tonnes CO ₂ e (equivalents)	✓	218,293	256,518	264,945
	Emission to air					
	SF ₆ and other fugitive gases	kg	✓	194	208.8	240.4
	Energy consumption					
	Progress towards 2030 GHG emissions reduction target	% reduction achieved	∧	72	50	55
	Total gas consumption in non-operational buildings	GJ	∧	759	740	746
	Total energy consumption in non-operational buildings	kWh	✓	2,226,672	2,643,972*	2,426,750
	Total energy consumption in operational buildings	kWh	✓	1,069,324	2,514,611*	-
	<i>We are reviewing this measure in FY23 to improve our data-gathering processes.</i>					
	Business travel					
	Fuel used in operational plant and vehicles	Litres	✓	102,863	127,391	118,915
	Flights – distance travelled	pkm	✓	1,430,785	1,891,059	3,225,306
Distance travelled company vehicles	km	✓	1,203,319	1,233,514	-	
Distance travelled in rental vehicles	km	✓	161,181	232,265*	-	

* restated


Social

Performance outcomes		Unit	Change	2021/22	2020/21	2019/20
	Safety					
	High potential incident frequency rate (HPIFR) (employees and contractors) <i>Rise in HPIFR can be attributed in part to increased reporting.</i>	per million hours	^	2.6	2.0	2.1
	Total recordable injury frequency rate (TRIFR) (employees and contractors)	per million hours	v	4.2	7.5	6.3
	Number of fatalities or injuries causing permanent disability (employees and contractors)	Number	v	0	1	0
	Workforce composition					
	Total Transpower employees	Number	^	829	803	799
	Median age of employees	Years	v	44	45	45
	Mean/median length of service	Years	v	8.65	8.68	8.67
	Average employee earnings	\$	^	136.4k	132.9k	129.7k
	Gender balance					
	Gender identity by role – All	% Female/Male/ Gender diverse	—	32/67/1	32/66/1	33/66/0
	Gender identity by role – People leaders	% Female/Male/ Gender diverse	^	30/69/0	27/72/0	32/66/0
	Gender identity by role – General management	% Female/Male/ Gender diverse	^	40/60/0	30/70/0	30/70/0
	Gender identity by role – Board <i>Board gender balance was 50/50 as at July 2022</i>	% Female/Male/ Gender diverse	v	38/62/0	43/57/0	57/43/0
	Gender pay gap	%	v	16.7%	17.5%	17%
	Ethnicity (All)					
	% staff providing ethnicity data	%	^	67	62	59
	European (Incl New Zealanders)	%	v	76	82	80
	Māori	%	—	6	6	4
Middle Eastern/Latin America/African	%	^	8	7	7	
Asian	%	^	21	20	18	
Pacific	%	^	3	2	2	
Other ethnicity	%	—	4	4	7	
Employee engagement						
Employee engagement survey participation	%	—	97	97	93	
Employee engagement survey results – % Peakon quartile for Energy and Utilities sector	%	—	Top 25%	Top 25%	Top 10%	

Social

Performance outcomes		Unit	Change	2021/22	2020/21	2019/20
 <p>People</p>	Workforce stability and wellbeing					
	Total staff turnover	%	^	16.4	14.4	8.8
	Voluntary turnover	% retention/ % turnover	^	15.4	12.5	7.5
	Average number of sick days per employee	Days per employee	^	5.0	4.5	4.2
	Employees skill and capability					
	Learning and development expenditure (technical training inclusive)	\$	^	1.9m	1.6m	1.9m
	Investment in pipeline training (graduate programme) <i>Increased investment from FY23.</i>	\$	v	708k	791k	851k
	Internal hires to total hires	%	v	28	33.5	30.5
	Skill and capability of wider industry					
	Training of industry/service providers <i>Impacted by COVID-19 and disruption to course delivery.</i>	\$	v	3.4m	4.0m	3.8m
 <p>Relationships</p>	Business ethics					
	Speak up contacts made (number contacts to fair call service)	Number	—	nil	nil	-
	Notifiable privacy breaches	Number	—	nil	nil	-
 <p>Customers</p>	Community					
	Number of voluntary days used	\$	v	258	290	254
	Matching gift programme	\$	—	14k	14k	33k
	Investments in communities	\$	^	761k	724k	727k
	Stakeholder satisfaction					
	Percentage of customers who agree or strongly agree to the seven customer engagement statements	%	^	71.4	71.1	57.4
	Satisfaction from Electricity Authority and customers of System Operator performance	%	^	95	84	92
	Landowner Satisfaction – Landowner satisfaction survey	%	^	94	-	91
Landowner Satisfaction – Number of claims against Transpower to utility disputes	Number	—	0	0	0	

Economic

Performance outcomes		Unit	Change	2021/22	2020/21	2019/20
Financial 	Financial performance					
	Net profit after tax (after fair value changes)	\$ million	^	166.6	155.6*	231.1
	Return on capital employed	%	^	3.8	3.5	5.6
	Return on equity	%	^	8.1	7.4	10.1
	Dividends paid per year	\$ million	v	120	147	165
	Taxation					
	Current tax paid	\$ million	v	33.7	35.1	60.2
	Capital investment and supply chain					
	Total capital expenditure	\$ million	v	323	352*	387
	Total procurement spend	\$ million	v	634	651	679
	Asset value	\$ million	v	6,055	6,168*	6,116
	Network performance					
	Number of loss of supply events greater than 0.05 system minutes	Number	v	9	12	12
	Number of loss of supply events greater than 1 system minute	Number	—	0	0	2
	Unplanned HVAC circuit unavailability (%)	%	^	0.34	0.13	0.17
	Unplanned HVDC bi-pole unavailability (%)	%	^	1.26	0.10	0.04
	Total impact of interruptions (measured in system minutes)	Number	^	6.0	5.9	11.7
	Generators (Injection)	GWh	v	37,621	37,924	37,815
	GXP-EDBs (offtake)	GWh	v	30,876	31,000	30,688
	GXP-direct connects (offtake)	GWh	v	6,698	6,975	7,079
	HVDC flows north	GWh	^	3,206	2,043	3,160
HVDC flows south	GWh	v	171	315	103	
HVDC losses	GWh	^	122	73	118	
AC system losses	GWh	^	1,314	1,218	1,253	

* Restated due to SaaS arrangements, see p.110

More detailed definitions of our targets

Operational performance targets

Grid unplanned interruptions

We have targets for the frequency of occurrence of unplanned interruptions (GP1) and average duration of unplanned interruptions (GP2). There are six subcategory targets under each measure. In order to meet the Commerce Commission quality standard for RCP3 we must achieve four or more of the six quality standards under each measure. Not meeting the Commerce Commission quality standards can result in an enforcement process by the Commission which can lead to pecuniary penalties through the High Court. If the target of ≥ 4 is achieved then the Commerce Commission quality standard is met. If the target is not met in the current year there may not be a breach depending on the performance against the target in previous years.

Grid availability

Our targets for the interisland high-voltage direct current (HVDC) link energy availability (AP1) and for key (i.e. market-sensitive) assets within our high-voltage alternating current (HVAC) (AP2) networks. These have been set at the Commerce Commission quality standard.

Asset health measures

The ability to predict time-dependent risk of physical assets is an essential component of asset management. Our Asset Health Framework provides a common AH score approach across asset classes known as the Asset Health Index (AHI). An AHI is an indicator that represents an asset's proximity to the end of its useful life. The end of useful life

is the period when an asset will either need replacement or a major refurbishment to extend life occurs. This period is typically hard to predict, but when a combination of information is considered, an AHI can inform the expected time when an asset intervention is likely to be required. We measure and report AHI across six asset classes. Two of these asset classes ('Power transformers' and 'Outdoor circuit breakers') have been set as quality standards by the Commerce Commission for RCP3. We have set our performance targets in alignment to these Commerce Commission quality standards for RCP3.

Environmental targets

Significant/severe incidents

Serious Resource Management Act offence with extensive damage to the environment and long-term effects; extensive damage to an archaeological site while operating without an Archaeological Authority. Significant breach of conditions of a resource consent.

Moderate incidents

Extensive but reversible damage to the environment. Moderate damage to an archaeological site while operating without an Archaeological Authority. Moderate breach of conditions of a resource consent.

Minor incidents

Localised environmental impacts, within or beyond Transpower site boundary. Minor damage to an archaeological site while operating without an Archaeological Authority. Minor breach of resource consent conditions.

Total gas consumption in non operational buildings

Any gas used in our office generators or similar stationary combustion systems.

Total energy consumption in non-operational buildings

Electricity usage at our offices and other non-operational buildings.

Total energy consumption in operational buildings

Electricity usage at our substations, warehouses, data centres and other operational buildings.

People targets

Total staff turnover

Total turnover includes both voluntary and involuntary turnover (redundancies).

Voluntary turnover

Voluntary turnover includes resignations (including leaving before the end of a fixed-term agreement) and retirement.

Relationships targets

Investments in communities

Our CommunityCare fund investment combined with iwi and environmental investment through partnerships.

Economic targets

For more detailed description of accounting practice measures please see our financial statements.

Total procurement spend

Defined as capital expenditure and total operating expense.



Panel 1: Introduction to the project and its goals.

Panel 2: Overview of the research methodology and data collection process.

Panel 3: Key findings and results from the study.

Panel 4: Discussion of the implications and future research directions.

Panel 5: Summary of the project and conclusions.

Panel 6: Acknowledgments and thank you notes.

Panel 7: Contact information and resources for further information.



Our leadership

General Management Team

From left to right:
Chantelle Bramley, David Knight,
Stephen Jay, Catherine Shaw,
Alison Andrew, Cobus Nel, Brighid Kelly,
John Clarke, Raewyn Moss, Mark Ryall



Alison Andrew**Chief Executive**

Alison joined Transpower in 2014. She has held a number of senior executive roles across various industry sectors, most recently as Global Head of Chemicals for Orica PLC. She is a Director for Port of Tauranga and has been a Director for Genesis Energy. Prior to these roles, she held a number of senior roles at Fonterra Cooperative Group and across the Fletcher Challenge Group in Energy, Forests and Paper. Alison has an MBA from Warwick University, and studied Engineering (Chemicals and Materials) at Auckland University.

Catherine Shaw**Chief Financial Officer**

Catherine was appointed Chief Financial Officer in February 2022. She joined Transpower from Todd Corporation where she was a Director of Todd Generation Taranaki, and also held the role of Group Manager, Treasury, Tax and Insurance. Prior to joining Todd, Catherine spent six years as a Partner at EY. Catherine holds a Bachelor of Commerce and a Bachelor of Laws from the University of Otago and is a Chartered Accountant.

John Clarke**General Manager Grid Development**

John was reappointed General Manager Grid Development in 2020, following a period as General Manager Operations which he held from 2014. John was General Manager Grid Development from 2008-2014 and had previously spent 10 years in senior roles within our System Operator division. His earlier career in the New Zealand electricity sector has included roles in distribution and electrical engineering consulting. John holds a BE in Electrical Engineering.

Chantelle Bramley**General Manager Strategy and Customer**

Prior to joining Transpower, Chantelle was Executive General Manager of Corporate Affairs at Essential Energy, a state-owned distribution network owner and operator in New South Wales. An economist by training with more than fifteen years of international energy and electricity experience, Chantelle was the Executive General Manager Strategy and Economics at the Australia Energy Market Commission prior to joining Essential Energy.

Stephen Jay**General Manager Operations**

Stephen was appointed to this role in 2020, having previously held the role of General Manager Grid Development since 2014. He is a Chartered Electrical Engineer and currently the Chair of the Electricity Engineers' Association. Stephen was previously General Manager with Mitton ElectroNet, and has also worked for CEEB, National Power, Nuclear Electric, Midlands Electricity Plc, Parsons Brinckerhoff Power and Meridian Energy.

Brighid Kelly**General Manager People**

Brighid joined Transpower in March 2018 and was previously GM People at Tourism New Zealand. Prior to this, she held senior executive and line management positions at Te Papa, Telecom, BNZ and Fletcher Challenge Forests. Brighid brings diverse industry and functional experience across a number of sectors, and has helped transform several organisations to successfully meet their future challenges. She leads the various teams that make up our People Division including HR, Health and Safety, Technical Training, and Facilities.

David Knight**General Counsel and Company Secretary**

David was appointed General Counsel and Company Secretary in August 2007. Prior to joining Transpower, David was General Counsel at Telecom NZ. David holds an Honours degree in law from the University of Auckland, and a Master's degree in law from Harvard Law School which he attended as a Fulbright scholar. Prior to his career in law, David was involved in the wine industry, including periods as a winemaker, wine merchant and wine judge.

Raewyn Moss**General Manager External Affairs**

Raewyn was appointed GM External Affairs in 2018, having previously headed the Transformation and Auckland Strategy division. Raewyn has a background in environmental, regulatory and relationship management, and has worked in consultancy, within industry and for a regulator. She has worked in the electricity sector for 20 years, both at Transpower and Meridian Energy. She holds a BSc from Victoria University and a Diploma in Business from Henley Management College.

Cobus Nel**General Manager Information Services and Technology**

Cobus joined Transpower in 2011, and has held senior roles including IST Strategy and Architecture Manager. Prior to joining Transpower, Cobus was the Network Solutions Manager at Alcatel-Lucent and the Technical Lead for Transpower's Telecommunications and Networking Programme. Cobus has experience in defence, enterprise, telecommunications and utilities organisations. He holds a Master's degree in Project Management and Engineering (Electronics) from the University of Pretoria.

Mark Ryall**General Manager Grid Delivery**

Mark has been with Transpower since 2006, working in a variety of senior roles, including Regional Service Delivery Manager for the Upper North Island, before moving into general management. Previously, Mark worked in project management and consultant roles in New Zealand and the United Kingdom. Further to his degree from Lincoln University, Mark completed the University of Virginia Darden School of Business Executive Programme.

Remuneration

Transpower's Remuneration Policy and framework for officers is managed by the People and Performance Committee in line with the committee's terms of reference.

The Chief Executive can earn incentive payments, subject to company and individual targets being met and at the discretion of the Board. Any change to Chief Executive salary is subject to approval by the Board following a review by the People and Performance Committee.

Members of the executive team can earn incentive payments, subject to company and individual targets being met, such payments being at the discretion of the Board. Any changes to executive management salaries are subject to consultation with the Chair and reviewed by the People and Performance Committee annually. Executives have performance objectives with line of sight to the company and Chief Executive objectives. Their salaries are informed by performance assessment by the Chief Executive, and incentives can be 20-25% of their salary. In relation to their FY22 objectives, executive management received an average of 95% of their available incentives.

Company objectives

Company component – 70%				
Category	Weighting	Performance driver	Indicator	Target
Safety	15%	Zero fatalities	Number of fatalities or injuries causing permanent disability	Zero
		High potential incident frequency rate (HPIFR)	Number of Level One and Level Two incidents per million hours worked (includes injuries and near misses)	≤ 3.0 (rolling 12-month average)
		Total recordable incident frequency rate (TRIFR)	Number of recordable injuries/illnesses per million hours worked	≤ 6.0 (rolling 12-month average)
People	10%	Engagement	Transpower targeted engagement score	Top 25% percentile score (rolling 12 month average)
		Diversity and inclusion	Increase in the percentage of our permanent staff that are female or male toward 40/40/20	Progression towards 40/40/20
Relationships	5%	Landowner	Landowner Satisfaction Survey	≥ 85%
		Public safety	Delivery of initiatives in Public Safety Annual Plan	Deliver to plan & satisfactory audit of our Public Safety Management System
Sustainability	5%	Environment and land	Climate change reporting according to TCFD framework (carbon footprint)	Deliver Year Two milestones to implement TCFD framework
		Environment and land	Environment and heritage-related incidents	<4 moderate environmental or heritage incidents and zero convictions
		ESG Reporting	ESG Reporting	Deliver Year Two milestones to position Transpower in upper quartile on ESG reporting framework

Table continues on following page

Company component – 70%

Customers	15%	Service performance	GP1: Achieve collars for occurrence – unplanned interruptions	≥ 4 out of 6
			GP2: Achieve collars for average unplanned interruption duration	≥ 4 out of 6
			AP1 Grid HVAC energy availability	>96.75%
			AP2 Grid HVDC energy availability	>98.6%
			Asset health: Power transformer percentage of assets with an Asset Health Index of 8 or higher	≤ 3.68%
			Asset health: Outdoor circuit breakers percentage of assets with an Asset Health Index of 8 or higher	≤ 2.37%
Financial	20%	Operating profit	EBITDAIF	Achieve plan EBITDAIF (+/-2%)[2]
		Grid works	Deliver 21/22 base capex plan (spend Basis)	Deliver 95% - 105% of 21/22 base capex plan (Spend basis)

Strategic component – 30%

Company focus area	Strategic initiative	Key performance indicators
Play an active role in enabling New Zealand’s energy future	Building the future grid – evolving our regulatory settings and advance our advocacy efforts to support policy agenda for Net Zero Carbon.	Contributing effectively in sector reviews and engaging constructively in dialogue with our stakeholders on changes that may alter our operating environment, e.g., integration of NZ Battery Project with MBIE; TPM stakeholder management and industry advocacy in the interpretation and application; and influencing proposed RMA reforms to address key barriers.
Evolve our services to meet customers’ needs	Positioning Transpower to further unlock electrification and renewable energy potential.	Implementing improvements in our connections process and developing commercial options for enabling transmission investment.
Accelerate our organisational effectiveness	Preparing for the capability and culture required in the workforce to support New Zealand’s energy future.	Repositioning our People Strategy in a <i>Whakamana i te Mauri Hiko</i> context and operationalise the Grid Contracting Strategy. Ensuring organisational effectiveness while navigating continuing challenges around supply chain and skills shortages.



* The Board may vary target areas for exceptional circumstances

The details of the Chief Executive remuneration are set out below. Figures include KiwiSaver. Incentives are based on company and individual objectives. The incentive and amount of the incentive relate to that salaried year. The performance incentive paid during the financial year relates to the prior years' performance.

Year	Base salary*	Benefits**	Fixed remuneration \$000***	Discretionary payment \$000****	Short-term incentive \$000****	Total remuneration	% Incentive achieved
2021/22	1035	52	1087	-	407	1,494	97
2020/21	944	46	990	42	313	1,345	100
2019/20	973	47	1,020	-	292	1,312	97
2018/19	970	47	1,017	-	288	1,305	97
2017/18	956	46	1,002	-	271	1,273	94

The details of the Chief Financial Officer remuneration are set out below. Figures include KiwiSaver. Incentives are based on company and individual objectives. The incentive and amount of the paid incentive relate to that salaried year.

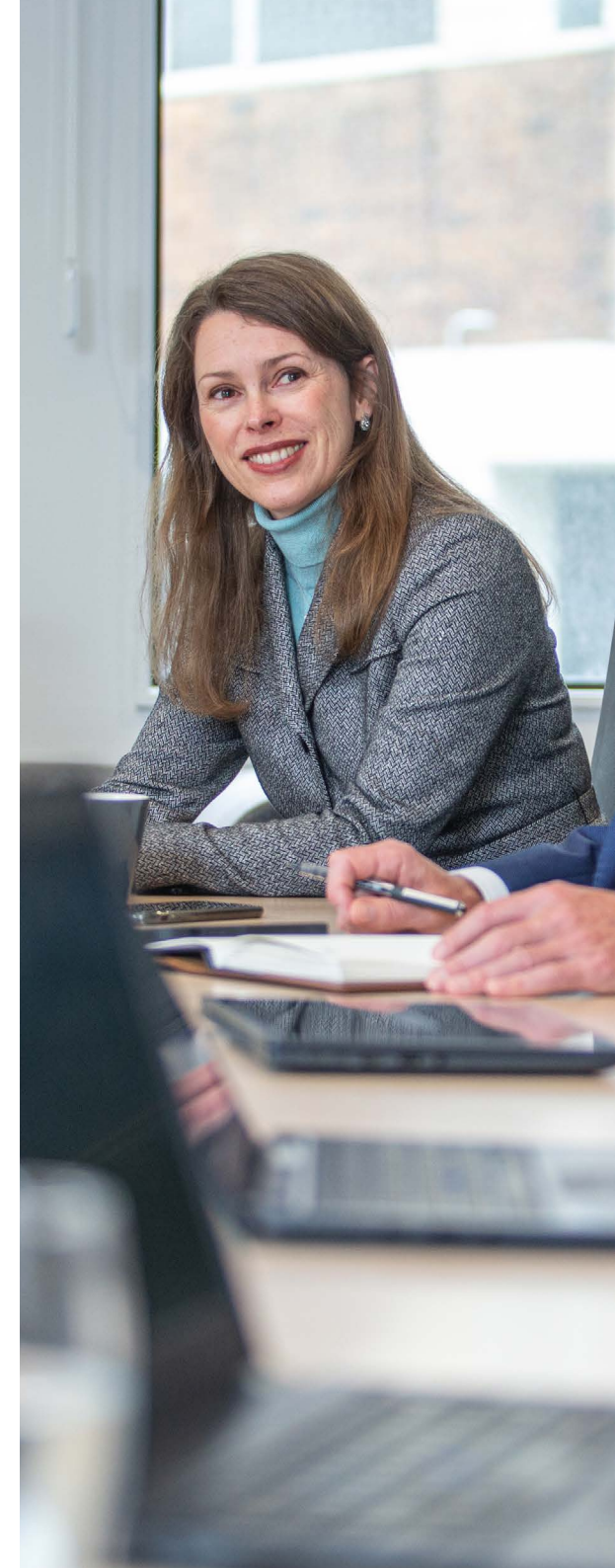
Year	Base salary	Benefits*	Fixed remuneration**	Total incentive	Total remuneration	% Incentive achieved	Comments
2021/22	148	13	161	-	161	-	Catherine Shaw joined on 8/2/22 so not eligible for an incentive payment paid in 21/22 year.
2021/22	160	14	174	102	276	94	Gordon Davidson left on 12/10/21
2020/21	420	25	445	106	551	97	
2019/20	420	25	445	-	445	-	Gordon Davidson joined on 29/4/19 so was not eligible for an incentive payment.
2018/19	65	10	75	-	75	-	Gordon Davidson joined on 29/4/19
2018/19	238	11	249	124	373	94	Alex Ball left 17/12/18
2017/18	472	18	490	124	614	94	

* The Chief Executive agreed to a 20% reduction in base salary for 4 months of FY21 and 2 months of FY20, reflecting the financial impact of COVID-19

** Benefits include KiwiSaver, insurance and carpark

*** One-off payment of 4% to align the Chief Executive remuneration with market movement, in accordance with the Remuneration Policy

**** Short-term incentive payment includes KiwiSaver. There is no long-term incentive programme



Remuneration of Transpower employees including executives

The performance management framework is designed to provide line of sight between the company performance objectives and individual performance objectives. Our remuneration framework ensures we provide market comparable salaries to staff in order to attract, retain and motivate employees.

All employees have fixed remuneration, adjusted each year in accordance with a budget agreed by the Board on recommendation from the People and Performance Committee. Any increase is informed by data from independent remuneration specialists. Employee fixed remuneration is based on a matrix of their performance and how their salary compares to the market of a comparable position. Aside from the Chief Executive and Chief Financial officer, Transpower employees who received total remuneration of greater than \$100,000 were in the following bands:

	2022	2021
570-579	1	-
560-569	1	-
550-559	-	1
540-549	-	1
530-539	1	-
510-519	-	1
470-479	1	-
460-469	1	2
450-459	1	-
440-449	-	1
430-439	1	-
410-419	-	1
400-409	1	-
380-389	-	1
340-349	*1	1
330-339	1	1
310-319	1	1
300-309	3	1
290-299	-	1
280-289	6	1
270-279	*2	4
260-269	7	6
250-259	11	8
240-249	13	7
230-239	8	10
220-229	7	4
210-219	7	8
200-209	*16	9
190-199	23	28

	2022	2021
180-189	18	17
170-179	36	23
160-169	*50	44
150-159	73	64
140-149	84	83
130-139	*81	93
120-129	61	77
110-119	69	71
100-109	*59	52
	645	622¹

The remuneration bands above include all remuneration paid to or on behalf of employees, including base salary, performance payment, KiwiSaver, medical insurance, death and disability insurance, income protection insurance and severance or redundancy payments.

¹ This figure is restated from FY21.

* The asterisk indicates those remuneration bands that include at least one former employee who received a severance or redundancy payment, without which they would not have been in that band.







Corporate governance

Board of Directors

From left to right:
Richard Aitken, Parekawhia McLean,
Roger Blakeley, Vanessa Oakley,
Keith Turner, Heather Simpson,
Michele Embling, Dean Carroll



The Board is a collective unit directing and guiding Transpower's strategic focus and business activities. Complementing the Board's overarching view of the business, each Board member spends time with our General Management Team, extending their knowledge base in the day-to-day operations and their understanding of what happens at every layer of the organisation.

During the year we have had a number of new directors, all of whom have taken part in a comprehensive induction programme.

This list reflects our Board of Directors as at 30 July. This year we bid farewell to Chair Pip Dunphy, Kathy Meads and Bill Osborne.

Dr Keith Turner Chair

Keith has more than 40 years' experience in the electricity industry, having held senior executive positions in Meridian Energy (CEO), the former Electricity Corporation of New Zealand (COO), and its predecessor NZED. Since 2008, he has held Directorships on a range of major boards in New Zealand and Australia including Fisher and Paykel Appliances and Auckland International Airport. Keith has a PhD in engineering, is a Distinguished Fellow of Engineering New Zealand and holds the Sir William Pickering Medal for Engineering Leadership.

Dean Carroll Deputy Chair

Dean has more than 30 years' energy industry experience in New Zealand and internationally. His previous roles include CEO of Lumo Energy Australia and executive positions in energy retail, generation and trading. He has also held directorships in Infratil Energy Australia, Direct Connect Australia, Energy Retailers Association of Australia, and Energy Online.

Heather Simpson

Heather has extensive Government and policy experience, including roles as Chief of Staff for the Prime Minister and Special Advisor to the United Nations Development programme. She has led a range of Government reviews and groups, including a review of the New Zealand health and disability system and a new group to support the Ministry of Health in improving COVID-19 border security. Heather holds a BA(Hons) in Economics.

Michele Embling

Michele has over ten years' experience as a Chair and Board Member for private, not for profit, and public sector entities, including her current appointments as Chair of the External Reporting Board and Board Member of Toitū Tahua – The Centre for Sustainable Finance. Michele served as Chair of PwC in New Zealand from 2016 to 2020. She was Co-Chair of Champions for Change and Deputy Chair of Global Women from 2018 to 2020. Other Board roles include Power Finance Limited, the Australian Financial Reporting Council and Deputy Chair of the University of Auckland's Business School Advisory Board. She is a member of the Nominations and Governance Committee of Chartered Accountants.

Dr Roger Blakeley

Dr Roger Blakeley is currently an elected member of the Greater Wellington Regional Council and is Chair of the Council's Transport Committee. Roger was an elected member of the Capital & Coast District Health Board. An independent consultant and qualified civil engineer, his roles have included Chief Executive of the Ministry for the Environment, Department of Internal Affairs, and Porirua City Council. Roger has a PhD in earthquake engineering and is a Distinguished Fellow of Engineering New Zealand.

Richard Aitken

Richard spent more than 40 years with multi-disciplinary consultancy Beca and eight years as Executive Chairman, stepping down in April 2017. He is widely recognized as a leader in the engineering sector, and is an officer of the New Zealand Order of Merit (ONZM) for services to business and engineering. Richard has served on the Boards of Trustpower, Manukau Wastewater Services, Panuku Development Auckland and Hutt Valley Water Services, and is currently the Chair of the Te Pūnaha Matatini Advisory Board.

Parekawhia McLean

Parekawhia (Ngāti Mahanga, Waikato, Ngāti Maniapoto) has over 20 years of public sector policy and management experience, including advisory roles in the Department of Prime Minister and Cabinet. She is the inaugural Chief Executive of Te Kaahui Taatari Ture – Criminal Cases Review Commission and has previously held executive leadership roles at Counties Manakau DHB and Waka Kotahi. She was CEO of Waikato-Tainui between 2010 and 2016. Parekawhia is current Chair of Te Whakakitenga o Waikato (TWOW). She has a Master's degree in Social Sciences from the University of Waikato and in Public Administration and Development Policy from the University of Wisconsin.

Vanessa Oakley

Vanessa is Chief Operating Officer – New Zealand for FNZ Group. She has considerable experience in corporate and public sector organisations in both Aotearoa New Zealand and in the UK. Prior to FNZ, she was Chief General Counsel of ACC and has previously been General Manager Strategy and Business Operations for Chorus Limited and Assistant General Counsel for the Commerce Commission. Vanessa has extensive experience in regulated industries, particularly in infrastructure and utilities and governance experience across a range of sectors. She holds an LLB (Hons) from Otago University.

Director skills matrix

Transpower's Board of Directors comprises individuals with a broad and diverse set of skills and experience that collectively benefit our company and the electricity sector.

Strategic priority	Director skills and experience	Capability
Play an active role in enabling New Zealand's energy future	Industry experience Executive experience in the electricity industry in transmission, distribution and/or generation.	●●○
	New technologies Leadership experience of innovation, new technologies in electricity systems, real-time data systems for decision making and digital transformation.	●○
	Strategic thinking Skills that enable critical thinking to solve complex problems and plan for the future.	●●●●●
Our role in environmental, social and governance	Governance Experience in corporate governance, including with listed companies or other government owned companies.	●●●●●
	Risk Understanding of operational, project, financial and non-financial risk management.	●●●●○
	Community and te ao Māori Leadership in decarbonisation, impact on communities, efficiency in energy use and impact on energy poverty.	●○○○
	Health and safety Understanding of workplace health and safety, including knowledge of legal obligations.	●●●○○
	Environment and sustainability Experience in delivering sustainability strategies and managing environmental challenges, application of tikanga Māori.	●○○○○

Strategic priority	Director skills and experience	Capability
Match our infrastructure to need over time	Finance and capital markets Knowledge of financial business drivers, capital allocation and financing.	●○○○○
	Government and regulation Understanding of regulatory environment, particularly regulated businesses and energy sector and associated challenges for infrastructure.	●●○○○
	Large-scale infrastructure and projects Experience overseeing large-scale infrastructure growth, project investment, large project management, project execution and maintenance programmes.	●●●●
Evolve our services to meet customers' needs	Stakeholder management The skills and relationships to support stakeholder management from government and mana whenua to delivering on a customer-centric approach.	●●●○○
	Commercial capability Understanding of commercial alignment, impact of innovation and transformation.	●●○○○
Accelerate our organisational effectiveness	Executive leadership Former senior executive leadership experience, including strategic growth, evolving culture, identifying priorities and driving delivery.	●●●●●
	Asset management and real-time operations Experience in deployment of best practice asset management technology and digital tools for power systems. Knowledge of real-time data systems for decision making.	●○○○
	Security, data and technology Leadership in using data, AI, conversion to digital and security of systems to support the national security of the grid, systems-enabled operational efficiencies and data use for the benefit of the community.	○

Key:
 ● High capability
 ○ Moderate capability



Board committees

Transpower has five regular Board committees with their own terms of reference outlining their respective roles, rights, responsibilities and membership requirements. Board committee membership and meeting attendance is reported below as at 30 June 2022.

1. Audit and Finance Committee (Kāhui tātari kaute me te pūtea)

Responsible for monitoring the financial performance and reporting of Transpower and its subsidiaries, emsTradePoint Limited and Risk Reinsurance Limited. This committee manages the internal audit process for financial matters, including reviewing, monitoring and approving internal audit reviews, annual audit plans and internal audit and management reports. It reviews the appointment of external auditors (subject to the authority of the Auditor-General) and manages the external audit process. The external auditor is subject to the independence rules of the Auditor-General. The Auditor-General has appointed Sam Nicolle of Ernst & Young (EY) to carry out the audit on his behalf.

Membership: Michele Embling (Chair); Heather Simpson

2. People and Performance Committee (Kāhui whakahaere tangata me te mahi)

Performs the functions of a remuneration committee. This committee oversees Transpower's culture and performance and approves recruitment, remuneration, retention and termination decisions, and policies and procedures regarding executive management. It reviews and recommends to the Board the Chief Executive's remuneration, terms, annual key performance indicators and performance recommendations.

Membership: Heather Simpson (Chair); Dean Carroll; Michele Embling;

3. Risk Committee (Kāhui tūraru)

Responsible for reviewing health and safety matters on the Board's behalf and for ensuring that Management has established a risk management framework that includes policy, procedures and assessment methodologies that enable Transpower to effectively manage and monitor organisational risks. The Risk Committee also recommends the appointment of internal auditors and manages the internal audit process, including reviewing, monitoring and approving internal audit reviews, annual audit plans and internal audit and management reports. This committee directs internal audit activities or material to either the Audit and Finance Committee or the People and Performance Committee where the subject matter is within the expertise of the respective committee.

The primary objective of these internal audits is to assist the Board and executive team in exercising good governance by providing independent assurance.

Membership: Richard Aitken (Chair); Roger Blakeley; Dean Carroll; Keith Turner

4. System Operator Committee (Kāhui whakamahi pūnaha)

This committee was formed in FY20 to oversee and provide guidance on all business activities related to Transpower's role as System Operator and reporting requirements to the Electricity Authority. During the year, the Committee provided recommendations to the business on System Operator business assurance audits, software audits and major project assurance, real-time pricing management and risk, and structure.

Membership: Dean Carroll (chair); Richard Aitken; Heather Simpson; Keith Turner

5. Transmission Pricing Methodology Committee (Kāhui tikanga pūtea whakawhiti)

Formed on 30 June 2020 to oversee and provide guidance on Transpower's activities on the new pricing system which is responsible for 90% of Transpower's revenue.

Membership: Dean Carroll (Chair); Richard Aitken; Roger Blakeley; Keith Turner



Meeting attendance

The Audit and Finance Committee terms of reference set out that the Chief Executive and Chief Financial Officer are included as attendees at committee meetings at the request of the Chair of the committee.

The People and Performance Committee terms of reference set out that the Chief Executive and General Manager People are included as attendees at committee meetings. The General Counsel and Company Secretary attends all meetings as Secretary. Attendance records below reflect changes within the Board of Directors over the last financial year, and subsequent movement within the relevant Board committees.

		Board	Audit and Finance	People and Performance	Risk	System Operator	TPM
Director	Commenced						
Pip Dunphy	1-May-15	4/5	2/3	2/2	2/2	4/4	1/2
Dean Carroll	1-Nov-16	8/8		3/3	4/4	5/5	3/3
Bill Osborne	1-May-16	7/8	4/4	3/3			
Kathy Meads	1-Mar-19	8/8	3/3				
Richard Aitken	1-Nov-19	8/8			4/4	5/5	3/3
Roger Blakeley	1-Jun-20	8/8			4/4	1/1	1/2
Heather Simpson	1-Dec-21	5/5	2/2	1/1		1/1	
Keith Turner	1-Dec-21	5/5			2/2	1/1	1/1
Michele Embling	1-Mar-22	3/3	1/1	1/1			



Directors' interests

Transpower's Directors' Interests Policy governs how Transpower resolves and manages the way directors' individual interests are disclosed.

No directors hold shares in Transpower, have loans from Transpower or have made any request to use company information received in their capacity as directors that would not otherwise have been available to them.

The following directors have made general disclosures of interest with certain external organisations based on them being a Chair, director, Board member, trustee, council member, member, employee or consultant of those organisations or holding material securities or shares of those organisations.

Bill Osborne

Chair	Page Macrae Engineering
Director	Rangitira Services Limited

Richard Aitken

Chair	Te Punaha Matatini Advisory Board
Director	BGCF Trustee Limited
Director	BGLIR Trustee Limited
Director	BGS Trustee Limited
Director	Derceto Trustee Limited
Director	John Scotts Investments Limited
Trustee	Beca Indemnity Fund Custodian Trust
Trustee	BGLIR Custodian Trust
Trustee	BGL Custodian Trust
Trustee	BGS Custodian Trust

Dr Roger Blakely

Councillor	Greater Wellington Regional Council
Director	Greater Wellington Rail Limited
Board member	Capital and Coast District Health Board
Trustee	Harkness Fellowships Trust Board
Trustee	Wesley Community Action Trust

Keith Turner

Chair	Milford Opportunities Project
Chair	Damwatch Holdings Limited (including wholly owned subsidiary companies)
Chair	Ministry for the Environment Audit & Risk Committee
Chair	Queenstown Lakes Spatial Plan Governance Group and Steering Committee

Michele Embling

Chair	External Reporting Board
Deputy Chair	University of Auckland Business School Advisory Board
Director	Power Group Holdings Limited (trading as Power Finance)
Board member	Toitū Tahua The Centre for Sustainable Finance
Board member	Australian Government Financial Reporting Council
Committee Member	Chartered Accountants Australia and New Zealand, Nominations and Governance Committee

Vanessa Oakley

Chief Operating Officer	FNZ Group
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Remuneration

Remuneration and benefits payable to directors for services as a director are determined by Shareholding Ministers.

Remuneration paid to Transpower's directors during FY22

Payments to directors of Transpower New Zealand Limited	Date commenced in office	Date ceased in office	FY22 \$000	FY21 \$000
Pip Dunphy (Chair from 1 Jan 2019 to 28 Feb 2022)	1 May 2015	28 February 2022	96	102
Dean Carroll (Deputy chair from 1 Jan 2019, Acting Chair from 28 Feb 2022 to 1 May 2022)	1 November 2016	-	81	64
Richard Aitken	1 November 2019	31 August 2022	58	51
Sheridan Broadbent	1 May 2018	31 July 2021	6	51
Bill Osborne	1 May 2016	30 June 2022	58	51
Kathy Meads	1 March 2019	30 April 2022	49	51
Ilze Gotelli	1 March 2019	20 April 2021	-	42
Roger Blakeley	1 June 2020	-	58	55
Heather Simpson	1 December 2021	-	23	-
Keith Turner (Chair from 1 May 2022)	1 December 2021	-	41	-
Michele Embling	1 March 2022	-	18	-
Total			488	467

During FY22, no director of Transpower or the Transpower Group has received or become entitled to receive any benefit other than that disclosed above.

Subsidiary companies

Information on directors of subsidiary companies as at 30 June 2022.

TB and T Limited

Christopher Sutherland
David Knight

Risk Reinsurance Limited

David Knight (Chair)
John Clarke
Dan Twigg

Halfway Bush Finance Limited

Christopher Sutherland
David Knight

emsTradeport Limited

David Knight (Chair)
John Clarke
Catherine Shaw



Our NZX commitments

Transpower is a limited liability company and a state-owned enterprise (SOE) with our shares held on behalf of the Crown by the Minister of Finance and the Minister for State-owned Enterprises. Transpower has debt listed with the NZX and is, therefore, required to comply with debt listing obligations.

This corporate governance statement reports our activities against the NZX Corporate Governance Code (the NZX Code). The NZX Code is the primary guidance on corporate governance for NZX-listed issuers, describing principles of corporate governance and the recommended action to demonstrate best practice.

There are certain parts of the NZX Code that do not apply to Transpower, such as those clauses related to director appointments, takeovers, directors' remuneration and shareholder rights. As an SOE, these governance arrangements are the responsibility of the Crown and are set out in the State-Owned Enterprises Act 1986 and Transpower's constitution.

Transpower's [Corporate Governance Statement](#) is detailed in full on Transpower's website along with relevant policy documents.

The content below provides a summary of Transpower's approach and outlines where material changes have been made or updates have occurred over the past year.

Transpower considers that, during the reporting period, the company materially complied with the NZX Code and the Principles contained within it.

Principle 1: Code of ethical behaviour: "Directors should set high standards of ethical behaviour, model this behaviour and hold management accountable for these standards being followed throughout the organisation."

Principle 2: Board composition and performance: "To ensure an effective board, there should be a balance of independence, skills, knowledge, experience and perspectives."

Principle 3: Board committees: "The board should use committees where this will enhance its effectiveness in key areas, while still retaining board responsibility."

Principle 4: Reporting and disclosure: "The board should demand integrity in financial and non-financial reporting, and in the timeliness and balance of corporate disclosures." See [p.105](#) for financial reporting and [p.64](#) for non-financial reporting. See our website for information on our climate disclosures.

Principle 5: Remuneration: "The remuneration of directors and executives should be transparent, fair and reasonable."

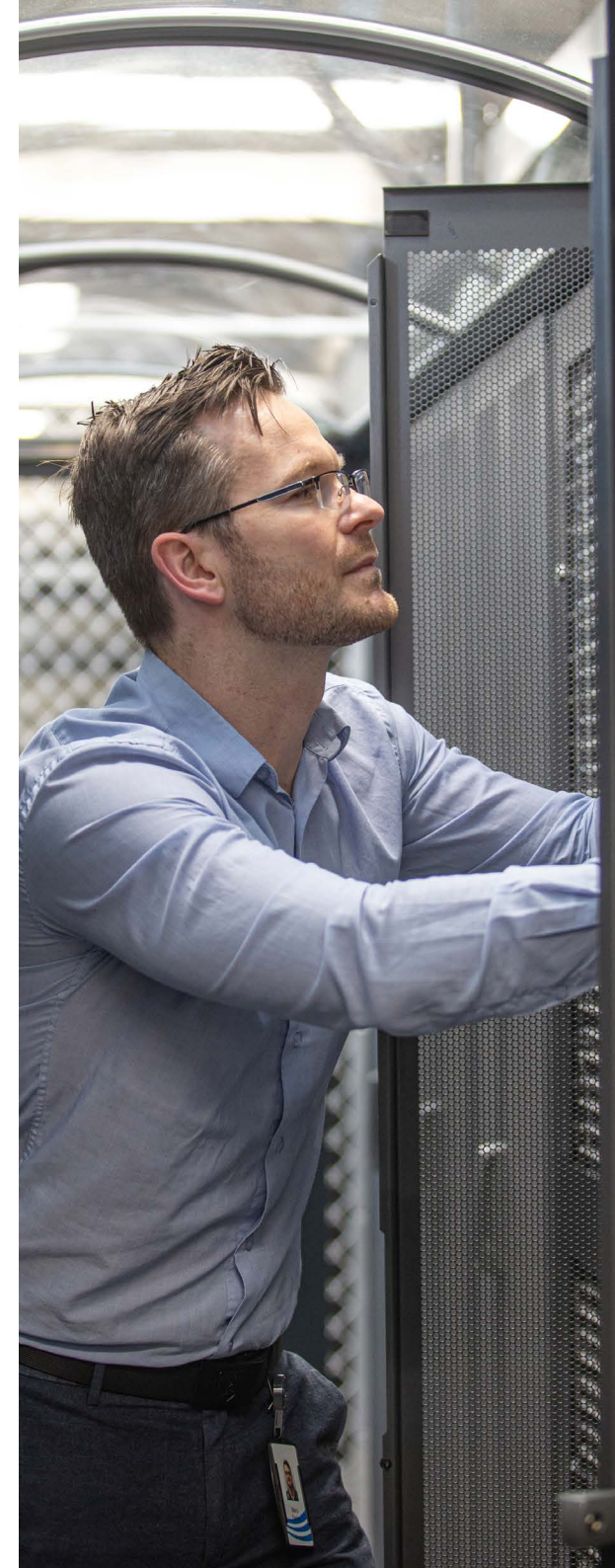
Principle 6: Risk management: "Directors should have a sound understanding of the material risks faced by the issuer and how to manage them. The board should regularly verify that the issuer has appropriate processes that identify and manage potential and material risks."

Principle 7: Auditors: "The board should ensure the quality and independence of the external audit process."

Principle 8: Shareholder rights and relations: "The board should respect the rights of shareholders and foster constructive relationships with shareholders that encourage them to engage with the issuer."

Securities listed on the NZX Debt Market

As at 30 June 2022 Transpower has securities listed on the NZX Debt Market quoted under the ticker codes TRP040, TRP050, TRP060, TRP070, TRP080 and TRP090. As a listed issuer, Transpower is subject to certain requirements and obligations under the NZSX/NZDX Listing Rules, including a continuous disclosure obligation.



Other disclosures

Based on the register of bondholders, Transpower has at least the following number of bondholders as at 31 July 2022:

	TRP040		TRP050		TRP060		TRP070		TRP080		TRP090	
	No. of bond holders	No. of bonds (000)	No. of bond holders	No. of bonds (000)	No. of bond holders	No. of bonds (000)	No. of bond holders	No. of bonds (000)	No. of bond holders	No. of bonds (000)	No. of bond holders	No. of bonds (000)
1,001 – 5,000	4	20,000	1	5,000	1	5,000	1	5,000	0	0	13	65,000
5,001 – 10,000	19	178,000	22	207,000	3	26,000	20	171,000	1	10,000	22	201,000
10,001 – 100,000	38	1,236,000	80	2,989,000	19	706,000	177	6,628,000	9	385,000	82	2,774,000
>100,001	32	98,566,000	35	121,799,000	40	149,263,000	59	443,196,000	26	149,605,000	36	196,960,000
Total	93	100,000,000	138	125,000,000	63	150,000,000	257	450,000,000	36	150,000,000	153	200,000,000

Top 20 largest listed bondholders	Holdings
BNP Paribas Nominees NZ	212,372,000
Cogent Nominees Limited	101,775,000
New Zealand Local Government	92,330,000
Citibank Nominees (NZ) Limited	76,767,000
Tea Custodians Limited	63,244,000
Custodial Services Limited	62,447,000
FNZ Custodians Limited	57,214,000
ASB Bank Limited	57,000,000
HSBC Nominees (New Zealand)	55,707,000
TSB Bank Limited	46,750,000
Forsyth Barr Custodians	39,204,000
Westpac New Zealand Limited	32,500,000
National Nominees New Zealand	31,873,000
JBWERE (NZ) Nominees Limited	28,410,000
Accident Compensation Corporation	25,000,000

Top 20 largest listed bondholders	Holdings
ANZ Wholesale NZ Fixed	23,313,000
Premier Nominees Limited	16,379,000
Kiwibank Limited	15,000,000
Commonwealth Bank of Australia	14,801,000
ANZ National Bank Limited	12,634,000

* Information on largest listed bondholders as at 31 July 2022



Climate-related disclosures

Established in 2017, the Task Force on Climate-related Financial Disclosures (TCFD) created an international framework for organisations to manage climate-related risks, identify and seize climate-related opportunities and disclose reliable information about organisational responses to these risks and opportunities to investors.

Since then, the External Reporting Board has been consulting on a climate-related disclosure framework for Aotearoa New Zealand Climate Reporting Entities. This framework, the Aotearoa New Zealand Climate Standard, is based on the TCFD recommendations on Governance, Risk Management, Strategy, and Metrics and Targets, and is expected to be issued later in 2022. Transpower will be required by the Financial Markets Conduct Act 2013 to prepare climate statements in accordance with the Standard.

Transpower supports the disclosure of climate-related financial risks given the risks climate change presents to our assets. We are a signatory to the Climate Leaders Coalition 2022 Statement of Ambition and have committed to voluntarily measuring and reporting our Greenhouse Gas (GHG) emissions, setting a public emissions reduction target, and working with our suppliers to reduce their emissions. As an issuer of debt that is quoted on the NZX debt market, transparency of reporting and governance responsibility are of growing importance to our bondholders. We will issue our first Climate Statement in accordance with the Aotearoa New Zealand Climate Standards after the end of FY24.

To ready ourselves for disclosing climate-related risks and opportunities we developed a three-year roadmap in 2020. The roadmap provides an outline of the key steps we will take to manage climate-related transition risks, physical risks and liability risks and opportunities and effectively disclose any material information relating to these risks and opportunities.

The roadmap has been updated this year to ensure it is aligned to the requirements set out in the proposed Aotearoa New Zealand Climate Standards.



Key: ● Complete ● Planned (FY23)

Thematic area	Key activities (FY21-23)					
Governance Disclose Transpower's governance around climate-related risks and opportunities	Describe management's role and Board oversight of climate-related risks and opportunities					
Strategy Disclose the actual and potential impacts of climate-related risks and opportunities on Transpower's business, strategy, and financial planning where such information is material	Conduct initial climate change risk analysis and assessment	Conduct a gap analysis between current disclosures and TCFD recommendations	Undertake detailed assessment of climate-related transition risks, physical risks and liability risks	Develop range of scenarios and assess impact and risks / opportunities associated with selected scenarios	Develop transition and adaptation plan aspects of Transpower's strategy	Assess potential financial impact of climate-related risks and opportunities on Transpower's financial position, performance and cashflows
Risk management Disclose how the organisation identifies, assesses and manages climate-related risks.	Describe current approach to identifying, assessing and managing climate-related risks	Develop climate change resilience targets to flag potential climate change adaptation	Integrate climate risk management into the enterprise risk management framework and associated processes			
Metrics and targets Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material	Report Scope 1 - 3 GHG emissions and carbon intensity of grid electricity	Review targets used to manage climate-related risks and opportunities	Describe how metrics and targets are calculated			
Assurance	Undertake assurance of GHG emissions	Prepare for assurance over climate-related disclosures	Provide assurance over Transpower's readiness to climate risk reporting against the Aotearoa New Zealand Climate Standard			



Climate disclosures FY22

This report includes disclosure against the specific areas required under the proposed Aotearoa New Zealand Climate Standard. Transpower has included Assurance in our climate-related disclosure roadmap in recognition of the ongoing importance of external assurance of climate-related risks and opportunities.

Key:

- Complete disclosure
- Partial disclosure
- Planned (FY23)

Governance

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

- Complete disclosure

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

Transpower's Board of Directors is committed to responding to the challenges posed by climate change and has endorsed the refreshed Sustainability Strategy work programme for FY23.

A core function of the Board is to provide oversight of Transpower's Enterprise Risk Management Framework, including monitoring of Transpower's strategic, external, and key operational risks and opportunities. As part of its oversight function, the Board sets the organisation's risk appetite. The Board has approved a refreshed Risk Appetite statement to guide Management's strategic intent, resource allocation and operational planning, and expresses the Board's appetite for risks related to Environment, Social Responsibility and Good Governance.

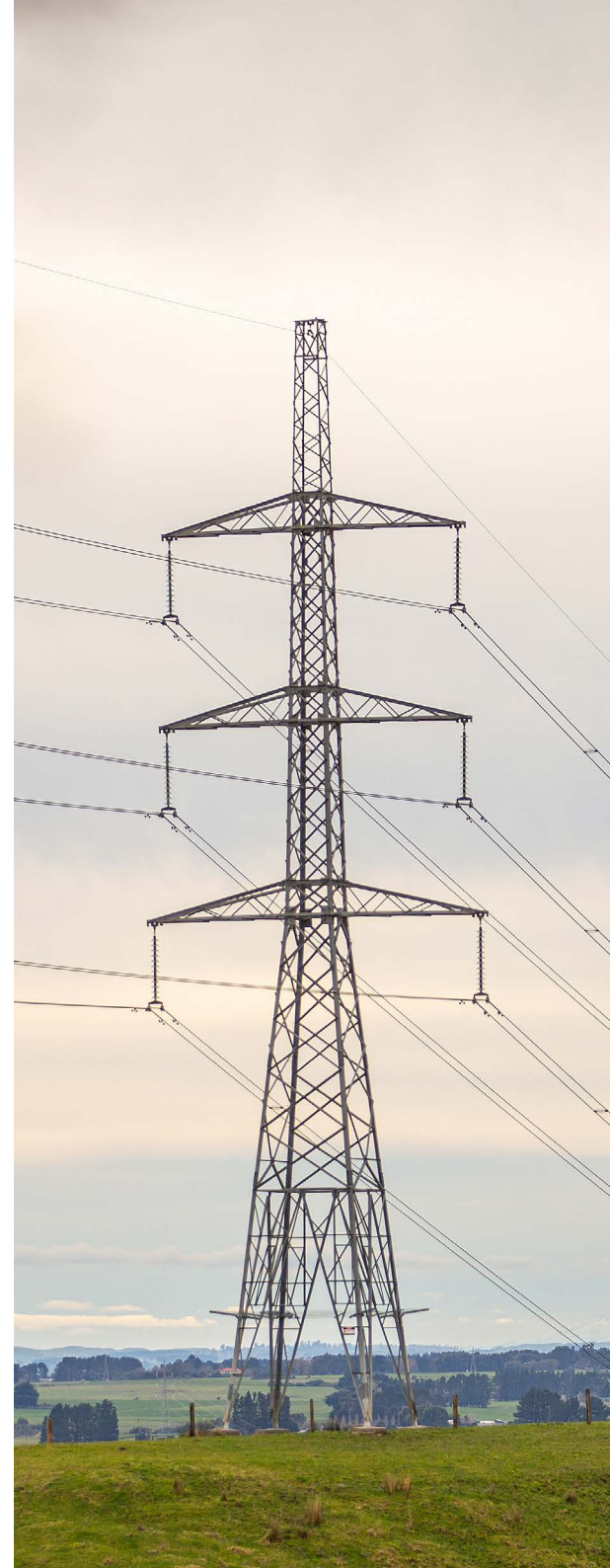
Monitoring and oversight of risks and controls is performed by Board sub-committees, specifically the Risk Committee.

- Complete disclosure

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

The Chief Executive has overall responsibility for the management of Transpower. Day-to-day management is delegated to respective General Managers who together make up the General Management Team (GMT). General Managers are responsible for assessing and managing risks in their Divisions. The GMT is responsible for directing and providing assurance over Transpower's Enterprise Risk Management Framework. Transpower's Chief Finance Officer is the responsible business owner of the Enterprise Risk Management Framework.

On a quarterly basis, the GMT reviews all strategic, external and key operational risks. Specifically to Transpower's climate-related disclosure framework, the risks related to the acceleration of climate variability is identified as a key external risk to Transpower. In addition, the impact of a changing climate is reflected in other strategic and external risks such as the risk of serious harm to the environment, the risk of geopolitical instability and the risk of extreme weather events.





Strategy

Disclose the actual and potential impact of climate-related risks and opportunities on the organisation's business, strategy and financial planning where such information is material.

● Partial disclosure

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

As part of our climate-related disclosure framework, we have updated our initial assessment of climate-related risks and opportunities against the climate change scenarios currently in development. We then applied a materiality test to focus on the key physical and transition risks and opportunities for Transpower. This approach sets out the key risks and opportunities by sub-category, identified over the short-term or medium-term. Depending on which scenario materialises, long-term risk exposure for Transpower could further increase, stabilise or decrease.

Key physical risks

Transmission lines: Potential impact on tower and pole foundations from more frequent and intensive flooding; structural integrity of transmission lines threatened and potential impact of falling trees caused by stronger winds; impact of thermal limits on transmission lines associated with higher temperatures; and the increased risk of fire and bushfire on transmission lines in dry and hot areas.

Substations: Increased risk of flooding of lower-lying substations due to sea level rise and/or more intense rainfall; structural integrity of substations threatened; increased corrosion risk due to stronger winds in

coastal areas; higher temperatures could drive demand for more cooling of control equipment.

Communication lines and equipment: Potential impact on foundations from more frequent flooding; structural integrity of lines threatened and potential impact of falling trees caused by stronger winds; higher temperatures could drive demand for more cooling of control equipment.

Access ways: Access to Transpower sites and assets could be cut off by flooding in coastal and low-lying areas, by flood water and slips caused by more intense rainfall, or by fallen trees due to stronger winds.

Key transition risks

Demand changes

Rising mean and extreme temperatures could drive up demand for electricity, requiring rapid changes to, or expansion of, the grid; domestic migration patterns could influence changes to the configuration of the grid; New Zealand's efforts to decarbonise are likely to further drive electricity demand, requiring further investment in the grid.

Security of supply

Significantly hotter, wetter, windier or dryer weather expected to lead to an increase in weather-related grid outages, longer restoration times and potentially more frequent supply constraints in dry winters.

Workforce

Climate-related diseases (pandemics) could impact the availability and/or mobility of the workforce required to maintain and expand the grid.

Supply chain

Significantly hotter, wetter, windier or dryer climate conditions are expected to drive up material and transport costs; adverse climate conditions could also impact the availability of materials in New Zealand.

Reputational

Consumers could be dissatisfied with a higher frequency of climate change-induced grid-related outages, such as floods, bushfires, slips and erosion; consumers and stakeholders could be dissatisfied with Transpower's response to climate-related impacts on the grid and/or a slower than expected expansion of the grid in response to increased electricity demand associated with the decarbonisation of the New Zealand economy.

Regulatory

Transpower could incur increased fines or penalties resulting from increased climate-related electricity supply interruptions.

Litigation

Climate change could result in increased costs for dispute resolution with landowners as grid works are accelerated or delayed; forest fires, flooding and other grid-related events could result in increased costs for damages.

Key opportunities

Efficiency

Climate conditions in some parts of New Zealand could become more favourable, positively impacting network repair windows, project construction timeframes and network repair times, and potentially reducing wear and tear on our assets.

Demand changes

Climate change could drive a shift in consumer preferences, resulting in development and/or expansion of our products and services.

As part of our climate-related disclosure framework, a detailed assessment of Transpower's climate-related risks and opportunities is underway, based on the evolving climate risk scenarios currently in development.



Strategy (continued)

Disclose the actual and potential impact of climate-related risks and opportunities on the organisation's business, strategy and financial planning where such information is material.

● Partial disclosure

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

Climate-related risks impact on Transpower in a range of areas. Our financial position might be impacted by write-offs and early retirement of existing assets, additional costs to adopt and deploy new technologies, higher material and transport prices, reduced revenue and fines for grid interruptions and increased insurance premiums.

We might also see an impact on our service performance, caused by an increasing number of unplanned grid interruptions and longer restoration times.

Our reputation might be impacted by public and stakeholder dissatisfaction caused by more frequent and longer grid interruptions, as well as longer restoration times.

Conversely, climate-related opportunities could help reduce our operating costs, increase the value of our fixed assets and increase our revenue through new products and services.

Once the work on our climate risk scenarios has been completed, we will reassess the impact of climate-related risks and opportunities on our business, strategy and financial planning.

● Partial disclosure

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

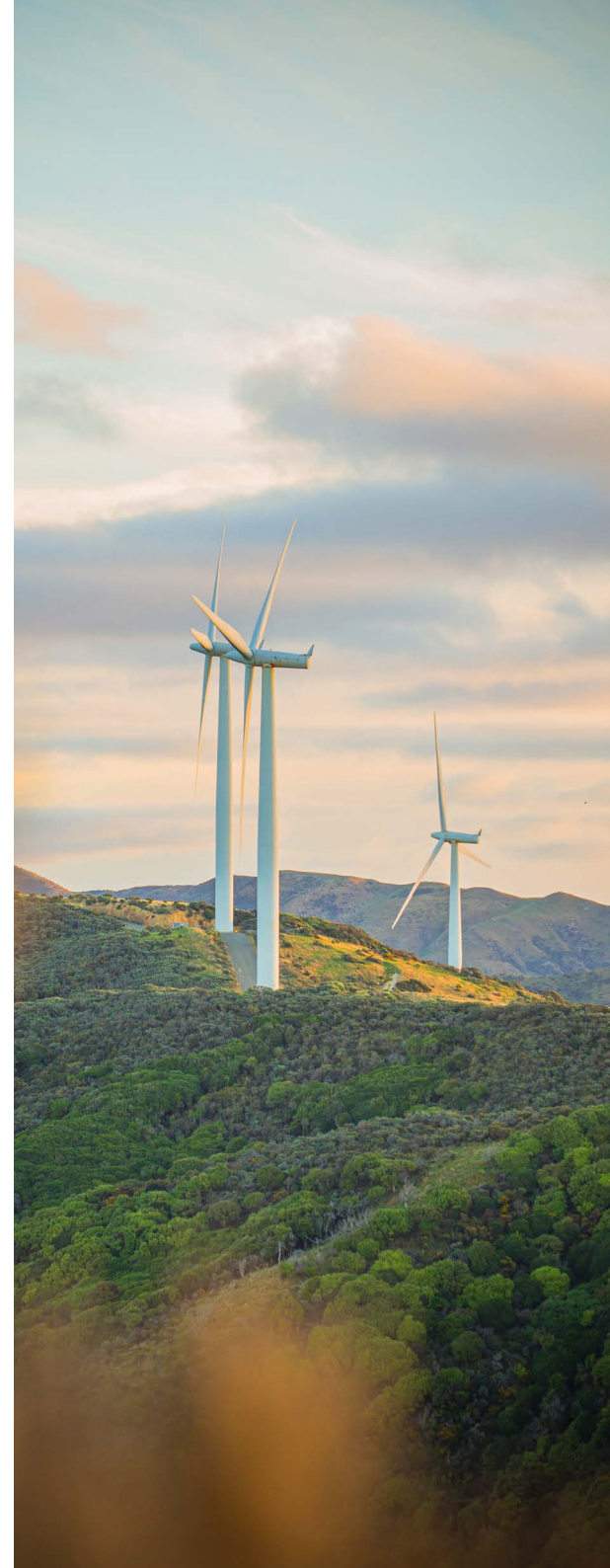
As part of the development of our climate-related disclosure framework, we have undertaken an initial assessment of the resilience of our strategy against the three climate risk scenarios.

Under each of the three climate risk scenarios developed, Transpower's strategic agility is considered robust based on our clearly defined purpose, demonstrable customer value proposition and ability to adapt our strategy as circumstances change. While we focus our efforts on enabling a net zero carbon economy under Whakamana i Te Mauri Hiko and our Net Zero Grid Pathways programme, we have also developed a roadmap to achieve the future security and resilience of New Zealand's power system.

Transpower's business model agility is considered robust under all three climate risk scenarios, based on our flexible supply chain, flexible workforce, and ability to respond to changes in customer needs. Long-term, the flexibility of Transpower's supply chain and workforce could be challenged by geopolitical

tensions exacerbated by climate change. Transpower is considering options to mitigate the impact of supply chain and workforce-related risks as part of our climate-related disclosure framework.

Transpower's financial flexibility is considered robust under all three climate risk scenarios, based on our financial flexibility to manage through unexpected downturns and our ability to redirect capital and maintenance expenditure to mitigate any climate-related impacts on assets.



● Partial disclosure

Describe the methodologies and assumptions underlying the climate-related scenario used, and the scenario analysis process employed.

Transpower is using scenario analysis to inform the identification and assessment of climate risks and opportunities. Our three climate risk scenarios represent a series of potential climate outcomes and the anticipated consequences of these. Our climate risk scenarios are informed by international and New Zealand-based research and sector insights. Our approach is based on the TCFD's Guidance on Scenario Analysis for Non-Financial Companies (2020) and the requirements set out in the External Reporting Board's proposed Aotearoa New Zealand Climate Standard.

In developing our climate risk scenarios, we identified three groups of climate pathways relevant to our own thinking:

- Climate pathways – These were developed from research completed by the Intergovernmental Panel for Climate Change (IPCC), in particular the IPCC's 5th and 6th Assessment Reports (2022). We supplemented this global approach with New Zealand-specific data from the Ministry for the Environment's Climate Change Projections for New Zealand (2019) and Preparing for Coastal Change (2017) reports. IPCC's climate pathways and their

derivatives are expressed as "Relative Concentration Pathways" (RCPs), where an optimistic climate pathway is expressed by a low RCP2.6, a neutral climate pathway by RCP4.5 and a rapid global warming scenario by RCP7.0.

- Social pathways – These were developed from the IPCC's 'Shared Socioeconomic Pathways' (SSPs) and run in parallel to their climate pathways. The SSPs examine how global society, demographics and economics might change over the next century and are used to explore how societal choices will affect international GHG emissions. SSPs offer a broader view of a "business as usual" world without future climate policy, with global warming in 2100 ranging from a low of 3.1°C to a high of 5.1°C above pre-industrial levels.
- Energy pathways – These pathways expand on the 'Energy' category of the IPCC's SSPs, and also draw on research from the International Energy Agency (IEA), notably their 'World Energy Outlook' report published in November 2021. We obtained New Zealand-specific information from MBIE's 'Electricity Generation and Demand Scenarios' (2019). In addition we considered the Business NZ Energy Council's 'NZ Energy Scenarios' modelling framework. Transpower's Whakamana i Te Mauri Hiko and Net Zero Grid Pathways reports, and underlying datasets, were also considered.

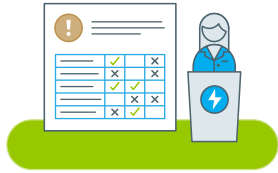
The three Transpower climate risk scenarios each provide a global perspective, a New Zealand perspective, and an electricity sector perspective. The scenarios were developed using the following criteria:

- Develop a 1.5°C (average global heating by 2090) climate-related scenario, a 3°C scenario and a middle-of-the-road climate risk scenario.
- Represent distinctively different socio-economic pathways, enabling us to test the resilience of our strategy and business model against an optimistic, a pessimistic and a 'neutral' climate-related scenario.
- Represent a plausible combination of global trends (international cooperation; markets and trade; technology development; global climate change – including temperature, weather, and sea level patterns) and New Zealand-specific perspectives (policy orientation; environment; local climate change; electricity market development etc.).

The three climate risk scenarios are:

- Scenario 1 (optimistic) - a narrow but achievable climate pathway towards sustainability
- Scenario 2 (neutral) – a path that does not shift markedly from historical trends
- Scenario 3 (pessimistic) – increasing competition and regional conflicts put countries on a path towards national and regional security.

For the purposes of our climate risk scenario development, Transpower has defined short-term as 2025–2035, mid-term as 2035–2050 and long-term as 2050–2100. As part of our climate-related disclosure framework we are undertaking further work to review, refine and enhance the three scenarios and to integrate the scenarios with our strategic planning and decision-making work programmes.



Risk management

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

● Complete disclosure

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

Transpower carries out the identification and assessment process for climate-related risks in accordance with our Enterprise Risk Management Framework. As part of this approach, risks and opportunities are identified both bottom-up and top-down. For example, our acute and chronic physical risks consider climate-related threats to our fixed assets and our operating processes. Examples of a top-down or enterprise-wide risk are changes in customer preferences and Transpower's ability to adequately respond.

Transpower's risk management approach incorporates the use of risk workshops with subject matter experts, bow-tie risk analysis, and semi-quantitative risk assessment to enable a more comprehensive understanding of our climate-related risks.

Our refreshed Risk Appetite Statement includes Environment, Social Responsibility and Good Governance as a key exposure category and emphasises the organisation's commitment to reporting climate-related risks and opportunities in accordance with the TCFD recommendations.

● Complete disclosure

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

Transpower recognises that risk management is an integral element of good management practice and governance. Risk management is the responsibility of line managers. Managers at each level are responsible for evaluating their risk environment, identifying and assessing risks to the achievement of their objectives, and putting controls in place to prevent these risks from occurring or, once they have eventuated, to mitigate their impact.

Risks are assessed against the enterprise risk rating framework which is derived from the Board's risk appetite statement.

Transpower's risk and assurance function conducts an annual internal audit programme to provide assurance to management and the Board that risk management controls are well designed and are working effectively.

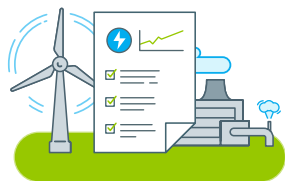
● Complete disclosure

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

Transpower's Risk and Assurance Management Standard is a cornerstone of the corporate risk and assurance framework. The Standard provides an overview of the risk and assurance function and sets out the minimum requirements for identifying, assessing, and

managing risks and providing assurance to management and the Board that risks are effectively managed. As part of a five-yearly review process, we have embedded the identification, assessment, and management of climate-related risks into our overall risk management framework. Specific requirements pertaining to climate risk management include:

1. The use of environment, social responsibility and good governance as key risk criterion.
2. The use of Transpower's business model when analysing and describing the impact of climate risks.
3. The use of climate risk scenarios for the identification and assessment of climate risks and opportunities.
4. The introduction of 'speed of onset' (velocity) as an assessment criteria for climate risks.
5. The establishment of a Climate Standard Preparedness Governance Group.



Metrics and targets

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

● Complete disclosure

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

Climate change metrics in this report include preparation of Transpower's annual greenhouse gas (GHG) emissions inventory and progress towards our absolute carbon reduction target. Our Sustainability Strategy dashboard includes qualitative KPIs addressing climate resilience, planning grid networks, enabling renewable and electrification connections, and reporting the carbon impact of grid electricity delivered.

Disclosure of our climate change metrics is incorporated in the 'GHG emissions' section and the 'ESE' section of this report.

● Partial disclosure

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

Transpower is targeting a 60% reduction in greenhouse gas emissions below 2005 levels by 2030, on track to achieve a net zero grid by 2050. This emissions reduction target applies to Scope 1 and 2 emissions. Our focus is on emissions we can control, therefore our target excludes emissions arising from transmission losses given these are emissions created within the electricity supply chain. We

report transmission losses as part of our GHG emissions reporting on behalf of the sector.

Further work will be undertaken to articulate our targets used to manage climate-related risks and opportunities.

● Partial disclosure

Disclose the methodologies and assumptions used to calculate metrics and targets

As part of Transpower's commitment to achieving a 60% reduction in emissions below 2005 levels by 2030 and on track to achieve a net zero grid by 2050 for controllable Scope 1 and 2 emissions, Transpower reports annual progress towards emission reduction targets as part of our annual GHG emissions inventory reporting and ESE reporting. Transpower has prepared annual GHG emissions inventory reports since FY04 and this data has been utilised to inform our baseline, metrics and target setting for our 2030 and 2050 emissions reduction targets. An emissions model has been developed to project our controllable Scope 1 and 2 emissions, based on quantifying the relationship between historical emissions since FY04, forecast baseline emissions to 2030 and 2050 – including different targets with base years and application of illustrative emission reductions. Regular updates to our GHG emissions inventory are published to illustrate progress towards our 2030 and 2050 emission reduction targets.

Our annual Sustainability Strategy is a key part of our work to develop climate-related metrics and targets, with several specific work programmes underway to more accurately understand our GHG emissions and to reduce these emissions in line with our stated commitments.

How we manage our risks

Transpower's risk management covers the enterprise's entire perspective, including strategic, operational, commercial and financial aspects.

Transpower's risk management policy has been reviewed and updated and is consistent with the internationally recognised standard AS/NZS ISO 31000:2018.

Transpower's risk management methodologies include bow-tie risk analysis and semi-quantitative risk assessment.

The following is a summary of our key risks, together with further explanation and our mitigation measures. The risks are also mapped to our strategic priorities and material issues.

Risk of a failure of a critical control leading to a serious workplace injury or death at a Transpower site or involving Transpower assets

Related strategic priorities:

- Sustain our social licence to operate

Material issues addressed:

- Customers and consumers
- Future workforce
- Good governance, including cybersecurity

Transpower strives to provide a working environment in which there are no fatalities or injuries causing permanent disability. We have policies, procedures, and systems in place to identify and manage hazards and risks throughout the lifecycle of our assets, including project and maintenance work.

We collaborate closely with our service providers in the planning and delivery of work in the field and support this with robust assurance processes to ensure works are completed to a high standard and without placing the health, safety and wellbeing of our people, or members of the public, at risk. We continuously seek to learn from others, both within our industry and beyond, in order to share knowledge and drive improvements in safety.

We have defined an approach for measuring psychological hazard in the workplace. A programme of work to support employee wellbeing is being implemented.

We maintain a focus on managing the risk of transmission of COVID-19, ensuring our work and the delivery of our services can be maintained while safeguarding the health and safety of our employees and those who work with us.

Risk of property damage, a serious injury or death of a member of the public at a Transpower site or involving Transpower assets

Related strategic priorities:

- Sustain our social licence to operate

Material issues addressed:

- Customers and consumers
- Community and landowner relationships
- Good governance, including cybersecurity

Keeping the public safe around our lines, transmission towers, and substations is a critical component of our work. Our public safety management system is a framework of good practice. It demonstrates that we take all practicable steps to ensure our assets do not present a significant risk of serious harm to the public, or a risk of significant damage to property.

Transpower's public safety management system is reviewed annually, with a recertification assessment every three years.

Risk of serious harm to the environment

Related strategic priorities:

- Sustain our social licence to operate

Material issues addressed:

- Environmental stewardship
- Community and landowner relationships

Transpower continues to improve on its environmental management processes and systems, with a focus on management of hazardous substances, contaminated land, noise effects, earthworks, land disturbances and our historic and cultural heritage.

Our Sustainability Strategy seeks to position Transpower to support New Zealand's transition to a sustainable energy future. We do this through our focus on four challenges. The first is on enabling renewable and electrification connections while also reducing our own carbon footprint. The second relates to restoring the natural environment and reduce the impacts of materials and resources used. The third challenge is ensuring that our regulatory, governance and decision frameworks include full consideration of social and environmental impact while our reporting transparently describes our impacts, goals and progress. Lastly, we acknowledge mana whenua's connection to the land and partner with iwi to remediate the natural environment. We also work with landowners to minimise the impact of our work on their land.

Our Biodiversity Strategy forms part of this overarching Sustainability Strategy and outlines Transpower's vision for an overriding kaitiakitanga approach of nurturing and protecting the valuable ecosystems and species with which we come into contact on a daily basis. Our main priority is to avoid further decline in biodiversity across every part of our business, and where possible maximise our positive impacts, particularly for new projects.

Risk of significant power supply interruptions

Related strategic priorities:

- Sustain our social license to operate

Material issues addressed:

- Climate change mitigation, adaptation, and linked advocacy
- Customers and consumers
- Community and landowner relationships

A core part of our role is to plan, build, operate and maintain the national grid, with the objective of 'keeping the energy flowing' for New Zealand electricity consumers. In the unlikely event that the lights do go off, we need to ensure there is sufficient resilience in the grid to reconnect people to their power supply as soon as possible. Those events could be related to asset failure, operations error or external circumstances, such as severe adverse weather or a national catastrophe.

An important risk-reduction measure is our investment in the replacement and refurbishment of assets as their health and condition deteriorates. Ongoing measures include reliability-informed maintenance reviews, emergency preparedness and a collaborative approach to contingency planning with our customers.

Adding to our challenges of managing a resilient grid, our climate is changing and consequently the world is witnessing an increasing frequency of extreme weather events. To date we have yet to suffer a loss of service due to climate related events but have experienced an increase in significant asset

damage due to these major hazard events (e.g. 2019 Rangitata flooding event). The consequences of climate change are expected to reduce the return periods of our major hazards and increase the priority of historically low risk level hazards. Transpower monitors the risk of major hazards that are impacted by climate change.

Risks in power system operations

Related strategic priorities:

- Sustain our social license to operate
- Accelerate our organisational effectiveness

Material issues addressed:

- Customers and consumers
- Community and landowner relationships
- Good governance, including cybersecurity

Another core part of our role is that of system operator, in which we manage and coordinate electricity generation and operation of the electricity market minute by minute, 24/7, 365 days per year to provide an efficient and reliable power system.

There is a constant risk that an event on the power system could impact our ability to ensure delivery of electricity around the country or maintain operation of the market.

Key risk controls include having the people, systems and processes with which we plan for and manage any event in real-time and having the flexibility to respond and adapt to whatever event arises.

The grid emergency of 9 August 2021 demonstrated how quickly major power system events can happen and the complexity

of managing the response. Transpower is implementing key lessons learned from this event and continues to enhance its capability, processes, systems and communications to mitigate the risks in power system operations. In May we ran an industry-wide emergency simulation drill 'Exercise Shortfall' which allowed further refinement of our processes. These lessons were put into place in the successful handling of the recent 23 June grid emergency.

Risk of a cybersecurity breach

Related strategic priorities:

- Sustain our social license to operate
- Evolve services to meet customers' needs
- Play an active role in enabling New Zealand's energy future

Material issues addressed:

- Good governance, including cybersecurity

We use a number of information, communications and technology systems that are critical for the supply of power and for system operations. To protect our systems and information against sophisticated and ever-changing threats, we work continuously and systematically to ensure information security, as aligned with international best-practice standards. To achieve this, we are working closely with other stakeholders in the sector and with national authorities. We are also investing appropriately to increase our capabilities to better understand and respond to cybersecurity events.

We monitor major cybersecurity events in New Zealand and across the globe in order



to inform and improve our own cybersecurity controls and practices.

In November 2021, Transpower participated in GridEx VI, a global emergency exercise. GridEx, which originates in the USA, simulates a real-world emergency. GridEx VI combined a series of cyber and physical security attacks that drastically affected New Zealand's electricity system. The exercise went well and provided Transpower with an opportunity to practice its capability in managing a complex, rapidly unfolding emergency.

Risk of not being able to find the skilled resources we need to effectively deliver our services

Related strategic priorities:

- Accelerate our organisational effectiveness
- Play an active role in enabling New Zealand's energy future

Material issues addressed:

- Future workforce

There is a longstanding skills shortage of engineers (electrical, civil and mechanical) and IT professionals with transmission and/or power systems experience in New Zealand. This skills shortage is expected to increase as our population ages and as market demand for skilled people to build and connect generation increases globally. This will be exacerbated as electric vehicles grow their share for transport and as renewable energy increasingly substitutes for fossil fuels.

Markets for skilled people are internationally connected, and while New Zealand will continue to recruit from a global talent pool,

migration to New Zealand has significantly reduced as a result of COVID-19. In addition, New Zealand may become a source of workforce supply for other countries, thus further reducing the skilled workforce required nationally to operate and maintain the grid.

In response, we have developed a people strategy and we are focused on building a diverse and inclusive workforce, having a strong employment brand and employee value proposition that will enable us to attract and retain talent. We continue to build awareness of the sector and build awareness of science, technology, engineering and maths (STEM) jobs at a national level. Transpower is engaging with stakeholders in the energy sector to increase domestic training of electricity workers.

Risk of not having the right grid at the right place at the right time

Related strategic priorities:

- Play an active role in enabling the energy future
- Evolve services to meet customers' needs
- Match our infrastructure to need over time

Material issues addressed:

- Climate change mitigation, adaptation, and linked advocacy
- Customers and consumers
- Future workforce

Potential changes in electricity consumption, generation and customer response technologies bring with them greater uncertainty about future grid usage.

Our challenge is to sustain a cost-effective transmission service that continues to provide an appropriate level of reliability while adapting to changing demands. We foster dialogue and develop forecasts to help us understand trends that will impact the grid and invest in asset management improvements and innovation so we can anticipate and respond to changes.

Transpower aims to take a 'least regrets' approach to identifying the range of upgrade projects needed on the grid. To do this we need industry and customer input. Transpower is only one link in the electricity delivery chain and the most efficient pathway will only be achieved if we can assist in creating a 'joined up' view of grid needs with our industry partners.

Net Zero Grid Pathways covers our plans and investments on the backbone of Aotearoa's electricity transmission grid to meet the challenges we face in enabling the electrification of the economy and meeting our nation's decarbonisation targets. This includes connecting new renewable generation and maintaining a secure and reliable supply of electricity.

It has two phases – enhancing the existing grid backbone to 2035, and the likely need for a larger grid backbone with new interconnections beyond 2035. Consultation on the first phase (NZGP1 Stage 1) ran from 30 June 2022 to 15 August 2022.

Reputational risk

Related strategic priorities:

- Sustain our social license to operate

- Play an active role in enabling New Zealand's energy future
- Match our infrastructure to need over time

Material issues addressed:

- Climate change mitigation, adaptation, and linked advocacy
- Customers and consumers
- Community and landowner relationships

Transpower provides a lifeline utility service for New Zealand and grid reliability is highly valued by our customers and electricity consumers. Our biggest reputational risk is associated with our ability to deliver on our mission 24/7, through all seasons and weather conditions and in spite of external events. Furthermore, through our investments and operations, we have a physical presence throughout the country. This means that we need to continuously seek acceptance for our plans and ongoing activities. To establish and maintain good relations, we proactively reach out to communities and stakeholders in specific cases.

Financial risk

Related strategic priorities:

- Evolve services to meet customers' needs

Material issues addressed:

- Customers and consumers
- Good governance, including cybersecurity

Transpower's activities expose it to a variety of financial risks. We have a strong framework for financial risk management, and treasury policies that include guidelines and limits

related to liquidity risk, interest rate risk, currency risk, credit risk, commodity risk and insurance risk. Further details for each of these categories is provided in the notes to the financial section of this report.

A specific financial risk relates to the fact that Transpower, as a natural monopoly, is regulated by the Commerce Commission. The Commerce Commission determines what rate of return applies to our assets, as well as the incentives for meeting and exceeding operating expenditure, capital expenditure and meeting certain deliverables and outage targets.

Supply chain risk

Related strategic priorities:

- Sustain our social license to operate
- Evolve services to meet customers' needs
- Play an active role in enabling New Zealand's energy future

Material issues addressed:

- Customers and consumers
- Good governance, including cybersecurity

COVID-19 and the war in Ukraine have resulted in significant global supply chain issues which have also impacted New Zealand. As a small country in the South-Pacific, New Zealand is particularly vulnerable to any events that disrupt the supply of goods and materials into the country. New Zealand has seen ongoing delays for a number of products.

Transpower uses domestic and international suppliers for the components and materials it requires to maintain and expand the

grid as well as our supporting information, communication and technology systems.

In response to the emergence of supply chain disruptions, we have increased our stock of spare parts and materials in critical areas and for certain categories. We have advanced the planning of our key upcoming projects. We continue to engage with our international and domestic suppliers and, where appropriate, we are lining up alternative supply arrangements.







Tauākī pūtea Our financial performance

For the year ended 30 June 2022

Statement of comprehensive income

For the year ended 30 June 2022

	Notes	2022 Group (\$M)	Restated* 2021 Group (\$M)
Operating revenue	2	885.2	916.2
Operating expenses	3	311.1	299.5
Earnings before interest, tax, depreciation, amortisation, asset write-offs, impairment and changes in the fair value of financial instruments	1	574.1	616.7
Depreciation, amortisation, asset write-offs and impairment	5, 6	291.1	351.1
Net interest expenses	4, 6	86.2	85.8
Earnings before changes in the fair value of financial instruments and tax		196.8	179.8
Gain (loss) in the fair value of financial instruments	16	34.2	37.2
Earnings before tax		231.0	217.0
Income tax expense	17	64.4	61.4
Net profit		166.6	155.6
<i>Attributable to:</i>			
Non-controlling interest		(0.7)	1.2
Owners of the parent		167.3	154.4
Other comprehensive income (expense)			
<i>Items that will not be reclassified to profit or loss</i>			
Net gain/(loss) on credit spreads changes on own debt	16	6.8	(36.4)
<i>Items that may be reclassified to profit or loss</i>			
Net gain/(loss) on cash flow hedges	16	142.5	70.6

	Notes	2022 Group (\$M)	Restated* 2021 Group (\$M)
Other comprehensive income (expenses)		149.3	34.2
<i>Attributable to:</i>			
Non-controlling interest		-	-
Owners of the parent		149.3	34.2
Total comprehensive income (expense)		315.9	189.8
<i>Attributable to:</i>			
Non-controlling interest		(0.7)	1.2
Owners of the parent		316.6	188.6

* Refer to Note 1 for details on 2021 restatement.

These statements are to be read in conjunction with the accompanying notes.

Statement of financial position

As at 30 June 2022

	Notes	2022	Restated* 2021
		Group (\$M)	Group (\$M)
Assets Employed			
Cash and cash equivalents		57.7	229.9
Investments	10	73.2	101.5
Trade receivables and other assets	11	100.2	107.5
Derivatives and hedge commitment in gain	8	297.1	240.4
NZPCL investment	9	83.9	90.0
Assets held for sale	5	0.4	0.2
Property, plant and equipment	5	4,749.6	4,754.5
Intangibles	5	395.0	384.5
Right-of-use asset	6	117.9	110.4
Capital work in progress	5	180.4	139.5
Total assets employed		6,055.4	6,158.4
Funds Employed			
Liabilities			
Trade and other payables	12	136.8	68.1
Current tax liability		8.8	12.2
Deferred income	2	170.6	152.2
Derivatives and hedge commitment in loss	8	123.0	129.5
Provisions	13	58.6	64.6
Debt	7	2,928.3	3,393.7
NZPCL debt	9	85.7	90.8
Lease liabilities	6	98.9	90.7
Deferred tax	17	585.5	493.3
Total liabilities		4,196.2	4,495.1

* Refer to Note 1 for details on 2021 restatement.

These statements are to be read in conjunction with the accompanying notes.

	Notes	2022	Restated* 2021
		Group (\$M)	Group (\$M)
Equity			
Capital	14	1,200.0	1,200.0
Retained earnings		522.2	468.1
Cash flow hedge reserve		138.3	(4.2)
Non-controlling interest	9	(1.3)	(0.6)
Total equity		1,859.2	1,663.3
Total funds employed		6,055.4	6,158.4

The Board of Directors of Transpower New Zealand Limited authorised these financial statements for issue on 26 August 2022.

For, and on behalf of, the Board



Dr Keith Turner
Chair



Michele Embling
Chair of Audit and Finance Committee

Statement of changes in equity

For the year ended 30 June 2022

2021/22

Group	Notes	Ordinary shares (\$M)	Retained earnings (\$M)	Cash flow hedge reserve (\$M)	Owners of the Parent (\$M)	Non controlling interest (\$M)	Total (\$M)
Equity at 1 July 2021		1,200.0	468.1	(4.2)	1,663.9	(0.6)	1,663.3
Profit for the year		-	167.3	-	167.3	(0.7)	166.6
Other comprehensive income		-	6.8	142.5	149.3	-	149.3
Total comprehensive income		-	174.1	142.5	316.6	(0.7)	315.9
Dividends paid	14	-	(120.0)	-	(120.0)	-	(120.0)
Total equity at 30 June 2022		1,200.0	522.2	138.3	1,860.5	(1.3)	1,859.2

2020/21

Group	Notes	Ordinary shares (\$M)	Retained earnings* (\$M)	Cash flow hedge reserve (\$M)	Owners of the Parent (\$M)	Non controlling interest (\$M)	Total (\$M)
Equity at 1 July 2020 (Restated)*		1,200.0	497.1	(74.8)	1,622.3	(1.8)	1,620.5
Profit for the year		-	154.4	-	154.4	1.2	155.6
Other comprehensive income		-	(36.4)	70.6	34.2	-	34.2
Total comprehensive income		-	118.0	70.6	188.6	1.2	189.8
Dividends paid	14	-	(147.0)	-	(147.0)	-	(147.0)
Total equity at 30 June 2021 (Restated)*		1,200.0	468.1	(4.2)	1,663.9	(0.6)	1,663.3

Non controlling interest - refer to Note 9 for detailed description.

* Refer to Note 1 for details on 2021 restatement.

These statements are to be read in conjunction with the accompanying notes.

Cash flow statement

For the year ended 30 June 2022

	Notes	Restated*	
		2022	2021
		Group (\$M)	Group (\$M)
Cash flow from operations			
Receipts from customers		901.6	894.1
Interest received		4.9	4.5
Payments to suppliers and employees		(295.4)	(304.2)
Tax payments		(33.7)	(35.1)
Interest paid		(92.5)	(85.6)
Net cash inflows from operations		484.9	473.7
Cash flow from investments			
Sale of property, plant and equipment		1.9	2.0
Sale of short-term investments		33.1	54.6
Purchase of property, plant and equipment and intangibles		(303.7)	(349.1)
Purchase of short-term investments		(10.5)	(57.1)
Net cash (outflows) from investments		(279.2)	(349.6)
Cash flow from financing			
Proceeds from bonds, term debt and commercial paper		614.4	1,000.9
Increase in collateral received	12	26.2	-
Dividends paid		(120.0)	(147.0)
Payment of principal portion of lease liabilities		(9.5)	(7.2)
Repayment of bonds, term debt and commercial paper		(889.0)	(754.3)
Net cash (outflows) from financing		(377.9)	92.4
Net increase/(decrease) in cash held		(172.2)	216.5
Opening balance brought forward		229.9	13.4
Closing net cash carried forward		57.7	229.9
<i>Closing net cash carried forward comprises:</i>			
Cash and on-call deposits		52.7	99.8
Short-term deposits with original maturity less than three months		5.0	130.1

* Refer to Note 1 for details on 2021 restatement.

These statements are to be read in conjunction with the accompanying notes.

Cash flow statement reconciliation

Reconciliation of net profit (loss) with net cash flow from operations

	Restated*	
	2022	2021
	Group (\$M)	Group (\$M)
Net profit	166.6	155.6
Add (deduct) non-cash items:		
Change in the fair value of financial instruments	(34.1)	(37.0)
Depreciation, amortisation and write-offs	291.1	351.1
Deferred tax	34.1	26.9
Capitalised interest	(4.6)	(4.3)
Movements in working capital items:		
(Increase)/decrease in trade and other receivables	9.5	(3.8)
(Increase)/decrease in prepayments	0.7	(3.2)
(Decrease)/increase in trade and other payables, interest payable and deferred income	28.8	(6.7)
(Decrease)/increase in taxation payable	(3.4)	(0.6)
(Decrease)/increase in provisions	(3.8)	(4.3)
Net cash flow from operations	484.9	473.7

1. Transpower Group information

Reporting entity and statutory base

Transpower New Zealand Limited (Transpower) is a state-owned enterprise registered in New Zealand under the Companies Act 1993. The financial statements are in New Zealand dollars, which is the Company's functional currency, and comprise of Transpower and its subsidiaries (together the Group).

The Group is the owner and operator of New Zealand's national electricity grid. The Group is a for-profit entity in accordance with XRB A1 Application of the Accounting Standards Framework.

Basis of preparation

The financial statements have been presented in accordance with the State-Owned Enterprise Act 1986 and are prepared in accordance with the Financial Markets Conduct Act 2013. The financial statements have been prepared and comply with generally accepted accounting practice (GAAP) in New Zealand and the Financial Reporting Act 2013.

The financial statements comply with New Zealand Equivalents to International Financial Reporting Standards (NZ IFRS). The financial statements comply with International Financial Reporting Standards (IFRS).

The statement of comprehensive income and the cash flow statement are prepared so that all components are stated exclusive of GST. All items in the statement of financial position are stated exclusive of GST with the exception of receivables and payables, which include GST.

The accounting policies used in preparation of these financial statements are consistent with those used in preparation of the 2020/21 audited annual financial statements, except for the revised accounting policy in relation to upfront configuration and customisation costs incurred in implementing Software-as-a-Service (SaaS) arrangements. The 2020/21 audited annual financial statements can be viewed at www.transpower.co.nz.

Transpower's operations are not considered seasonal or cyclical in nature.

The financial statements of the Group's subsidiaries are prepared in the functional currency of that entity, being New Zealand dollars. The exception to this is New Zealand Power Cayman 2003-1 Limited which has a functional currency of US dollars and a presentational currency of New Zealand dollars, which is the presentation currency of the Group.

Where necessary, certain comparative information has been reclassified to conform to changes in presentation in the current period.

COVID-19 Pandemic

The Directors have considered the effects on business operations and financial statements caused either directly or indirectly by COVID-19. The effect on the overall results is not material due to the majority of Transpower's revenue being regulated and the continuation of essential services during the year. Global supply chain risks remain elevated with access to strategic stock and specialist capabilities an ongoing challenge. While our project portfolios remain largely on track, mitigation of these risks where possible remains a key management focus.

Measurement basis

The measurement basis adopted in the preparation of these financial statements is historical cost except as modified for certain investments, held-for-sale assets, financial assets and financial liabilities.

Significant accounting policies

- a) The Group financial statements consolidate the financial statements of subsidiaries as at and for the year ended 30 June 2022. Subsidiaries are those entities controlled, directly or indirectly, by Transpower. All significant intercompany balances and transactions are eliminated on consolidation. The Group discloses a non-controlling interest (NCI) relating to New Zealand Power Cayman 2003-1 Limited (NZPCL). NCI is measured at the NCI's share of net assets.
- b) Accounting policies, and information about judgements that have had a significant effect on the amounts recognised in the financial statements are disclosed in the relevant notes as follows:
 - i. Operating revenue and deferred income Note 2
 - ii. Capital assets and commitments Note 5
 - iii. Leases Note 6
 - iv. Debt, financial instruments and risk management Note 7

New standards and interpretations adopted during the period

Implementation of IFRIC Agenda Decision

During the year, the Group revised its accounting policy in relation to upfront configuration and customisation costs incurred in implementing Software-as-a-Service (SaaS) arrangements in response to the IFRS Interpretations Committee (IFRIC) agenda decision clarifying its interpretation of how current accounting standards apply to these types of arrangements. The new accounting policy is presented below.

a) Software-as-a-Service (SaaS) arrangements

SaaS arrangements are service contracts providing the Group with the right to access the cloud provider's application software over the contract period. Costs incurred to configure or customise, and the ongoing fees to obtain access to the cloud provider's application software, are recognised as operating expenses when the services are received.

Some of these costs incurred are for the development of software code that enhances or modifies, or creates additional capability to, existing on-premise systems and meets the definition of and recognition criteria for an intangible asset. These costs are recognised as intangible software assets and amortised over the useful life of the software on a straight-line basis. The useful lives of these assets are reviewed at least at the end of each financial year, and any change accounted for prospectively as a change in accounting estimate.

b) Key judgements in applying the entity's accounting policies

In applying the revised accounting policy, Transpower made the following key judgements that may have the most significant effect on the amounts recognised in financial statements.

i) Capitalisation of configuration and customisation costs in SaaS arrangements

Part of the customisation and configuration activities undertaken in implementing SaaS arrangements may entail the development of software code that enhances or modifies, or creates additional capability to the existing on-premise software to enable it to connect with the cloud-based software applications (referred to as bridging modules or APIs). Judgement was applied in determining whether the additional code meets the definition of and recognition criteria for an intangible asset in NZ IAS 38.

ii) Determination whether configuration and customisation services are distinct from the SaaS access

Costs incurred to configure or customise the cloud provider's application software are recognised as operating expenses when the services are received. In a contract where the cloud provider provides both the SaaS configuration and customisation, and the SaaS access over the contract term, Transpower applied judgement to determine whether these services are distinct from each other or not, and therefore, whether the configuration and customisation costs incurred are expensed as the software is configured or customised (i.e. upfront), or over the SaaS contract term.

Specifically, where the configuration and customisation activities significantly modify or customise the cloud software, these activities will not be distinct from the access to the cloud software over the contract term. Judgement has been applied in determining whether the degree of customisation and modification of the cloud-based software that would be deemed significant.

c) Retrospective restatement

As disclosed above, the Group revised its accounting policy in relation to SaaS arrangements during the year resulting from the implementation of agenda decisions issued by the IFRIC. Historical financial information has been restated to account for the impact of the change in accounting policy, as follows:

Financial statement item

	30 June 2021	1 July 2020
	Group (\$M)	Group (\$M)
Statement of financial position		
Decrease in Intangibles	(4.7)	(2.9)
Decrease in Capital work in progress	(0.1)	-
Total assets	(4.8)	(2.9)
Decrease in Retained earnings	4.8	2.9
Total equity	4.8	2.9
Statement of comprehensive income		
Increase in Operating expenses	(2.7)	
Decrease in Depreciation, amortisation, asset write-offs and impairment	0.8	
Earnings before tax	(1.9)	
Statement of cashflows		
Increase in Payments to suppliers and employees	(2.7)	
Net cash inflows from operations	(2.7)	
Decrease in Purchase of property, plant and equipment and intangibles	2.7	
Net cash (outflows) from investments	2.7	

New standards and interpretations not yet adopted

There are no new accounting standards issued but not yet effective which materially impact Transpower.

2. Operating revenue and deferred income

	2022	2021
	Group (\$M)	Group (\$M)
Transmission revenue		
HVAC interconnection	607.1	603.3
HVAC connection	120.5	107.2
EV (rebate) charge - HVAC	(22.1)	(22.9)
HVDC	93.3	92.9
EV (rebate) charge - HVDC	(1.2)	(0.8)
Other regulated transmission	3.4	4.0
Customer investment contracts	22.9	23.0
Undergrounding and transmission realignment	4.7	52.7
Other transmission	1.5	1.6
	830.1	861.0
Other revenue		
System operator	41.6	42.5
Other	13.5	12.7
	55.1	55.2
Total operating revenue	885.2	916.2

Description

Transmission revenue

Transmission revenue consists of charges for the transmission of electricity from the point of generation to the point of supply, being high voltage alternating current (HVAC) interconnection, connection and high voltage direct current (HVDC).

Transpower's transmission revenue is regulated and set by the Commerce Commission (Commission). The Electricity Authority (Authority) regulates the electricity market and sets the rules on how Transpower's recoverable revenue is allocated to designated transmission customers through transmission charges.

Commencing June 2020 Transpower developed a new Transmission Pricing Methodology (TPM) consistent with new TPM Guidelines published by the Authority, and then supported the Authority to finalise the new TPM. Pricing under the new TPM regime commence April 2023. This revised allocation basis does not impact Transpower's recoverable revenue as set under part 4 of the Commerce Act 1986.

Customer investment contracts are contracts entered into with customers to build grid connection assets. Transpower recognises this revenue over the life of the asset.

Undergrounding and transmission realignment contracts are contracts entered into with third parties to underground and/or realign certain transmission line assets. The revenue is recognised based on the revenue source.

Other revenue

System operator income relates to payments received to operate the electricity market to dispatch generation to ensure the short-term security of the New Zealand electricity system.

Included in the above numbers is revenue subject to the telecommunications development levy of \$2.6 million in the year to 30 June 2022 (June 2021: \$2.4 million).

Accounting policies

Transmission revenue with customers, excluding customer investment contracts and transmission realignment contracts, are recognised on a monthly basis as Transpower delivers the service and customers consume the benefit. The transmission revenue performance obligation is the provision of access to the network.

The money received from customer investment contracts can be received over different contract periods varying between all up-front to up to 50 years. The assets built for the customers are owned by Transpower, however, Transpower is providing a service to the customers over the life of the asset. The service is the monthly transmission of electricity and the customers' consumption of that benefit. Therefore, the revenue is grossed up for an imputed interest expense and recognised over the estimated life of the related assets. The performance obligation is the provision of access to the network.

Agreements between Transpower and third parties to underground and/or realign certain transmission line assets are recognised based on the revenue source. If the revenue is received from central or local government, or their agencies, then the revenue is recognised according to the government grants standard (NZ IAS 20) with revenue grossed up for an imputed interest expense and recognised over the life of the related transmission assets. If revenue is received from non-government parties, then it is recognised at a point in time, once the transmission assets are commissioned. The decommissioned transmission assets are then immediately written off for the same value. In contracts with non-government customers, the performance obligation is the shifting of the transmission line.

Summary of revenue recognition

	Recognised monthly as customers use service	Recognised over life of relevant asset	Recognised in year of commissioning asset
Transmission revenue	●		
Customer investment contracts		●	
Undergrounding and transmission realignment – Government		●	
Undergrounding and transmission realignment – non-Government			●

Certain transactions relating to the operation of the electricity market, specifically wholesale market-related ancillary services and losses and constraint payments, are passed through and are, therefore, not recorded in profit or loss. This pass-through occurs because Transpower is deemed to act only as an agent. Similarly, Transpower acts as an agent relating to its natural gas and carbon market operations.

Related disclosures

	2022 Group (\$M)	2021 Group (\$M)
Deferred income		
Customer investment contracts	125.3	105.0
Undergrounding and transmission realignment	40.5	41.9
Other	4.8	5.3
Total deferred income	170.6	152.2
Current portion	1.7	2.7
Non-current portion	168.9	149.5
Total deferred income	170.6	152.2

A reconciliation of deferred income as it relates to revenue is shown below for the two major categories:

2022 Group (\$M)	Customer investment contracts	Undergrounding and transmission realignment
Opening balance 1 July 2021	105.0	41.9
Advance payments received from customers	37.2	0.5
Net revenue recognised in the year from		
Amounts included in the contract liability at the beginning of the year	(0.3)	(1.9)
Advance payments applied to current year	(16.6)	-
Closing balance 30 June 2022	125.3	40.5

2021 Group (\$M)	Customer investment contracts	Undergrounding and transmission realignment
Opening balance 1 July 2020	71.2	90.0
Advance payments received from customers	52.3	1.0
Net revenue recognised in the year from		
Amounts included in the contract liability at the beginning of the year	(0.3)	(48.1)
Advance payments applied to current year	(18.2)	(1.0)
Closing balance 30 June 2021	105.0	41.9

3. Operating expenses

Group (\$M)	Restated*	
	2022	2021
Grid maintenance		
HVAC substations maintenance	41.2	46.8
HVDC substations and cables maintenance	11.5	10.8
HVAC lines maintenance	46.7	43.9
HVDC lines maintenance	2.0	1.8
Transmission-related rates	6.8	6.6
Other	6.4	7.6
	114.6	117.5
IST maintenance and operations		
Support and maintenance	17.0	12.1
Outsourced services	12.9	12.2
Licences	11.1	10.7
Other IST	1.9	2.0
	42.9	37.0
Other operating expenses		
Investigations	19.9	20.9
Ancillary service costs	6.2	2.9
Employee benefits	125.0	119.8
Capitalised salary costs	(28.3)	(28.9)
Salary transferred to investigations	(8.1)	(8.2)
Contractors and consultants	11.2	10.2
Operating lease and rental costs	0.2	0.3
Industry levies	11.7	10.7
Insurance	6.6	5.4
Travel and vehicle costs	1.3	1.9
Other business support costs	7.9	10.0
	153.6	145.0
Total operating expenses	311.1	299.5

Description

Maintenance includes inspection, servicing and repair costs.

Other grid maintenance expenses include maintenance support, communication systems costs and training for service providers and third parties.

Information Service Technology (IST) maintenance and operations expenses include system and software support, software license fees, SaaS implementation and service lease charges.

Investigations include work that the Group conducts prior to the commencement of a capital project, updates to maintenance standards and demand-response costs.

Other business support costs include such items as lease expenses relating to short-term leases and low-value assets, legal fees, office equipment and communications.

Related disclosures

Auditor's Remuneration

Group (\$000)	2022	2021
Fees to Ernst & Young (New Zealand)		
Fees for auditing the statutory financial statements of the parent covering the group and auditing the statutory financial statements of any controlled entities	544	484
Fees for assurance services that are required by legislation to be provided by the auditors		
Trust deed requirements ¹	11	11
Fees for other assurance and agreed-upon-procedures services under other legislation or contractual arrangements where there is discretion as to whether the service is provided by the auditor or another firm		
Independent review of TPM development ²	222	97
Independent review of Green bond framework	38	-
Independent review of Carbon footprint report	33	18
Independent review of network asset model	-	8
Independent review of annual regulatory disclosure	139	-
	432	123
Fees for other services		
Remuneration benchmarking report	5	3
	5	3
Total auditor's remuneration	992	621

- Trust deed requirements include fees to review Directors' certificates in relation to debt held against two trust deeds.
- This includes the independent review of the Transmission Pricing Methodology (TPM) development, which Transpower is developing on behalf of the Authority for implementation from 1st April 2023 pricing year.

4. Net interest expenses

Group (\$M)	2022	2021
Interest revenue		
Interest received	4.9	4.5
	4.9	4.5
Interest expenses		
Interest expenses and associated fees	83.6	83.0
Capitalised interest	(4.6)	(4.3)
Imputed interest	12.1	11.6
	91.1	90.3
Total net interest expenses	86.2	85.8

Description

Capitalised interest is based on Transpower's forecast weighted average cost of borrowing (2022: 2.75% and 2021: 2.94%).

Imputed interest arises on deferred income, the unwinding of the discount of future cash flows related to provisions, and the interest on lease liabilities.

5. Capital assets and commitments

This note includes property, plant and equipment, intangible assets, non-current assets held for sale, capital work in progress and capital commitments.

Group (\$M)										Restated*	Restated*
	HVAC transmission lines	HVDC transmission lines	HVAC substations	HVDC substations and submarine cables	Communications	Administration assets	Total property, plant and equipment	Easements and right to access	Software and other intangibles	Total intangible assets	Capital work in progress
At 30 June 2022											
Cost	2,963.3	174.6	2,913.2	900.5	452.1	212.8	7,616.5	310.9	455.1	766.0	180.4
Accumulated depreciation/amortisation	(921.6)	(68.9)	(974.2)	(465.3)	(281.9)	(154.6)	(2,866.5)	(6.5)	(364.5)	(371.0)	-
Net book value/carrying value	2,041.7	105.7	1,939.0	435.2	170.2	58.2	4,750.0	304.4	90.6	395.0	180.4
30 June 2022 reconciliation											
Opening net book value/carrying value (1 July 2021)	2,018.6	104.9	1,929.3	458.8	179.5	63.6	4,754.7	304.7	79.8	384.5	139.5
Additions/transfers	106.4	6.6	93.9	6.4	20.2	5.1	238.6	0.3	40.7	41.0	323.1
Disposals/transfers	(2.3)	(0.5)	(5.7)	(0.7)	(0.6)	-	(9.8)	-	(0.2)	(0.2)	(282.2)
Impairment	(1.1)	-	0.3	-	-	-	(0.8)	-	-	-	-
Depreciation/amortisation	(79.9)	(5.3)	(78.8)	(29.3)	(28.9)	(10.5)	(232.7)	(0.6)	(29.7)	(30.3)	-
Closing net book value/carrying value	2,041.7	105.7	1,939.0	435.2	170.2	58.2	4,750.0	304.4	90.6	395.0	180.4
At 30 June 2021											
Cost	2,875.8	169.5	2,837.6	895.0	434.3	208.3	7,420.5	310.6	414.7	725.3	139.5
Accumulated depreciation/amortisation	(857.2)	(64.6)	(908.3)	(436.2)	(254.8)	(144.7)	(2,665.8)	(5.9)	(334.9)	(340.8)	-
Net book value/carrying value	2,018.6	104.9	1,929.3	458.8	179.5	63.6	4,754.7	304.7	79.8	384.5	139.5
30 June 2021 reconciliation*											
Opening net book value/carrying value (1 July 2020)	1,997.1	107.0	1,884.5	478.2	194.6	70.8	4,732.2	305.0	66.2	371.2	151.7
Additions/transfers	114.8	3.0	130.6	19.1	13.6	4.6	285.7	0.3	43.1	43.4	351.6
Disposals/transfers	(1.8)	(0.5)	(7.1)	(0.6)	(0.4)	-	(10.4)	(0.1)	-	(0.1)	(363.8)
Impairment	(2.7)	-	(2.7)	-	-	-	(5.4)	-	-	-	-
Depreciation/amortisation	(88.8)	(4.6)	(76.0)	(37.9)	(28.3)	(11.8)	(247.4)	(0.5)	(29.5)	(30.0)	-
Closing net book value/carrying value	2,018.6	104.9	1,929.3	458.8	179.5	63.6	4,754.7	304.7	79.8	384.5	139.5

* Adjustment for SaaS costs transferred to Income Statement. Refer to Note 1 for details on 2021 restatement.

Depreciation, amortisation, write-offs and dismantling

Group (\$M)	Restated*	
	2022	2021
Total depreciation	232.7	247.4
Total amortisation	30.3	30.0
Impairment	0.8	5.4
Write-offs on disposal	10.0	45.0
Dismantling expense	4.6	9.2
Loss on disposals	2.5	4.3
	280.9	341.3

Capital work in progress is split into the following classes:

Group (\$M)	Restated*	
	2022	2021
HVAC transmission lines	26.6	39.2
HVAC substations	126.4	79.8
Communications	4.2	-
Other	23.2	20.5
	180.4	139.5

Description

Administration assets include computer hardware, plant, equipment, furniture and motor vehicles.

The most significant right-to-access asset relates to the 2011 purchase of access rights to the Vector Tunnel in Auckland for \$50 million. The Vector Tunnel right-to-access asset is being amortised over the contract life, which is 90 years.

Accounting policies

Transpower uses the cost model for all capital assets. Capital work in progress is recorded at cost. Cost is determined by including all costs directly associated with bringing the assets to their location and condition for use. Finance costs incurred during the period of time that is required to complete and prepare the asset for its intended use are capitalised as part of the total cost for capital work in progress.

Assets are transferred from capital work in progress at cost to property, plant and equipment, or intangible assets as they become operational and available for use.

At each reporting date, Transpower reviews the carrying amounts of its tangible and intangible assets and exercises judgement to determine whether there is any indication that those assets have suffered an impairment loss. This is based on allocating the assets to cash generating units. If any such indication exists, the recoverable amount of the asset or cash generating unit is estimated in order to determine the extent of the impairment loss (if any). The recoverable amount for regulated assets is generally equal to the regulatory book value for revenue recovery purposes. In 2022, there has been no impairment to the regulatory asset base (2021: \$2.7 million).

For unregulated assets, Transpower tests for indicators of impairment, such as deterioration in the credit worthiness of the customer, and any indicated factors in pricing the future cash flows Transpower expects to derive from the assets are reflected in the calculation of the asset's value in use. In 2022, there was an impairment movement of \$0.8 million (2021: \$2.7 million).

Depreciation

Depreciation of property, plant and equipment is calculated using the straight line method to write down the cost of property, plant and equipment to its estimated residual value over its estimated useful life.

The estimated weighted average of useful lives by Transpower's asset category is as follows:

HVAC transmission lines	58 years
HVAC transmission high voltage cables	45 years
HVAC transmission lines (tower painting)	15 years
HVAC substations	43 years
HVDC substations (including submarine cables)	28 years
HVDC transmission lines	55 years
Communication assets	15 years
Administration assets	16 years

Non-current assets held for sale

Non-current assets (and disposal groups) classified as held for sale are measured at the lower of carrying amount and fair value less costs to sell.

Intangibles

The cost of acquiring a finite-life intangible asset is amortised from the date the underlying asset is held ready for use on a straight line basis over the period of its expected benefit which is as follows:

Software	5-8 years
Right-to-access asset	90 years

Easements are deemed to have an indefinite useful life and are tested for impairment annually.

Certain easements have been donated by the Crown. These are recognised at cost (nil) plus any direct cost associated with putting the easement in place.

Emissions units acquired are carried at cost less any accumulated impairments.

Key judgements and estimates

Transpower has exercised judgement in the following areas:

1. Determining the useful life of property, plant and equipment and finite-life intangible assets. Transpower uses assistance from independent engineers. For transmission line assets, a determining factor in the life assumption is proximity to the coast.
2. Whether or not an item is capital in nature and the appropriate component level of asset at which to depreciate.
3. Determining the appropriate time to commission an asset and commence depreciation.
4. Whether there are any assets that ought to be impaired.
5. As part of our initial desktop assessment of climate-change risks, we have completed an assessment of our 170 substations for flood risks to identify which sites have credible flood hazards resulting from climate change. This analysis identified 29 substations which have a likelihood of credible flood events, based on a 2-degrees or lower scenario (RCP2.6). Without climate change, it is estimated that 20 flood events will occur "on average" between now and 2090. We are reviewing the useful lives of these assets in conjunction with considering asset management plans to mitigate these risks, which are not regarded as material. Transpower continues to assess other climate-related risks and will disclose its exposure to climate-related risks and opportunities in accordance with the XRB Aotearoa New Zealand Climate Standard in 2024.

Related disclosures

Land and buildings are contained within the above classes and have a net book value of \$265.2 million (2021: \$258.1 million).

Held-for-sale non-current assets are contained within the above classes and have a net book value of \$0.4 million (2021: \$0.2 million).

Capital commitments in respect of contracts for property, plant and equipment:

Group (\$M)	2022	2021
Property, plant and equipment	178.9	171.4
	178.9	171.4

Capital commitments in respect of contracts for intangible assets:

Easements and right-to-access assets	0.6	-
Software	0.6	0.2
	1.2	0.2
Total capital commitments	180.1	171.6

6. Leases

Right-of-use assets

Group (\$M)	Property and IT data centres	Fibre communication network	Group total
30 June 2022 reconciliation			
Opening net book value (1 July 2021)	57.0	53.4	110.4
Additions	-	-	-
Adjustments to existing right-of-use assets	17.2	0.6	17.8
Depreciation	(5.2)	(5.0)	(10.2)
Impairment/Retirement	(0.1)	-	(0.1)
Closing net book value	68.9	49.0	117.9
30 June 2021 reconciliation			
Opening net book value (1 July 2020)	61.8	60.2	122.0
Additions	0.4	0.2	0.6
Adjustments to existing right-of-use assets	-	(1.9)	(1.9)
Depreciation	(5.0)	(4.8)	(9.8)
Impairment/Retirement	(0.2)	(0.3)	(0.5)
Closing net book value	57.0	53.4	110.4

Lease liabilities

Group (\$M)	2022	2021
As at 1 July	90.7	99.7
Additions	-	4.0
Accretion of interest	3.0	3.1
Payments	(12.6)	(10.4)
Remeasurement/Write-off	17.8	(5.7)
As at 30 June	98.9	90.7
Current	8.3	7.3
Non-current	90.6	83.4

Description

The Group's leases primarily relate to the leasing of fibre optic cables for Transpower's communication network and property leases for office buildings and IT data centres.

Accounting Policies

Lease liabilities

Lease liabilities are recognised based on the present value of the remaining lease payments, including lease renewals that are deemed reasonably certain to be exercised. Transpower uses the incremental borrowing rate at the lease commencement date to calculate the present value of lease payments.

Lease liabilities will decrease over time as lease payments are made and increase with an imputed interest expense being recognised. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term or a change in the in-substance fixed lease payments.

Right-of-use assets

The Group recognises right-of-use assets at the commencement date of the lease (i.e. the date the underlying asset is available for use). The Group applies the recognition exemptions to its short-term leases with less than 12 months remaining and to low-value leases. Lease payments for these leases are recognised as an expense on a straight-line basis over the lease term.

Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurements of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognised, adjusted for any prepaid lease payments. The right-of-use assets are depreciated on a straight-line basis over the shorter of their estimated useful life and the lease term. The Group assesses the right-of-use asset for impairment when such indicators exist.

Key judgements

Transpower has exercised judgement in the following areas:

1. Determination of whether or not a lease exists through assessment of contractual arrangements;
2. Where the contract contains options to extend or terminate the lease, consideration of the likelihood of exercising the options based on past practice; and
3. Use of a single discount rate to a portfolio of leases with reasonably similar characteristics.

Related Disclosure

The following are the amounts recognised in profit or loss:

Group (\$M)	2022	2021
Depreciation expense of right-of-use assets	10.2	9.8
Interest expenses on lease liabilities	3.0	3.1
Expense relating to short-term leases and leases of low-value asset (included in operating expenses)	2.1	2.4
Total amount recognised in profit or loss	15.3	15.3

The group had total cash outflow for lease payments of \$14.6 million in 2022 (2021: \$13.0 million).

7. Debt, financial instruments and risk management

a) Summary

The Group is subject to a number of financial risks that arise as a result of its business activities, including having a debt portfolio that is denominated in both NZD and foreign currencies, holding an investment portfolio and from purchases in certain foreign currencies.

Debt is issued by the Group in both New Zealand dollars (NZD) and foreign currencies. Derivatives are used to manage currency risk and interest rate risk by converting foreign borrowings to NZD and by converting floating interest rates to fixed interest rates. The use of derivatives means that Transpower effectively has borrowings denominated in NZD, predominantly at fixed interest rates. As at 30 June 2022, all cash flow hedges are 100% effective.

Debt and associated derivatives are designated as fair value through profit or loss on the basis of preventing an accounting mismatch, unless the derivatives are designated in an effective hedge accounting relationship. For these derivatives that are effective hedges, the resulting gain or loss is recognised in other comprehensive income. Fair value movements relating to changes in credit risk is recognised through other comprehensive income. The Group's debt and derivatives are managed as one integrated portfolio.

The Group also uses derivatives (foreign exchange forward contracts) in its purchase of goods and services.

Financial risk management is carried out by a central treasury function which operates under policies approved by the Board of Directors.

Green Financing

Transpower's Green Finance Programme ("The Programme") through the development of a Green Financing Framework ("Framework") supports Transpower's commitment to achieve a net-zero carbon transmission grid.

Transpower has achieved a Programmatic Certification with the Climate Bonds Standard Version 3.0.

The Programme covers both existing and future issuances of Transpower's debt instruments, the proceeds of which are allocated to finance or refinance Eligible Green Assets - Transpower's transmission lines and substations, key enabling infrastructure in supporting the increasing take up of renewable generation in New Zealand.

Key judgements

The fair values of debt and derivatives are determined by converting currency exposures and discounting cash flows based on the relevant yield curve. The yield curve is adjusted to reflect the credit risk of the counterparty to the transaction or the credit risk of Transpower. These valuations are considered level two in the IFRS three-level valuation hierarchy. There has been no movement between levels during the year.

b) Financial risks

i) Liquidity risk

Liquidity risk is the risk of the Group being unable to access sufficient funds to meet its financial obligations in an orderly manner. This might result from the Group not maintaining adequate funding facilities or being unable to refinance existing debt maturities.

To mitigate exposures to adverse market rate movement and refinancing risk in future periods, the Group's policy is that debt, net of cash, on call and short-term deposits, maturing in any 12-month period is not to exceed NZD750 million, or up to NZD1 billion except if permitted with prior Board approval.

The Group's liquidity policy requires the Group to have access to committed funding facilities to cover the sum of all debt that matures over the next six months plus peak cumulative anticipated operating cash flow requirements over the next six months. To meet this policy requirement Transpower has committed standby facilities split into two tranches of NZD250 million each, maturing 7 December 2022 and 7 December 2023, which supports the commercial paper programmes and liquidity. The facilities have been undrawn since inception.

Debt Facilities

The Group has four debt facilities. The aggregate principal amount of the debt outstanding may not exceed the following:

Group (\$M)	Currency	Foreign Currency Equivalent	NZD	Utilised NZD
Domestic medium term note programme	NZD	-	No set limit	1500
Australian medium term note programme	AUD	750	829	341
European commercial paper programme (ECP)	USD	500	801	-
Domestic commercial paper programme (CP)	NZD	500	500	-

ii) Interest rate risk

Interest rate risk is the risk of an adverse impact on the present and future finance costs of the Group arising from an increase in interest rates. The Group uses various financial instruments to fix interest rates to mitigate interest rate risk.

The Group generally seeks to fix interest rates with interest rate derivatives to provide certainty of interest rates and costs during Regulatory Control Periods. This means that, prima facie, a decrease in market interest rates will result in the Group sustaining fair value losses, and conversely an increase in market interest rates will result in fair value gains on the hedged portion.

The Group's policy sets minimum and maximum hedging parameters expressed as a percentage of forecast debt. Interest rate swaps and options are used to change the interest rate profile on existing and forecast debt and cross-currency interest rate swaps entered into.

iii) Currency risk

Currency risk on debt is the risk of adverse impact of exchange rate movements which determine the NZD cost of debt (principal and interest) issued in foreign currencies.

Foreign currency borrowings are converted into a NZD-denominated exposure at the time of commitment to drawdown. Currency risk on foreign currency-denominated borrowings is managed using cross-currency interest rate swaps and basis swaps.

Cross-currency interest rate swaps eliminate foreign currency risk on the underlying debt by fixing the NZD equivalent of the interest payments and final principal exchange at the time of entering into the swap.

Currency risk on foreign currency-denominated purchases is the risk of adverse impact of exchange rate movements which determine the NZD cost of foreign currency-denominated purchases. It is the Group's policy to hedge committed foreign currency-denominated payments greater than NZD200,000 (NZD equivalent) by using forward foreign exchange contracts to fix or offset the NZD cost. For committed payments below NZD200,000 the Group has discretion on whether or not to hedge.

Debt and related derivatives - interest rate, currency and liquidity risk

The following tables detail Transpower's debt and associated derivatives. The result after derivatives is that Transpower effectively has a debt portfolio in New Zealand dollars at predominantly fixed interest rates matching Transpower's Regulatory Control Period. All debt instruments listed in the table below are certified Green Financing Instruments under the Programme. The derivatives in the table below are interest rate swaps and cross-currency interest rate swaps that relate directly to the particular debt issue. The effective interest rate on debt including the effect of all derivative financial instruments was 2.7% (2021: 2.6%).

2022 Group	Debt currency	Debt and derivative maturity date	Debt face value (\$M)	Debt fair value NZ (\$M)	Derivative fair value NZ (\$M)	Total debt + derivatives fair value NZ (\$M)
Domestic Bonds						
Bonds 2022	NZD	16-Sep-22	100.0	101.4	(1.1)	100.3
Bonds 2023	NZD	15-Mar-23	50.0	51.4	(0.9)	50.5
Bonds 2024	NZD	14-Mar-24	150.0	147.5	4.0	151.5
Bonds 2025	NZD	6-Mar-25	125.0	124.9	2.3	127.2
Bonds 2025	NZD	9-Jun-25	175.0	175.4	-	175.4
Bonds 2025	NZD	4-Sep-25	450.0	417.0	38.6	455.6
Bonds 2026	NZD	8-Apr-26	150.0	135.3	15.9	151.2
Bonds 2026	NZD	8-Sep-26	200.0	182.8	17.2	200.0
Bonds 2028	NZD	15-Mar-28	100.0	108.4	(3.0)	105.4
Australian Medium Term Notes						
AUD MTN 2023	AUD	28-Aug-23	300.0	346.3	1.9	348.2
Swiss Bonds						
CHF EMTN 2027	CHF	16-Dec-27	125.0	190.0	7.1	197.1
CHF EMTN 2029	CHF	16-Mar-29	160.0	234.4	4.3	238.7

2022 Group	Debt currency	Debt and derivative maturity date	Debt face value (\$M)	Debt fair value NZ (\$M)	Derivative fair value NZ (\$M)	Total debt + derivatives fair value NZ (\$M)
US Private Placement						
USPP 2022	USD	15-Dec-22	150.0	241.7	(36.3)	205.4
USPP 2023	USD	13-Oct-23	78.0	126.7	(27.4)	99.3
USPP 2026	USD	28-Jun-26	75.0	116.7	(2.9)	113.8
USPP 2026	USD	13-Oct-26	70.0	113.9	(22.8)	91.1
USPP 2028	USD	28-Jun-28	75.0	114.5	(0.8)	113.7
				2,928.3	(3.9)	2,924.4
Debt short term						
					-	
Current portion of long-term debt					394.5	
Debt short term					394.5	
Debt long term					2,533.8	
Total debt as per statement of financial position					2,928.3	
Debt face value (as per above)						
New Zealand dollar debt			1,500.0			
Foreign debt after adjusting for related cross-currency interest rate swaps			1,385.1			
			2,885.1			

The notional amount of the cross-currency interest rate swaps is NZD1,385.1 million. Group debt, net of cash, maturing in the 12 month period is \$336.8 million, within the \$750 million policy threshold.

Interest rate swaps (IRS) are used to fix interest payments as per the Group's treasury policy. The table below shows the notional IRS that are not directly related to underlying debt. The table includes forward starting and offsetting IRS. The IRS are net settled. The table below reflects the net cash outflows comprising both IRS assets and liabilities. IRS with unrealised gains are assets and IRS with unrealised losses are liabilities.

Group (\$M)	Derivative notional value	Derivative fair value
Value of interest rate swaps - liabilities	560.0	26.3
Value of interest rate swaps - (assets)	2,990.0	(196.5)
Total fair value of interest rate swaps		(170.2)
Total fair value of debt-related derivatives as shown above		(3.9)
Total debt derivatives fair value (assets) / liabilities (refer to note 8 for further derivatives breakdown)		(174.1)

Effective net payable contractual cash flow maturity profile

The effective net contractual cash flows on floating rate payments are determined by applying the applicable swap curve to determine the expected future cash flows.

2022 Group (\$M)	Within one year	One to two years	Two to three years	Three to four years	Four to five years	Greater than five years	Total
Debt	470.2	666.7	343.9	747.6	325.9	707.7	3,262.0
Debt-related derivatives	8.8	34.4	51.8	29.0	(2.8)	(23.1)	98.1
Interest rate swap (portfolio) - liabilities	10.3	7.2	7.6	2.9	-	-	28.0
Interest rate swap (portfolio) - assets	(54.0)	(79.8)	(75.2)	(0.4)	-	-	(209.4)
Trade and other payables	136.5	0.1	0.1	-	-	0.1	136.8
Leases	11.5	11.3	11.4	11.2	10.9	67.1	123.4
Total contractual cash flows	583.3	639.9	339.6	790.3	334.0	751.8	3,438.9

These interest rate swaps (portfolio) have an average contracted fixed interest rate of 1.32% (2021: 1.32%).

Reconciliation of liabilities arising from financing activities

2022 Group (\$M)	Balance 30 June 2021	Cash flows	Fair value changes in P&L	Fair value changes in OCI	Other	Balance 30 June 2022
Short-term borrowing	49.9	(49.8)	-	-	(0.1)	-
Long-term borrowing	3,343.8	(232.7)	(170.0)	(9.5)	(3.2)	2,928.3
Total liabilities from financing activities	3,393.7	(282.5)	(170.0)	(9.5)	(3.3)	2,928.3

Fair value changes in the table above include foreign exchange movements.

Debt and related derivatives - interest rate, currency and liquidity risk

The following tables detail Transpower's debt and associated derivatives. The result after derivatives is that Transpower effectively has a debt portfolio in New Zealand dollars at predominantly fixed interest rates matching Transpower's Regulatory Control Period. The derivatives in the table below are interest rate swaps and cross-currency interest rate swaps that relate directly to the particular debt issue. The effective interest rate on debt including the effect of all derivative financial instruments was 2.6% (2020: 5.4%).

2021 Group	Debt currency	Debt and derivative maturity date	Debt face value (\$M)	Debt fair value NZ (\$M)	Derivative fair value NZ (\$M)	Total debt + derivatives fair value NZ (\$M)
Domestic Commercial Paper						
NZ Issue	NZD	16-Nov-21	50.0	49.9	-	49.9
Domestic Bonds						
Bonds 2022	NZD	30-Jun-22	150.0	155.6	(4.6)	151.0
Bonds 2022	NZD	16-Sep-22	100.0	105.3	(4.3)	101.0
Bonds 2023	NZD	15-Mar-23	50.0	54.7	(3.7)	51.0
Bonds 2024	NZD	14-Mar-24	150.0	157.5	(5.3)	152.2
Bonds 2025	NZD	6-Mar-25	125.0	137.2	(9.5)	127.7
Bonds 2025	NZD	4-Sep-25	450.0	455.7	1.2	456.9
Bonds 2026	NZD	8-Apr-26	150.0	149.3	1.6	150.9
Bonds 2028	NZD	15-Mar-28	100.0	125.7	(19.0)	106.7
Australian Medium Term Notes						
AUD MTN 2021	AUD	6-Aug-21	150.0	164.5	1.3	165.8
AUD MTN 2023	AUD	28-Aug-23	300.0	365.1	(12.4)	352.7

2021 Group	Debt currency	Debt and derivative maturity date	Debt	Debt	Derivative	Total debt +
			face value	fair value	fair value	derivatives
			(\$M)	NZ (\$M)	NZ (\$M)	fair value NZ (\$M)
Swiss Bonds						
CHF EMTN 2027	CHF	16-Dec-27	125.0	193.8	8.9	202.7
CHF EMTN 2029	CHF	16-Mar-29	160.0	247.0	(1.7)	245.3
US Private Placement						
USPP 2021	USD	13-Oct-21	232.0	337.7	(50.4)	287.3
USPP 2022	USD	15-Dec-22	150.0	225.5	(17.8)	207.7
USPP 2023	USD	13-Oct-23	78.0	120.6	(20.2)	100.4
USPP 2026	USD	28-Jun-26	75.0	116.2	0.7	116.9
USPP 2026	USD	13-Oct-26	70.0	114.7	(20.8)	93.9
USPP 2028	USD	28-Jun-28	75.0	117.7	0.6	118.3
				3,393.7	(155.4)	3,238.3
Debt short term						
Debt short term				49.9		
Current portion of long-term debt				657.8		
Debt short term				707.7		
Debt long term				2,686.0		
Total debt as per statement of financial position				3,393.7		
Debt face value (as per above)						
New Zealand dollar debt			1,325.0			
Foreign debt after adjusting for related cross-currency interest rate swaps			1,834.9			
			3,159.9			

The notional amount of the cross-currency interest rate swaps is NZD1,834.9 million. Group debt, net of cash, maturing in the 12 month period is \$477.8 million, within the \$750 million policy threshold.

Interest rate swaps (IRS) are used to fix interest payments as per the Group's treasury policy. The table below shows the notional IRS that are not directly related to underlying debt. The table includes forward starting and offsetting IRS. The IRS are net settled. The table below reflects the net cash outflows comprising both IRS assets and liabilities. IRS with unrealised gains are assets and IRS with unrealised losses are liabilities.

Group (\$M)	Derivative notional value	Derivative fair value
Value of interest rate swaps - liabilities	2,620.0	105.5
Value of interest rate swaps - (assets)	780.0	(61.0)
Total fair value of interest rate swaps		44.5
Total fair value of debt-related derivatives as shown above		(155.4)
Total debt derivatives fair value (assets) / liabilities (refer to note 8 for further derivatives breakdown)		(110.9)

Effective net payable contractual cash flow maturity profile

The effective net contractual cash flows on floating rate payments are determined by applying the applicable swap curve to determine the expected future cash flows.

2021 Group (\$M)	Within one year	One to two years	Two to three years	Three to four years	Four to five years	Greater than five years	Total
Debt	781.0	430.9	630.1	155.9	729.6	769.2	3,496.7
Debt-related derivatives	(85.2)	(27.8)	2.3	12.5	15.0	13.3	(69.9)
Interest rate swap (portfolio) - liabilities	44.4	30.7	17.6	8.0	6.5	-	107.2
Interest rate swap (portfolio) - assets	(15.8)	(15.1)	(14.0)	(13.7)	(3.9)	-	(62.5)
Trade and other payables	67.7	0.1	0.1	0.1	-	0.1	68.1
Leases	10.2	10.0	9.8	9.9	9.7	64.7	114.3
Total contractual cash flows	802.3	428.8	645.9	172.7	756.9	847.3	3,653.9

These interest rate swaps (portfolio) have an average contracted fixed interest rate of 1.32% (2020: 1.36%).

Reconciliation of liabilities arising from financing activities

2021 Group (\$M)	Balance 30 June 2020	Cash flows	Fair value changes in P&L	Fair value changes in OCI	Other	Balance 30 June 2021
Short-term borrowing	345.3	(294.8)	(0.7)	0.4	(0.3)	49.9
Long-term borrowing	2,965.8	540.6	(214.5)	50.0	1.9	3,343.8
Total liabilities from financing activities	3,311.0	245.8	(215.2)	50.4	1.6	3,393.7

Fair value changes in the table above include foreign exchange movements.

iv) Credit risk

Credit risk is the risk of adverse impact on the Group through the failure of a counterparty bank, financial institution or customer to meet its financial obligations. Transpower's credit risk arises from financial assets. These include investments, derivatives and accounts receivable.

Transpower has not recognised an expected credit loss impairment on its financial assets. No loss is expected due to Transpower maintaining a high quality credit policy as explained below.

Treasury credit risk

The Group's policy is to buy high quality credit and establish credit limits with counterparties that are either a semi-government, a bank, a financial institution, a special purpose derivative products company or a New Zealand corporate. These net credit limits are not to exceed 20% of Shareholder Funds of Transpower as shown in the most current audited annual report. In addition, if the counterparty is a New Zealand corporate, the credit limit for investments is not to exceed \$10 million.

Counterparties must have a minimum long-term Standard & Poor's credit rating of A "stable" or better (or Fitch or Moody's equivalent). Credit ratings for Risk Reinsurance Limited (RRL) investments are in Note 10, Investments disclosure.

For those counterparties with which the Group has a collateral support agreement (CSA), the counterparty credit limit for derivatives is defined as the maximum exposure threshold dictated by the CSA. Any exposure beyond this is supported by collateralisation. (Refer to Note 12).

The maximum credit exposure in respect of non-derivative assets is best represented by their carrying value.

The credit risk arising from the use of derivative products is minimised by the netting and set-off provisions contained in the Group's International Swaps and Derivatives Association (ISDA) agreements. Under these agreements, transactions are net settled. Therefore, the maximum credit exposure is best represented by the net mark-to-market valuation by counterparty where the net valuation is positive as follows:

Group (\$M)	2022	2021
Cross-currency interest rate swaps (CCIRS)	78.9	111.8
Interest rate swaps (IRS)	144.8	44.2
Foreign exchange forward contracts	1.5	-
Total	225.2	156.0

The movement in interest rate swaps (IRS) was driven by higher New Zealand interest rates.

The breakdown of the CCIRS by counterparty is as follows:

Group (\$M)	2022	2021
ANZ Bank New Zealand Limited	8.7	28.0
Bank of New Zealand	-	12.4
Citibank N.A.	15.0	17.8
Commonwealth Bank of Australia	36.3	27.4
Westpac Banking Corporation	18.9	26.2
Total	78.9	111.8

Customer credit risk

Regulated customers

Transpower recovers the value of its transmission assets over their useful lives in accordance with the Commission input methodology regulations. The effect of these regulations is that for the majority of assets, a customer default would result in Transpower recovering any revenue shortfall from all other transmission customers.

Transpower's customers comprise predominantly electricity generators, distribution companies and some large industrial users. There is a high concentration of credit risk with respect to trade receivables due to the small number of significant customers from which the majority of revenue is received. It is the Group's policy to perform credit evaluations on customers requiring credit, and the Group may, in some circumstances, require collateral. Collateral held at 30 June 2022 was \$0.2 million (2021: \$0.2 million).

The entities below have receivables balances greater than 10% of the total trade receivables of \$81.2 million at 30 June 2022 (2021: \$90.7 million).

Group (\$M)	2022	2021
Vector Limited	17.5	17.4
Powerco Limited	9.7	9.5

Unregulated customers

The Group holds bank guarantees to protect itself in the event private developers are unable to pay any outstanding balances owing on transmission realignment projects performed on their behalf. The bank guarantee may reduce as payments are made by the developers.

There is a specific credit risk in relation to customer default on customer investment contracts where revenue is recovered from individual customers over time for specific assets already in use. Transpower has performed a credit risk assessment on its customers with investment contracts. The assessment is based on the latest financial and non-financial information available from the customer, and Transpower's understanding and experience with the customer. The majority of this credit exposure is to Electricity Lines companies and Electricity Generators, most of whom remain financially stable. Transpower believes the majority of credit risk relates to certain large industrial users. Transpower monitors the creditworthiness of these organisations. The largest credit risk in this category relates to an organisation with future receivables out to 2046 of \$7.2 million on a net present value basis. Transpower has considered the likely default risk based on the latest information available and has provided an impairment provision for the customer assets associated with this organisation. (Refer to Note 5).

There have been no customer defaults in 2022 (2021: nil).

v) Sensitivity analysis

Currency risk - debt

All foreign currency debt is converted back to NZD, eliminating foreign currency exposure. Therefore, no sensitivity analysis has been performed for foreign currency debt.

Interest rate risk

The Group has issued fixed and floating rate debt and is exposed to interest rate risk. The Group manages the exposure through the use of interest rate swaps with the net exposure being predominantly fixed rate and aligned to Regulatory Control Periods. A portion of the portfolio is left at floating interest rates which will result in a reduction to finance costs should interest rates fall and an increase in finance costs should interest rates rise.

Group (\$M)	2022	2022	2021	2021
Yield curve interest rate change and impact on pre-tax profit/(loss)	+100bp	-100bp	+100bp	-100bp
Net interest expenses (annual impact)	(2.4)	2.4	(6.6)	6.6

Fair value risk

The Group is subject to fair value gains or losses. Fair value gains and losses are measured by discounting cash flows on debt and derivatives using market interest rates or yield curves. A move upwards of interest rates and yield curves results in fair value gains and a move downwards results in fair value losses.

A parallel shift in the yield curve by 1% (100 basis points) or the same movement due to a change in credit spreads would create the following fair value movements based on debt, investments and derivatives held at balance date:

Group (\$M)	2022	2022	2021	2021
Yield curve interest rate change and impact on fair value	+100bp	-100bp	+100bp	-100bp
Pre-tax profit/(loss)	5.1	(5.1)	5.6	(5.6)
Pre-tax other comprehensive income (expense)	63.4	(65.4)	89.4	(93.3)

vi) Commodity risk

Commodity risk is the risk of an adverse impact in commodity prices such as prices for aluminium and copper. These are some of the raw materials used in the construction of the electricity transmission network. Generally, where Transpower has contracts in place, the commodity risk of these contracts is borne by the supplier.

vii) Insurance risk

Transpower operates a captive insurance company through its subsidiary Risk Reinsurance Limited (RRL) and also has external insurance. RRL maintains an investment portfolio to meet insurance claims.

The more significant insurance policies are outlined in the table below. These policies will next be renewed in September 2022.

Insurance Policy

Group (\$M)	Amount Insured	Deductible	RRL Retained risk	Externally insured risk
HVDC submarine cables	0-30	-	30.0	-
	30-60	-	-	30.0
	50% of 60-90	-	-	15.0
Other grid assets (excluding transmission lines)	0-10	0.1	9.9	-
	10-650	-	6.0	634.0
Transmission lines	0-10	0.1	9.9	-

The number of insurance claims related to climate-change risks is anticipated to increase which is dependent on the climate-change scenarios that emerge.

viii) Regulatory risk

Transpower is a natural monopoly and is regulated by the Commission and the Authority.

The Commission sets Transpower's allowed revenue and quality of service. This includes the Commission determining the rate of return that applies to Transpower's assets, base expenditure, and approving large capital projects which can have a profit or loss incentive included. It also determines the incentives that apply to Transpower's operating expenditure, capital expenditure, and meeting certain service performance targets. There is a risk that the rate of return may be set too low to compensate Transpower for undertaking investments in grid assets and/or that the Commission sets the expenditure allowance too low. The operating expenditure and base capital expenditure incentive is approximately 24% on overspends or underspends against our allowance. Financial rewards/penalties apply if Transpower exceeds/does not meet some of its service performance targets. The overall value of the service performance incentive is approximately +/- \$11 million per annum.

The Authority oversees and regulates the electricity market. There is a risk that errors by Transpower managing and operating the grid and power system could result breaches of the Electricity Industry Participation Code. The Authority can lay complaints with the Rulings Panel over breaches of the Code. Breaches can result in financial penalties. These are set to increase under the proposed Electricity Industry Amendment Bill from \$200,000 per breach to \$2 million. Under the proposed Bill, the Rulings Panel can also impose an additional \$10,000 penalty for every day (or part day) that a breach continues. There is a risk significant errors by Transpower could result in changes in regulatory settings including to the Electricity Industry Act 2010 and/or the Electricity Industry Participation Code.

ix) Climate risk

Under our current regulatory settings, the extent of any underestimation of the frequency, severity and cost of remediating climate-related damage is an additional cost over and above our regulatory allowance for such repairs and will accordingly be covered by Transpower.

8. Derivatives and hedge commitment

This note shows the short-term (ST) and long-term (LT) breakdown of the derivatives and hedge commitments.

2022 Group (\$M)	ST asset	LT asset	Total asset	ST (liability)	LT (liability)	Total (liability)	Net asset (liability)
Debt-related derivatives							
Cross-currency interest rate swaps	36.3	53.9	90.2	-	(13.3)	(13.3)	76.9
Interest rate swaps	51.8	152.4	204.2	(27.9)	(79.1)	(107.0)	97.2
Purchasing related derivatives and hedge commitment							
Foreign exchange forward contracts	1.7	0.1	1.8	(0.3)	(0.6)	(0.9)	0.9
Commitment on fair value hedges	0.3	0.6	0.9	(1.7)	(0.1)	(1.8)	(0.9)
Total derivatives and hedge commitment	90.1	207.0	297.1	(29.9)	(93.1)	(123.0)	174.1

2021

Debt-related derivatives							
Cross-currency interest rate swaps	50.3	72.9	123.2	(1.3)	(10.2)	(11.5)	111.7
Interest rate swaps	40.4	76.0	116.4	(47.1)	(70.1)	(117.2)	(0.8)
Purchasing related derivatives and hedge commitment							
Foreign exchange forward contracts	0.1	0.2	0.3	(0.5)	-	(0.5)	(0.2)
Commitment on fair value hedges	0.5	-	0.5	(0.1)	(0.2)	(0.3)	0.2
Total derivatives and hedge commitment	91.3	149.1	240.4	(49.0)	(80.5)	(129.5)	110.9

Description

Derivatives are used to manage financial risk. The gain or loss on derivatives represents the unrealised gain or loss at balance date. The Group anticipates that the derivatives will be held until maturity, and it is unlikely that settlement at the reported fair values will occur.

Accounting policies

Derivative financial instruments

The Group uses derivative financial instruments to reduce its exposures to fluctuations in foreign currency exchange rates and interest rates. All derivatives are classified as fair value through profit or loss except for:

- i) Those derivatives that are designated into cash flow hedge accounting relationships, where the effective portion of the hedge is included in the Cash Flow Hedge Reserve; and
- ii) Those derivatives used to reduce foreign currency exposure on asset purchases, that are designated into fair value hedge accounting relationships. For fair value hedging relationships, gains or losses on hedging instruments are included in profit or loss together with any change in the fair value of the hedged purchase commitments attributable to the foreign currency risk.

The valuation technique and key inputs used to value the derivatives are disclosed in note 7 Debt, financial instruments and risk management.

9. NZPCL debt and investment

Group (\$M)	2022	2021
Investment		
Current	-	-
Non-current	83.9	90.0
	83.9	90.0
Debt		
Current	-	-
Non-current	85.7	90.8
	85.7	90.8
Net investment (debt)	(1.8)	(0.8)
Non-controlling interest net of tax	(1.3)	(0.6)

Description

In November 2009, the Group partially terminated the 2003 cross-border lease in respect of the majority of the HVAC transmission assets in the South Island. As a result of the partial termination, the Group has consolidated a special-purpose vehicle, New Zealand Power Cayman 2003-1 Limited (NZPCL). NZPCL has a USD deposit with a financial institution and a USD loan from another financial institution. The cash flows from the deposit and loan offset. However, the deposit and loan are not offset for accounting purposes as the offsetting requirements are not met. No consideration was transferred. The loan to NZPCL is guaranteed by Transpower.

As Transpower has no legal ownership interest in NZPCL, the net liabilities and any movements in net liabilities are recognised as a non-controlling interest. The substance of the transaction is such that Transpower rather than the non-controlling interest would be responsible for any shortfall between the value of the asset and the liability.

Accounting policies

The loan and the deposit are recognised at fair value in the Group financial statements based on discounted cash flows. These financial instruments are designated as fair value through profit or loss.

The difference between the asset and liability is due to the yield curves that have been applied to the cash flows. These valuations are considered level two in the IFRS three-level valuation hierarchy.

10. Investments

Group (\$M)	2022	2021
Risk Reinsurance Limited investments		
Deposits	10.7	28.3
Corporate bonds	62.5	73.2
	73.2	101.5
Transpower investments		
Deposits	-	-
Total investments	73.2	101.5

Description

Transpower has a captive insurance company called Risk Reinsurance Limited (RRL). RRL invests premiums received from Transpower. RRL reinsures externally and maintains sufficient investments to meet expected claims. RRL does not offer insurance to any external parties.

For RRL cash and bond holdings, the counterparties have maximum limits depending on their ratings. Investments in deposits, floating rate notes and corporate bonds were made in financial instruments issued by organisations with credit ratings of BBB or above. RRL counterparty exposures are limited to 10% of total assets or less, by individual counterparty, based on their credit ratings, and exposures are monitored on a daily basis.

Accounting policies

Financial asset fair value is established by using discounted cash flow analysis based on the relevant yield curve. The yield curve is adjusted to reflect the credit risk of the counterparty to the transaction. Deposits, floating rate notes and corporate bonds are considered level two in the NZ IFRS 13 three-level valuation hierarchy.

RRL investments are classified as fair value through profit or loss. This classification is on the basis that RRL has an active investment programme (held for trading) and as such investments are classified as current assets.

11. Trade receivables and other assets

Group (\$M)	2022	2021
Current		
Trade receivables	81.2	90.7
Prepayments	9.1	8.5
Inventory	5.4	2.5
	95.7	101.7
Non-current		
Prepayments	4.5	5.8
Total trade and other receivables	100.2	107.5
Ageing of trade receivables		
Current	81.2	88.8
Past 31 days	-	1.9
	81.2	90.7

Description

There was no expected credit loss realised during the year (2021: nil).

Accounting policies

Trade receivables are measured initially at fair value and subsequently at amortised cost. The fair value is materially similar to amortised cost. Due to the short-term nature of the receivables, no discounting is applied.

For trade receivables, the Group applies a simplified approach in calculating expected credit loss. Therefore, the Group does not track changes in credit risk, but instead recognises a loss allowance based on lifetime expected credit loss at each reporting date.

12. Trade and other payables

Group (\$M)	2022	2021
Current		
Trade creditors and accruals	95.3	54.2
Employee entitlements	15.0	13.5
Collateral posted by counterparties	26.2	-
	136.5	67.7
Non-current		
Other non-current payables	0.3	0.4
Total trade and other payables	136.8	68.1

Description

For those counterparties with whom Transpower has a Collateral Support Agreement (CSA), the Group is required to post to or receive collateral from the counterparty when the net derivative position exceeds the maximum exposure threshold defined by the CSA.

Collateral posted by the counterparty is \$26.2 million as at June 2022 (2021: Nil).

Accounting policies

Trade and other payables are measured initially at fair value and subsequently at amortised cost. The fair value is materially similar to amortised cost. Due to the short-term nature of the payables, no discounting is applied.

13. Provisions

Group (\$M)	Contractor provision	Dismantling & environmental hazards	Tower and line safety	Other	Total
Balance at 1 July 2021	7.1	40.2	12.0	5.3	64.6
Provisions made during the year	1.8	4.4	3.5	1.5	11.2
Provisions used during the year	(1.3)	(6.4)	(2.4)	(1.4)	(11.5)
Provisions reversed during the year	(2.5)	-	(0.1)	(3.1)	(5.7)
Balance at 30 June 2022	5.1	38.2	13.0	2.3	58.6
Current portion of provisions	4.2	5.1	2.7	2.3	14.3
Non-current portion of provisions	0.9	33.1	10.3	-	44.3
Balance at 30 June 2022	5.1	38.2	13.0	2.3	58.6

Description

Contractor provision

Certain arrangements with contractors are subject to performance based payments provided certain criteria are met. A provision is recognised for this potential obligation. Accordingly, the future cash flow has been present-valued and recognised as a provision and also capitalised as property, plant and equipment. The present value is amortised as the interest is incurred and the provision is used each year. The future payment will occur if certain assets are free from defects and have met prescribed service levels.

Dismantling and environmental hazards

Transpower recognises dismantling and environmental hazard costs where it believes a reliably measurable obligation exists. Transpower has estimated these costs based on engineering advice. Actual costs may vary from the figures indicated.

Tower and line safety

Transpower has provided for two work programmes which are to remedy high priority lines underclearance issues and high priority earth potential rise issues on towers. Health and safety obligations have given rise to the need to carry out these work programmes.

Other

This may include provisions such as performance incentive scheme, redundancy, Emissions Trading Scheme obligations and regulatory provisions, where the amounts can be reliably estimated.

Accounting policies

Provisions are liabilities of uncertain timing or amount. These provisions are measured at the estimated future cash flows to be paid when the obligations are settled and are adjusted for forecast CPI rates and discounted to their present value using the the risk-free rates per New Zealand Treasury. The Treasury forecast CPI rates and discount rates are reviewed semi-annually.

14. Equity

Capital

Transpower has 1,200,000,000 issued and fully paid \$1 ordinary shares. Transpower's authorised capital is \$1,200,000,000 (2021: \$1,200,000,000). The shares confer on the holders the right to vote at any annual general meeting of Transpower. All shares rank equally.

Transpower manages capital to maintain its strong credit rating and to have sufficient capital available to meet its financing and operating requirements. Surplus equity is returned by way of dividends to shareholders.

Credit rating

Transpower's investment grade credit rating is Standard & Poor's AA (2021: AA) and Moody's Aa3 (2021: Aa3).

Net tangible assets per share

Group (\$M)	Restated*	
	2022	2021
Net assets (equity)	1,859.2	1,663.3
Less intangibles (note 5)	(395.0)	(384.5)
Total net tangible assets	1,464.2	1,278.8
Net tangible assets per share (\$)	1.22	1.07

Net assets (equity) includes both Right-of-use assets and Lease liabilities.

Dividends

Dividends declared and provided by Transpower are as follows:

	2022	2022	2021	2021
	(\$M)	(cents per share)	(\$M)	(cents per share)
Previous year final dividend paid	72.0	6	99.0	8
Interim dividend paid	48.0	4	48.0	4
	120.0	10	147.0	12
Final dividend declared subsequent to balance date (refer note 20)	72.0	6	72.0	6

* Adjustment for SaaS costs transferred to Income Statement. Refer to Note 1 for details on 2021 restatement.

Group entities

All subsidiaries are wholly owned, are incorporated in New Zealand (except where specified otherwise) and have a balance date of 30 June 2022.

Transpower has no ownership interest in NZPCL. NZPCL is a special-purpose vehicle registered in the Cayman Islands and is consolidated for financial reporting, indicated by the dotted line in the diagram below. Refer to note 9 NZPCL debt and investment for more detail. Risk Reinsurance Limited is registered and incorporated in the Cayman Islands and was established to provide insurance for the Group.

As at balance date, the Group's entities are as follows:



● Party to a cross-border lease over the majority of the South Island HVAC Assets

15. Segment reporting

The Group has two segments - transmission and system operator.

- **Transmission** - the transmission of electricity from the point of generation to the point of connection.
- **System operator** - operates the electricity market to dispatch generation to ensure the short term security of the New Zealand electricity system

Both segments have external revenue derived from New Zealand customers and assets based in New Zealand. The Group has no other reportable segments. The material portion of **Other** is made up of Risk Reinsurance Limited, which was established in 2001 to provide insurance services to the Group.

Segment results are determined based on information provided to the Chief Executive, which include only External revenue and Capex. They are calculated using the avoidable cost allocation methodology (ACAM).

Major customers

External customers that contribute 10% or more of total Group revenue are:

Customer	% of Group Revenue	Segment
Vector Limited	20.3 (2021: 19.5)	Transmission
PowerCo Limited	10.9 (2021: 10.1)	Transmission

Group (\$M)	Transmission		System Operator		Other		Adjustments		Total	
	2022	2021*	2022	2021	2022	2021	2022	2021	2022	2021
External revenue	830.6	861.6	41.60	42.5	13.0	12.1	-	-	885.2	916.2
Capex	308.8	333.5	13.70	17.1	-	-	0.6	1.0	323.1	351.6

The adjustment is:

Group (\$M)	2022	2021	Explanation
Capex	0.6	1.0	Financial statements include capital work on a customer funded transmission line undergrounding project

* Restated prior year for SaaS costs transferred to Income Statement. Refer to Note 1 for details on 2021 restatement.

16. Change in fair value of financial instruments

Group (\$M)	2022	2021
Fair Value through profit or loss		
Accounting hedges		
Foreign exchange forward contracts - hedge accounted	1.2	(0.2)
Hedge commitment	(1.2)	0.2
	-	-
Other		
Foreign debt	45.2	159.6
Cross-currency interest rate swaps	(22.1)	(141.0)
NZD interest rate swaps	(107.1)	(37.1)
Investments	(5.6)	(1.4)
NZD debt	123.8	57.1
	34.2	37.2
Total fair value gain (loss)	34.2	37.2
Fair value through other comprehensive income		
Credit spread on debt		
Foreign debt	9.9	(27.3)
NZD debt	(0.4)	(23.1)
Gross fair value gain (loss)	9.5	(50.4)
less income tax credit (expense)	(2.7)	14.0
	6.8	(36.4)
Cash flow hedging		
Interest risk	197.9	98.0
Gross fair value gain (loss)	197.9	98.0
less income tax credit (expense)	(55.4)	(27.4)
	142.5	70.6
Total other comprehensive income (expenses)	149.3	34.2

Description

The Group experiences changes in fair value through movements in underlying interest rates, exchange rates and credit spreads on debt and derivatives. The Group generally seeks to fix interest rates to provide certainty of interest rate costs during Regulatory Control Periods by hedging a high proportion of its debt portfolio. This means that, prima facie, a decrease in market interest rates will result in the Group sustaining fair value losses, and conversely, an increase in market interest rates will result in fair value gains.

The fair value of debt and derivatives is determined by converting currency exposures and discounting cash flows based on the relevant yield curve. The yield curve is adjusted to reflect the credit risk of the counterparty to the transaction, or the credit risk of Transpower. These valuations are considered level two in the IFRS three-level valuation hierarchy. There have been no movements between levels during the period.

Changes in fair value of financial instruments are separately disclosed as fair value changes through profit and loss, or through other comprehensive income. The fair value change through other comprehensive income comprises fair value changes resulting from credit spread changes on the Group's issued debt and the effective portion of fair value changes on derivatives designated as cash flow hedges for accounting.

Credit spreads are an estimate of the additional premium over the relevant yield curve that would be required by market participants to compensate them for the perceived credit risk inherent in the counterparty and transaction. For derivative transactions, the impact of credit spreads is substantially lower than for debt and investment transactions due to the offsetting nature of the cash flows.

Cash flow hedges

To mitigate the variability in interest costs, the Group has designated certain interest rate swaps into the cash flow hedge accounting relationships, which align interest rate exposures to the Regulatory Control Period (RCP). The Group uses the hypothetical derivative method to measure hedge accounting effectiveness and compares the changes in the fair value of the hedging instruments against the changes in fair value of the hedged item attributable to hedged risk. To the extent these hedges are effective, the change in fair value of the hedging instrument is recognised in other comprehensive income in the Cash Flow Hedge Reserve within Equity, while the change in fair value on the ineffective portion is recognised immediately in the statement of profit or loss. The cash flow hedge reserve is adjusted to the lower of the cumulative gain or loss on the hedging instrument and the cumulative change in fair value of the hedged item. Hedge ineffectiveness in the cash flow hedge accounting relationship can arise from movements in credit risk on hedging instrument counterparties.

Fair values in statement of financial position

For cash and cash equivalents, accounts payables and receivables, fair values are materially similar to their cost due to the short-term nature of these items.

The NZPCL loan and the deposit are recognised at fair value in the Group financial statements based on discounted cash flows. These financial instruments are designated as fair value through profit or loss. The difference between the asset and liability is due to the yield curves that have been applied to the cash flows. These valuations are considered level two in the IFRS three-level valuation hierarchy.

Financial asset fair value is established by using discounted cash flow analysis based on the relevant yield curve. The yield curve is adjusted to reflect the credit risk of the counterparty to the transaction. Deposits, floating rate notes and corporate bonds are considered level two in the NZ IFRS 13 three-level valuation hierarchy. RRL investments are classified as fair value through profit or loss. This classification is on the basis that RRL has an active investment programme (held for trading) and as such investments are classified as current assets.

The following items are recorded at fair value:

Group (\$M)	2022	2021
Asset (Liability)		
Investments	73.2	101.5
Derivatives and hedge commitment in gain	297.1	240.4
NZPCL investment	83.9	90.0
Derivatives and hedge commitment in loss	(123.0)	(129.5)
Debt	(2,928.3)	(3,393.7)
NZPCL debt	(85.7)	(90.8)

Related disclosures

The following table shows the impact of credit spread movements on fair value:

Group (\$M)	2022	2021
Current year fair value profit/(loss) movement included above		
Fair value movement in asset due to credit spread movement	0.4	1.5
Fair value movement in derivatives due to credit spread movement	(5.1)	4.4
Statement of financial position balance - decrease in debt due to credit spread	22.1	12.6
Statement of financial position balance - (decrease) in investment due to credit spread	(1.0)	(1.4)
Statement of financial position balance - (increase)/decrease in derivatives due to credit spread	(7.2)	(2.1)

17. Taxation

Income tax expenses

Group (\$M)	2022	2021
Current tax expense		
Current period	32.2	35.6
Adjustment for prior periods	(1.9)	(1.1)
	30.3	34.5
Deferred tax expense		
Origination and reversal of temporary differences	32.2	25.6
Adjustment for prior periods	1.9	1.3
	34.1	26.9
Total income tax expense (credit)	64.4	61.4
Reconciliation of effective tax		
Operating surplus before tax	231.0	218.9
Income tax at 28%	64.7	61.3
<i>Tax effect of:</i>		
Net non-deductible expenses and non-assessable items	(0.3)	(0.1)
Under/(over) provided in prior periods	-	0.2
Total income tax expense (credit)	64.4	61.4

Description

There are no unrecognised deferred tax balances (2021: nil).

For property, plant and equipment, deferred tax typically arises from the accounting book including capitalised interest, differences in depreciation rates between tax and accounting and the capital contribution rules.

Accounting policies

Deferred tax arises from differences between the accounting and tax values of assets and liabilities, except where the initial recognition exemption applies.

Deferred tax is shown as a net liability for the Group. This disclosure reflects that the deferred tax balances relate to companies in the Transpower Consolidated Tax Group and are in the same jurisdiction, being New Zealand.

Imputation credits

The imputation credit balance at 30 June 2022 is \$30.7 million (2021: \$45.2 million). This balance includes the tax payable outstanding at 30 June 2022.

Deferred tax

Group (\$M)	Balance 1 July 2020	Recognised in profit or loss	Recognised in OCI	Balance 30 June 2021	Recognised in profit or loss	Recognised in OCI	Balance 30 June 2022
Deferred tax liabilities							
Property, plant and equipment temporary differences	531.5	15.9	-	547.4	22.2	-	569.6
Fair value of net debt and derivatives	(55.8)	10.9	13.4	(31.5)	11.1	58.1	37.7
	475.7	26.8	13.4	515.9	33.3	58.1	607.3
Deferred tax assets							
Revenue deferral	(6.6)	3.7	-	(2.9)	0.4	-	(2.5)
Dismantling provision	(7.6)	0.5	-	(7.1)	0.3	-	(6.8)
Other	(8.5)	(4.1)	-	(12.6)	0.1	-	(12.5)
	(22.7)	0.1	-	(22.6)	0.8	-	(21.8)
Total deferred tax	453.0	26.9	13.4	493.3	34.1	58.1	585.5

18. Related parties

Transactions with key management personnel

The Group did not conduct any business with key management personnel aside from the compensation payments below.

Key management personnel compensation

Key management personnel received the following compensation for their services to the Group:

Group (\$M)	2022	2021
Directors' fees	0.5	0.5
Other key management personnel	5.7	5.5
Short-term employee remuneration	6.2	6.0
Defined contribution schemes	0.2	0.2

There were no termination payments to key management personnel in 2022 (2021: nil).

There was no long-term compensation paid to key management personnel in 2022 (2021: nil).

Government-related transactions

Transpower, being a State-owned enterprise, transacts with other government-related entities. The most significant transactions and balances (greater than \$15 million) are as follows:

Group (\$M)	2022	2021
Meridian Energy Limited – revenue	81.9	81.1
Electricity Authority – revenue	42.1	43.8

Meridian Energy Limited (Meridian) is a majority state owned company and is an electricity generator and retailer. Meridian pays Transpower primarily for the transportation of electricity across the national electricity grid.

The Electricity Authority is an independent Crown entity responsible for regulating the New Zealand electricity market. The Electricity Authority pays Transpower a contracted fee for its role as system operator.

Transpower also settles its income and indirect tax obligations with Inland Revenue.

Some Directors of the company may be Directors or officers of other companies or organisations with which Transpower may transact.

All related party transactions are carried out at on an arm's length and independent commercial basis.

19. Contingencies

(i) Guarantees

New Zealand Power Caymans Limited (NZPCL)

In November 2009, the Group partially terminated the 2003 cross-border lease in respect of the majority of the HVAC transmission assets in the South Island. As a result of the partial termination, Transpower has consolidated a special-purpose vehicle, NZPCL.

NZPCL has a USD deposit with a financial institution and a USD loan from another financial institution. The cash flows from the deposit and loan offset. No consideration was transferred. The loan to NZPCL is guaranteed by Transpower.

The substance of the transaction is such that Transpower would be responsible for any shortfall between the value of the asset and the liability, rather than the non-controlling interest. The likelihood of losses in respect of these matters is considered to be remote.

Debt

Transpower has given a negative pledge covenant to debt holders of Transpower's domestic bonds and bank debt through trust deed arrangements and to holders of Swiss bonds, United States Private Placement and Australian Medium Term notes through respective debt documents. The terms are such that, while any debt issued remains outstanding, Transpower will not, subject to certain exceptions, create or permit to exist, any charge or lien over any of our assets.

(ii) Economic gain (loss) account

Transpower operates its revenue-setting methodology within an economic value (EV) framework that analyses economic gains and losses between those attributable to shareholders and those attributable to customers. Under the Commission regulations, Transpower is required to pass onto, or claim from, customers the customer balance at the end of RCP2 (30 June 2020). These balances are spread evenly over the 5 years of RCP3 from 1 April 2020 to 31 March 2025. The Commission has set the annual undiscounted amount to be returned by Transpower to its customers in RCP3 to \$18 million based on the forecast closing balance at end of RCP2, which over-returns the actual customer balance by \$7 million (discounted). That over-return will be recovered from customers during RCP4.

(\$M)	HVAC	HVDC	Total
Opening EV account balance (for the end of RCP2)	(72.1)	(0.3)	(72.4)
Interest on opening balance	(3.1)	-	(3.1)
To be recovered (paid)	18.4	9.5	27.9
Returned (recovered)	17.5	0.5	18.0
Closing EV account balance	(39.3)	9.7	(29.6)

In 2022 Transpower spent a further \$6 million (2021: \$5 million) on developing a new Transmission Pricing Methodology (TPM). The Commission previously approved a reopener for TPM operating expenditure in 2020/21. In June 2022, Transpower sought an IPP reopener to 2021/22 for expenditure associated with its TPM programme. The Commission decision is still pending, but if the reopener is approved Transpower will recover the TPM costs in RCP4. This will be achieved by the Commission allowing Transpower to add these costs to the closing EV account balance in RCP3 which will then be applied to revenue in RCP4.

(iii) Environmental hazards

Transpower has a programme of identifying, mitigating and removing environmental hazards such as asbestos at its sites. The cost of mitigating and/or removing identified hazards will vary, depending on the particular circumstances at the site. Where a reasonable estimate of the cost of mitigating or removal of a hazard can be made, a provision has been established.

(iv) Various lawsuits, claims and investigations

Various other lawsuits, claims and investigations have been brought or are pending against the Group. The directors of Transpower cannot reasonably estimate the adverse effect (if any) on the Group if any of the foregoing claims are ultimately resolved against the Group's interests.

20. Subsequent events

On 26 August 2022, the Directors approved the payment of a dividend of \$72 million. The dividend will be fully imputed and is expected to be paid on 20 September 2022.

On 26 August 2022, the Directors approved the extension of the \$250 million committed standby facility, due to mature 7 December 2022, by a further two years to 7 December 2024.

The Directors are not aware of any other matter or circumstance since the end of the financial year that has significantly or may significantly affect the operations of Transpower or the Group.



INDEPENDENT AUDITOR'S REPORT

TO THE READERS OF TRANSPOWER NEW ZEALAND LIMITED'S GROUP FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2022

The Auditor-General is the auditor of Transpower New Zealand Limited and its subsidiaries (the Group). The Auditor-General has appointed me, Sam Nicolle, using the staff and resources of Ernst & Young, to carry out the audit of the consolidated financial statements of the Group on his behalf.

Opinion

We have audited the consolidated financial statements of the Group on pages 106 to 139, that comprise the consolidated statement of financial position as at 30 June 2022, the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and the notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at 30 June 2022, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with New Zealand equivalents to International Financial Reporting Standards and International Financial Reporting Standards.

Basis for our opinion

We conducted our audit in accordance with the Auditor-General's Auditing Standards, which incorporate the Professional and Ethical Standards and the International Standards on Auditing (New Zealand) issued by the New Zealand Auditing and Assurance Standards Board. Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report. We are independent of the Group in accordance with the Auditor-General's Auditing Standards, which incorporate Professional and Ethical Standard 1: *International Code of Ethics for Assurance Practitioners* issued by the New Zealand Auditing and Assurance Standards Board, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

In addition to the audit we have carried out assignments in the areas of other assurance services and remuneration benchmarking, which are compatible with those independence requirements. Other than in our capacity as auditor and these assignments, we have no relationship with, or interests in, Transpower New Zealand Limited or any of its subsidiaries.

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the



context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We have fulfilled the responsibilities described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of the audit report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of the material misstatement of the consolidated financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying consolidated financial statements.

Regulated assets

Why significant	How our audit addressed the key audit matter
<p>The Group's regulated assets (consisting of property, plant and equipment, intangible assets and associated capital work in progress) represent 88% of total assets at 30 June 2022.</p> <p>Judgements required to be made by management in relation to the accounting for regulated assets include:</p> <ul style="list-style-type: none"> - Determining what costs ought to be capitalised; - Determining the appropriate time to commission an asset and commence depreciation; - The period over which regulated assets should be depreciated; and - Whether there are any regulated assets that ought to be impaired and if so the amount of that impairment. <p>Transpower reviews regulated assets for indicators of impairment at each reporting date.</p> <p>As described in Note 5 the recoverable amount of regulated assets is generally their regulatory book value. Regulatory book value is the amount Transpower is able to recover from customers through future revenue under the terms of the regulations per Part 4 of the Commerce Act 1986.</p> <p>Transpower allocates its regulated assets between cash generating units and compares the carrying amount against the regulated book value to identify possible indicators of impairment.</p> <p>Disclosures regarding regulated assets are included in Note 5 to the consolidated financial statements.</p>	<p>In obtaining sufficient appropriate audit evidence we:</p> <ul style="list-style-type: none"> - Assessed the appropriateness of a sample of capitalised costs against the criteria contained in NZ IAS 16 <i>Property, Plant and Equipment</i>. - Tested a sample of assets commissioned in the period to consider whether depreciation was charged from the appropriate date. - Considered a sample of large capital work-in-progress project balances to determine whether they ought to have been commissioned and depreciated as at 30 June 2022. - Considered how Transpower has assessed the assumed asset useful lives that are the basis on which depreciation has been charged. - Assessed cash generating units identified against the requirements of NZ IAS 36 <i>Impairment of Assets</i> and the allocation of regulated assets between cash generating units. - Tested management's identification of differences between the financial statement carrying amounts and regulatory book values at 30 June 2022 and considered the reasons for such differences. - Independently considered the completeness of management's assessment of indicators of impairment with reference to NZ IAS 36 <i>Impairment of Assets</i>. - Assessed whether the Group's disclosures in Note 5 of the consolidated financial statements in relation to regulated assets comply with NZ IAS 16 <i>Property, Plant and Equipment</i> and NZ IAS 36 <i>Impairment of Assets</i>. <p>We considered the results of the procedures above satisfactory in forming our opinion on the financial statements as a whole.</p>

Debt and derivatives

Why significant	How our audit addressed the key audit matter
<p>Transpower has significant debt and derivative financial instruments. The total debt and derivative portfolio at 30 June 2022 was a net liability position of \$2.9b and is detailed in Note 7 to the consolidated financial statements.</p> <p>Some, but not all, of Transpower's derivatives used to hedge the Group's interest rate exposure are designated into hedging relationships for accounting purposes.</p> <p>Debt and derivatives are both recorded at fair value.</p> <p>Movements in the fair value of debt and related derivative financial instruments impact profit or loss, or the cash flow hedge reserve where the derivative is in a designated hedge relationship.</p> <p>The valuation of these instruments involves the application of valuation techniques which require the exercise of judgement and the use of estimates as described in Note 7 to the consolidated financial statements.</p>	<p>In obtaining sufficient appropriate audit evidence we:</p> <ul style="list-style-type: none"> - Obtained counterparty confirmations for all debt and derivatives at 30 June 2022. - Performed our own independent valuations for a sample of instruments. - Assessed the Group's documentation of hedging relationships against the requirements of NZ IFRS 9 <i>Financial Instruments</i>. - Assessed the Group's analysis of the effectiveness of its hedging relationships in achieving offsetting changes in the fair values of the hedging instrument and the hedged item. - Assessed the appropriateness of accounting adopted for derivative instruments dependent on whether they were designated in hedging relationships or not. - Assessed whether the Group's disclosures in the consolidated financial statements in relation to the valuation of investments comply with NZ IFRS 7 <i>Financial Instruments: Disclosure</i> and NZ IFRS 13 <i>Fair Value Measurement</i>. <p>We considered the results of the procedures above satisfactory in forming our opinion on the financial statements as a whole.</p>

Other information

The Directors are responsible on behalf of the Group for the other information. The other information which is expected to be made available to us after the date of this auditor's report does not include the consolidated financial statements and our auditor's report thereon.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of audit opinion or assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

When we read the Annual Report, if we conclude that there is a material misstatement therein, we are required to communicate the matter to those charged with governance and, if uncorrected, to take appropriate action to bring the matter to the attention of users for whom our auditor's report was prepared.

Directors' responsibilities for the consolidated financial statements

The Directors are responsible on behalf of the Group for the preparation and fair presentation of the consolidated financial statements in accordance with New Zealand equivalents to International Financial Reporting Standards and International Financial Reporting Standards, and for such internal control as the Directors determine is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Directors are responsible on behalf of the Group for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate the Group or to cease operations, or have no realistic alternative but to do so.

The Directors' responsibilities arise from the Financial Markets Conduct Act 2013.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Auditor-General's Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of readers taken on the basis of these consolidated financial statements.

As part of an audit in accordance with the Auditor-General's Auditing Standards, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.



- Conclude on the appropriateness of the use of the going concern basis of accounting by the directors and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Directors, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Our responsibilities arise from the Public Audit Act 2001.

Sam Nicolle
Ernst & Young
Chartered Accountants
On behalf of the Auditor-General
Wellington, New Zealand
26 August 2022

A member firm of Ernst & Young Global Limited



Directory

Board of Directors

Dr Keith Turner – *Chair*
 Dean Carroll – *Deputy Chair*
 Heather Simpson
 Michele Embling
 Dr Roger Blakeley
 Richard Aitken
 Parekawhia McLean
 Vanessa Oakley

General Management Team

Alison Andrew
Chief Executive
 Catherine Shaw
Chief Financial Officer
 John Clarke
General Manager Grid Development
 Chantelle Bramley
General Manager Strategy and Customer
 Stephen Jay
General Manager Operations
 Brigid Kelly
General Manager People
 David Knight
General Counsel and Company Secretary
 Raewyn Moss
General Manager External Affairs
 Cobus Nel
General Manager Information Services and Technology
 Mark Ryall
General Manager Grid Delivery

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 T 64 9 590 6000

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 Hamilton 3282
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Palmerston North
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 PO Box 640,
 Palmerston North 4440
 T 64 6 357 0919

Christchurch
 31 Gilberthorpes Road, Islington
 Po Box 21 – 154, Edgeware
 Christchurch 8143
 T 64 3 590 7000

The image features a solid blue background. In the bottom-left corner, there are several white, curved lines that sweep upwards and to the right, creating a decorative graphic element. The lines are of varying thickness and curve, suggesting a stylized wave or a modern architectural element.

Ngā mihi
Thank you



TRANSPower

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