GENESIS ENERGY LIMITED
ANNUAL REPORT 2022

genesis

Empowering

New Zealand's sustainable future

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We are clear on our role and confident in meeting the challenges ahead for the country, our customers and ourselves. We know our success will be New Zealand's success.

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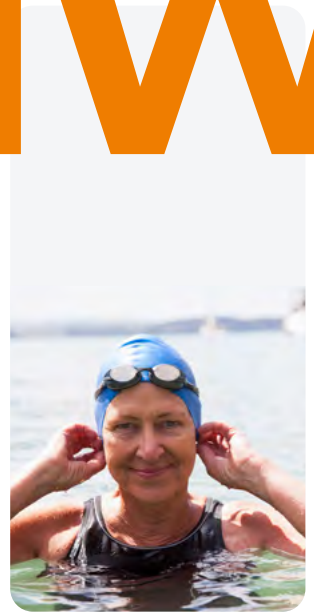
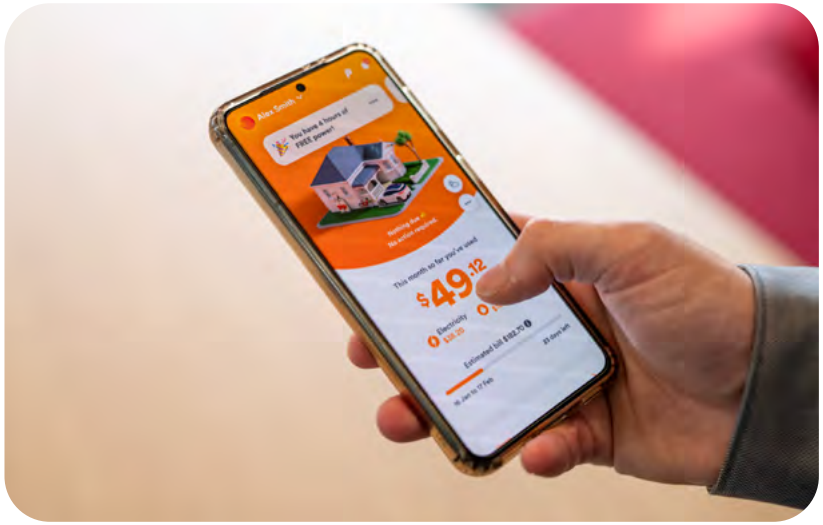
All Kiwis



and businesses have a role to play for a successful transition.

We support our customers by innovating and delivering tools that enable them to manage their energy and carbon footprint. This helps create relationships built on trust, not a transaction, fundamental to delivering long term value.



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Building for the future.

Robotics equipment donated by the School-gen Trust in action at Te Wharekura o Mauao in Tauranga.

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We support our people and the communities that we are part of during this time of change. We are working to create a more equal society so everyone has the opportunity to help empower New Zealand's sustainable future.

Welcome to our 2022 Annual Report

This year, we have made some changes to the way we report. We know that, as the country transitions to a low carbon future, we have an important role to play and want to be transparent about our strategy, targets, and our progress towards achieving them. We know our people, customers, shareholders, business partners and the wider community want to understand our challenges and opportunities and how we create value over the short, medium, and long term.

To ensure rigour, we have used some guidelines from the Global Reporting Initiative (GRI) and the Integrated Reporting Framework (<IR>) to report on our material environmental, social and governance activities and to provide a balanced view of our performance and the direction we are moving in. This is in addition to reporting on our climate change risks using the Taskforce for Climate-related Financial Disclosures (TCFD) framework, for the third year.

As a result, this report is one of a number of documents related to FY22 that you can find in our investor hub on the Genesis Energy website which include the full TCFD disclosure, Modern Slavery Disclosure and a report laying out our approach to sustainability.

With the country now having an Emissions Reduction Plan that sets the direction for climate action for the next 15 years, this report lays out our role and priorities in helping the country achieve its targets. Key sections are set out to reflect our purpose to empower New Zealand's sustainable future and highlight the key work, challenges, and results we have achieved in FY22.

We welcome your feedback on this report and any suggestions to media@genesisenergy.co.nz.

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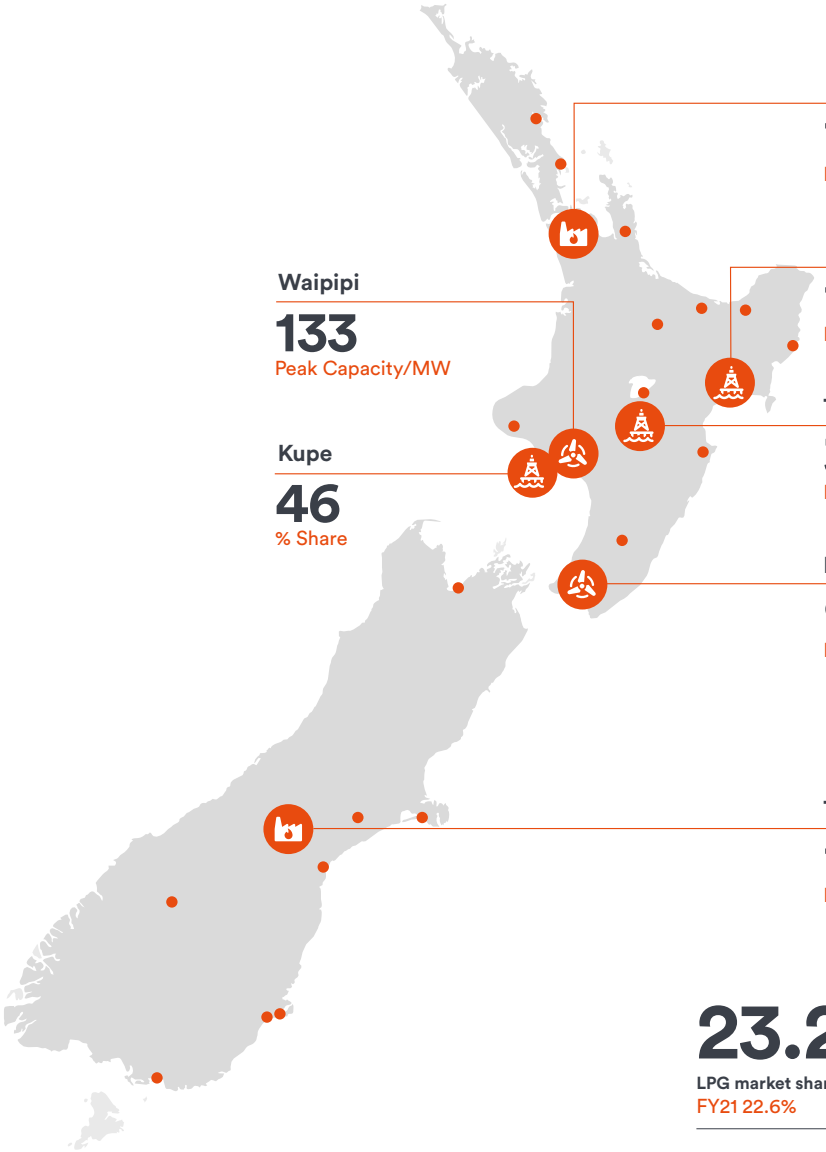
Who we are and what we do

Genesis is an energy generator and retailer supplying electricity and gas to more than 470,000 customers. The geographic spread and diverse range of generation assets provide vital support to the country's highly renewable energy sector. This means our business is resilient to supply shocks and generates consistent earnings. Our vertically integrated gas portfolio, from wellhead to our industrial and residential customers, is a vital part of the country's energy system providing flexibility, security, and price stability.

We choose to participate in markets for the long term to create value for shareholders in a sustainable way, and we remain focused on evolving our business model away from pure energy supply to energy management. This is being achieved by continuing to develop the digital and virtual channels customers can use to interact with us alongside a suite of market leading products and services that provide knowledge and insights that our customers can act on to manage their usage and reduce their carbon footprint. This is all anchored by our people who are future focused and adaptive and always seeking new and innovative ways of engaging our customers, operating our assets, and working smarter.

We understand that the challenge of climate change creates the need to change some of the things we do, and we are led by science in doing so. We have set Science Based Targets to remove 1.2 million tonnes of carbon by FY25 tied to the international benchmark of limiting global warming to below 1.5C. While we decarbonise ourselves, we are also focused on helping our customers do the same by providing market leading products and services that provide knowledge and insights so customers can act to manage, and reduce their carbon footprint.



23.2%
LPG market share
FY21 22.6%

1,204
Full time employees (FTE)
FY21 1,149

471,012
Customers
FY21 474,325

42,513
Shareholders
FY21 42,741

6,481 GWh
Electricity generated
FY21 8,027 GWh

11.1 PJ
Gas from Kupe
FY21 10.6 PJ

29.94%
Natural gas market share
FY21 30.63%

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How Genesis creates value for all stakeholders

OUR PURPOSE

Empowering New Zealand's sustainable future

OUR INPUTS

Our Financial Capital
- Profit, debt, equity.

Our Assets
- Hydro, wind, thermal generation assets and Kupe gas field helps make us resilient to supply shocks and delivers consistent earnings.

Our People
- Inclusive workplace, driven by our purpose.

Our Communities and Relationships
- Maintaining our reputation with a broad range of stakeholders is critical to our operations.

The Environment
- Caring for and managing environmental assets including water, air quality, carbon and biodiversity.

Our Commitment
- Reduce carbon emissions with verified Science Based Targets.

OUR BUSINESS ACTIVITIES TO CREATE VALUE

OUR STRATEGY

Navigate the transition
Committed to decarbonising ourselves and helping our customers do the same. Grow renewable and create value from flexibility and reliability.

Deliver more from the core
Improve customer experiences, make sustainable choices compelling, leverage our multi brand platform, super-charge our people.

Build for the future
Provide meaningful support for our people and the communities in which we operate so they can thrive and contribute to a low carbon future.

OUR BUSINESS ACTIVITIES

- Generate electricity from a diverse range of assets.
- Provide back-up generation and security of supply for the country through Huntly Power Station.
- Vertically integrated gas portfolio from wellhead to customer.
- Displace thermal baseload generation with renewables.
- Develop tools that help residential and commercial customers manage their energy use and emissions.
- Participation in the wholesale market.

OUR OUTPUTS

Energy supply for New Zealand
- Including surety of supply.

New renewable generation
- PPA's and investing in grid-scale solar.

Knowledge provided
- Data and insights to customers to manage energy use and emissions.

Engaged and empowered team
- Adaptable, resourceful, future focused.

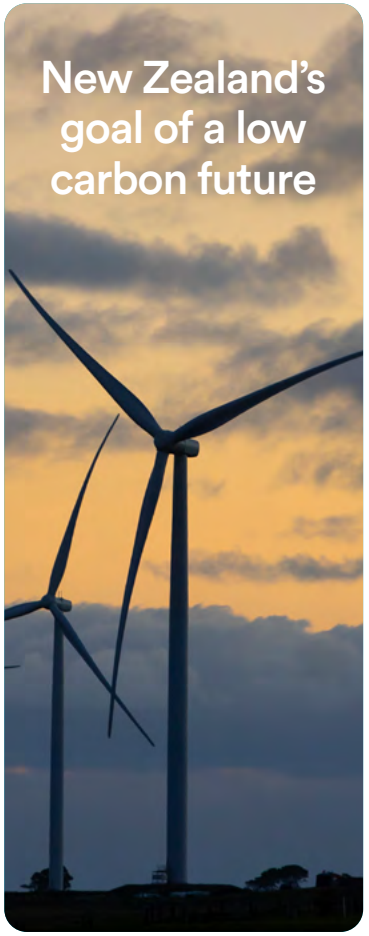
Reduced carbon emissions
- Remove 1.2m tonnes of carbon by FY25.

Supporting career pathways in STEM
- Through School-gen Trust and community partnerships.

Market share
- Generation 17%

Shareholder Returns
- 10.3% TSR last six years

ACTIVELY ENABLING



ACTIVE GOVERNANCE AND RISK MANAGEMENT

EXTERNAL ENVIRONMENT

We operate in a complex environment of increased competition, evolving regulation and an uncertain wholesale market.

Regulation
Evolving regulation as the country's path to net zero 2050 becomes clearer and the demand for electricity rises.

Covid-19
Managing on-going uncertainty caused by the pandemic.

Climate Change
Impacts from climate change and identifying ways to combat it.

Reporting transparency
Increasing focus on ESG.

Technology advances
Advances in technology to improve efficiency and productivity.

Supply chain
Delays in global supply chains.

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Chair and Chief Executive's joint letter

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This year's financial result underlines what Genesis represents today – a business with momentum that is focused, disciplined, and delivers on commitments. We have come a long way over the last few years, sharpening our attention on the customer, executing our Future-gen strategy, and creating a culture that is innovative and inclusive with a can-do attitude. We are most proud of our people who understand the need for change, are highly engaged with our purpose to empower New Zealand's sustainable future and have not been deterred by the challenges of the pandemic.

For context, in 2016 when Marc became CEO, we had an EBITDAF of $335 million. We've lifted that to $440 million in FY22, an increase of more than 30% on 2016 while delivering an annualised total shareholder return over the period of 10.3%. This year, our customer and staff satisfaction scores have reached new highs, we've signed agreements for new renewable electricity and we are expanding into solar while we continue to evolve and develop digital tools for our customers to manage their energy use and emissions. This year, we've also welcomed new members to a refreshed executive team that has the right mix of skills and experience to lead the next phase of our growth. The team is gender balanced and we are particularly pleased that most of the new appointments are internal which shows our succession planning is working well. As you no doubt know, Marc leaves us in October and Chief Customer Officer Tracey Hickman has been appointed Interim CE while the board conducts a search, here and abroad, to find a successor. The board welcomed a new member in March, Hinerangi Raumati-Tu'ua. She replaced Maury Leyland who had been a director since 2016.

Changing regulatory environment

It was also a big year for the country and our sector with the Government's release of the Emissions Reduction Plan (ERP). It sets the direction for the next 15 years with targets and actions that impact every sector of the economy.

The ERP reflected the sector's call to abandon the target of 100% renewable electricity by 2030 and instead focus on a 50% renewable energy target. This may sound less, but a 50% renewable energy system represents much less carbon than a 100% renewable electricity system on its own. Significant funding for decarbonisation of transport and industry accompanied the plan, both of which create opportunities for Genesis. The Government also actioned the development of a National Energy Strategy which we have consistently raised as crucial to avoid unintended consequences through the transition to a low carbon future. A transition plan for gas is also under development to ensure its supply for industry and electricity generation is maintained as the economy decarbonises. This is in line with our belief that gas has an important role to play during the transition.

There is still a lot to unfold in the regulatory area and ensuring New Zealand has the right regulatory settings and a competitive market, with government intervention only where appropriate, are critical for a successful transition. We will continue to work constructively with the sector, government and other stakeholders for what we see will deliver the best outcomes for the country and our customers.

For Genesis, this work includes the role of Huntly Power Station through the transition. It was built as a back-up to the country's highly renewable generation, and we believe it can still do that and is a more effective and economic option for the country than the proposed Lake Onslow pumped hydro scheme. More so if we can find a reliable source of a more

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sustainable fuel to replace coal. Supply chain issues have prevented us running a biomass trial so far this year with the specific type of wood pellets that we need not available locally. We continue to work hard to make the trial happen as soon as possible.

Security of supply

The 9 August 2021 outage resulted in multiple investigations and significant political and regulatory scrutiny of the sector and Genesis. Ministerial and Electricity Authority reviews found Genesis acted appropriately. Our approach was to be proactive and constructive throughout the investigations and reviews, providing data and access to senior management to explain the company's position.

Changes have been made by Transpower as a consequence and the sector can now focus on its important work as vital enablers of a successful transition.

Future-gen

After signing power purchase agreements for new wind and geothermal generation early in this financial year, we have focused on setting up our push into grid-scale solar. Since announcing our intentions last March, we conducted a process to find the right joint venture partner. We selected FRV, a globally recognised solar developer, and are now identifying and conducting due diligence on potential sites. While it's a competitive environment with a number of new participants, we are looking forward to confirming sites during FY23.

Brand refresh

By now, we hope most of you will have seen our new marketing campaign featuring the sassy and endearing George. She is the face of our new brand which is aligned with our purpose. The refresh involved three major workstreams - internal brand pride, a new external brand, and a new website. George observes her family's energy use and is quick to get onto family members who always leave the lights on, have too many long hot showers and are not as efficient as they could be. It's a fun, effective way to bring to life our new retail vision of 'Together, inspiring millions of sustainable choices.'

At the same time, we also updated the technology behind our website along with the design and approach to content so as to engage a wider range of stakeholders outside retail customers. This was a significant programme of work in how we present ourselves to the market.

In line with our strategy of focusing on improving customer experiences and providing tools to manage their energy use, Energy IQ (EIQ) was also given a new look and functionality. The objective is to present useful, relevant data for each customer that is easy to access and understand. The platform continues to resonate strongly with customers with just under 22 million customer interactions with EIQ features over the year.

We also made changes to our internal operating model, the blueprint for how our people and resources organise and work to get things done. The objective is to streamline and improve processes and the development of new products and sets us up well for future growth.

Dealing with the pandemic

The dominant feature of life and business continues to be the Covid-19 pandemic.

The backbone of our response was a comprehensive PCR and RAT testing programme and the development and rollout of a simple and effective Safe Workplace Plan designed with and for our people. We provided tools to help themselves and their families navigate this challenging period, supported them when they had to work from home, avoided any recordable workplace transmission, and as a result saw limited business interruption.

In August we were among the first companies to initiate PCR saliva testing, and in October joined 25 other companies in successfully calling on the Government to allow us to import RAT tests. We were at the forefront of trialling staff RAT testing in liaison with the Ministry of Health and helped pave the way for RAT testing to be rolled out by other businesses. Our contact centres and LPG drivers were the most impacted by Covid-19, but the flexibility and commitment of our teams shone through and their efforts were reflected in our record interactive NPS score.

Looking ahead

While we are proud of our FY22 performance and results and the foundations we have built for continued growth, we are mindful there is much more to do.

The retail market is very competitive, we see continued volatility in the wholesale market and with the level of announced investment in new renewable generation our analysis shows the country will have 96% - 98% renewable generated electricity by 2030 without any potentially counter-productive intervention from Government.

As an active enabler of the country's energy transition, we will continue to decarbonise our portfolio, focus on supporting our customers to reduce their emissions and super-charge our people.

Barbara Chapman CNZM
CHAIR

Marc England
CHIEF EXECUTIVE

Chief Executive's farewell

Earlier this year, I announced my decision to step down as Chief Executive. It's been a privilege to lead Genesis over the last six years and I am very proud of what we have achieved. We are a different company now with sustainability at the core of what we do, our people are highly engaged, and our growing customer numbers show our approach is resonating with New Zealanders.

Throughout my time, I have been impressed by the way our people have accepted the challenges that Genesis faces and the attitude, commitment and innovation shown on a daily basis in finding solutions that work for the country, our customers, and the company. The progress we have made and the path the business is on is a result of that. It has been a collective effort and I am sincerely grateful for the support of our people, Board members, shareholders, business partners and fellow executive team members throughout my time.

Leading an organisation through lockdowns and the chaos of Covid was very challenging but because of our teams approach, attitude, and willingness to adapt, it was also very rewarding.

It's an exciting period to be involved in the energy sector which lies at the heart of the country's successful transition. I look forward to watching Genesis continue on its progressive path of empowering New Zealand's sustainable future.

Results at a glance

$222m
Net Profit After Tax (NPAT)
FY21: $32m (restated)

$440m
EBITDAF[1]
FY21: $355m (restated)

$2.8b
Revenue
FY21: $3.2b

17.6cps[2]
Final dividend relating to FY22 result
FY21: 17.4cps

51
Customer interaction NPS[3]
FY21: 47

42%
Women in leadership roles
FY21: 45%

45
Recordable injuries
FY21: 31

843,953
t/CO_2e Emissions reduced[4]

130k
Power Shout hours gifted[5]
FY21: n/a

$200k
School-gen Trust STEM/Solar equipment
FY20[6]: $180k

1,074
Households given recycled curtains through curtain banks[7]
FY21: 1,172

21
Apprenticeships, internships and work experience opportunities[8]
FY21: 32

1. EBITDAF: Earnings before net finance expense, income tax, depreciation, depletion, amortisation, impairment, fair value changes, and other gains and losses. Refer to the consolidated comprehensive income statement on page 50 for reconciliation from EBITDAF to net profit after tax. 2. CPS: Cents per share. 3. iNPS: interactive Net Promoter Score. 4. FY20 base of 4,495,002 t/CO_2e 5. See page 26. 6. There was no funding round in FY21. 7. Lower number in FY22 due to customer discomfort with visits during Covid. 8. Created through Ngā Ara Creating Pathways. Lower number in FY22 due to Covid restrictions.

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Navigating the transition

Waipipi windfarm, Taranaki.

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Genesis has a key role to play in the country's successful transition to a low carbon future by decarbonising ourselves and helping our customers to do the same.

A low carbon future for all

Genesis has a key role to play in the country's successful transition to a low carbon future by decarbonising ourselves and helping our customers to do the same. We are committed to this, balancing climate change considerations, increasing energy demand and ensuring our customers have a reliable, low carbon and cost effective energy supply. We believe this will help create a better New Zealand.

We are led by science and have set ambitious emissions reduction targets tied to our country's commitment to the Paris Agreement to limit global warming to 1.5°C.

Our targets have been verified by the internationally recognised Science Based Targets initiative (SBTi) and will see us remove more than 1.2 million tonnes of annual carbon emissions by FY25 (from a FY20 base), including reducing generation emissions by 36%.

This follows our reduction of carbon emissions by 1.8m tonnes over 10 years leading up to 2020. We believe few, if any New Zealand companies have reduced emissions on that scale in that timeframe. Our board and management team chose the 1.5°C target, knowing it would be difficult but achievable, with the right pathway. We accept the accountability and transparency that comes with the targets set and know achieving them is not going to be a straight line.

Our progress towards these targets during FY22 saw a reduction in emissions of 843,953 tonnes of CO_2e (FY20 base). Broken down, Scope 1 and 2 emissions in FY22 were 17% lower than FY20 which equates to a reduction of 466,910 tonnes of CO_2e. Scope 3 emissions from use of sold products were 27% lower than FY20 which equates to a reduction of 372,166 tonnes of CO_2e.

Future-gen strategy update

Our Future-gen strategy is how we plan to reduce emissions from generation through displacement of thermal baseload generation with new renewable generation.

Through Future-gen, we aim to deliver 2,650 GWh a year of renewable electricity generation by 2030, with the majority before the end of 2025. To date, we have signed agreements for 1,940 GWh of new renewable generation, including our push into solar. Our level of renewable generation is targeted to move to 68% by 2025 and 81% by 2030. The first step was realised when the Waipipi wind farm in South Taranaki was activated in March 2021 and forecast to deliver 450 GWh pa.

Last year we signed power purchase agreements for all the electricity from a 230 GWh pa windfarm due to be built at Kaiwaikawe in Northland, and 520 GWh pa from Contact Energy's geothermal plant being built near Taupo, expected to be on stream in 2025.

We are looking into the possibility of a consent extension for a windfarm at Castle Hill in Wairarapa. There is also a strategic review underway of our Hau Nui windfarm in the Wairarapa to consider options for repowering and refurbishing given the advances in technology since the farm was built in two stages in 1996 and 2004.

We are led by science and have set ambitious emissions reduction targets tied to our country's commitment to the Paris Agreement to limit global warming to 1.5°C

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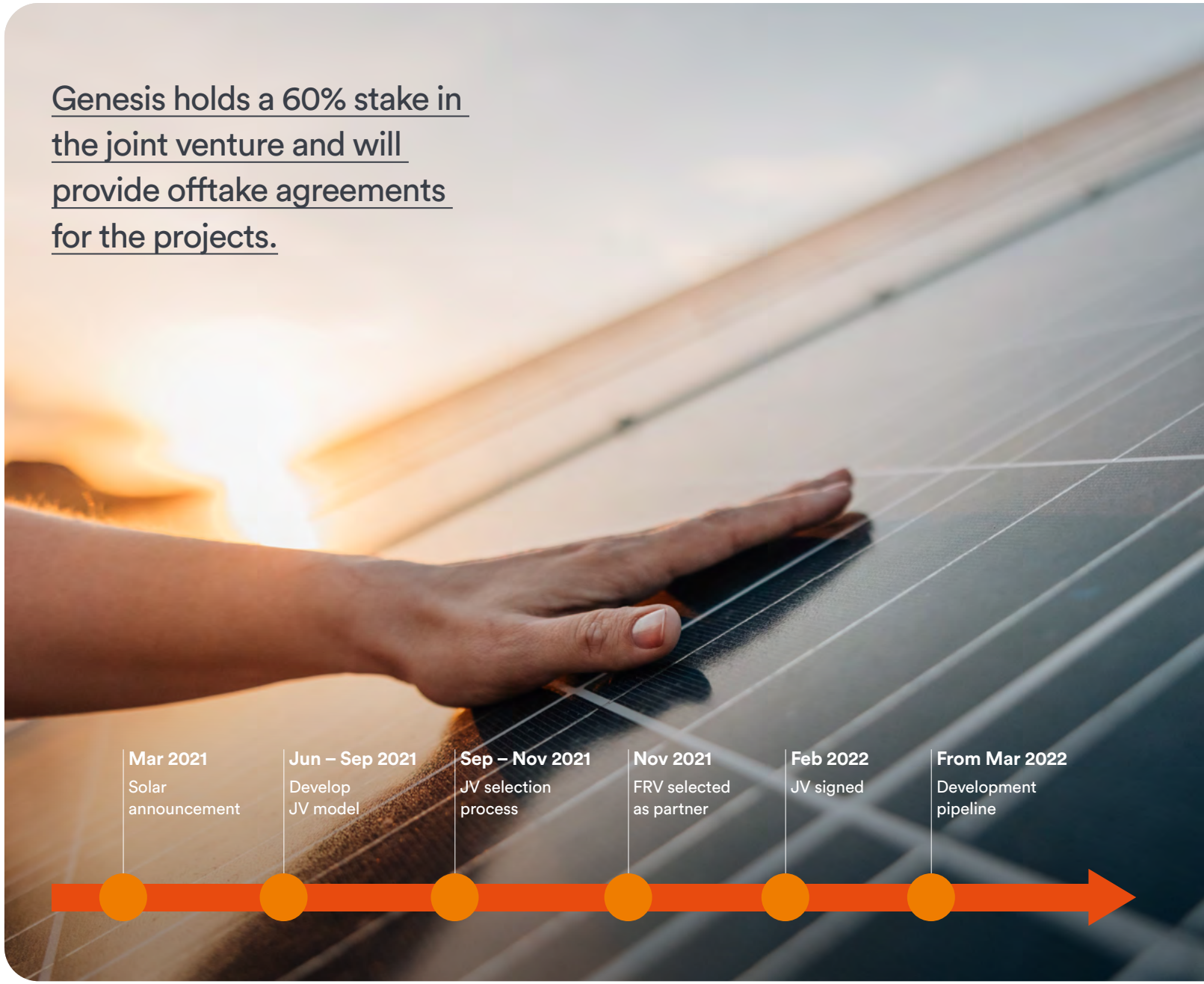
Solar power

Another key element of Future-gen is our decision to develop up to 500 MW of solar capacity over the next five years. The first step was achieved last November when we selected FRV as our joint venture partners and proceeded to finalise the joint venture arrangements in February 2022. They are recognised as a leading global developer of utility scale solar farms, and Genesis is seeing the benefit of partnering with a proven developer that has access to global supply chain networks and is a good cultural and strategic fit. Genesis holds a 60% stake in the joint venture and will provide offtake agreements for the projects.

Considerable work continues in building a pipeline of development opportunities including land identification and feasibility study assessments for sites across the country. Feasibility assessments look at a range of factors, including assessment of transmission connection points and capacity, resource consent assessments and engineering requirements of land for risks such as flood or erosion. The joint venture expects to make public its first projects in FY23.



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The future of Huntly

Huntly currently delivers value in many ways to both Genesis and the broader market, including supporting a low cost, reliable electricity supply. Significant work is being done on the future role of Huntly during the transition, which includes alternative fuel options to coal. The work involves the role of Huntly in the wholesale market and which energy market frameworks would best support reliable, affordable energy. Huntly was commissioned in the early 1980s to ensure electricity supply for the country when our highly renewable generation is unable to meet demand. We believe that role remains for Huntly through the transition, given New Zealand's electricity generation capacity needs to increase by around 170% to meet the country's net zero carbon goals.

As we stated during FY22, we believe that we have reached the peak of coal use and it will continue to rapidly decline as new renewable generation comes online.

An independent life assessment of the Rankines in 2021 determined that the current operational performance can be maintained to 2030 and could be extended to at least 2040. We intend to trial biomass as an alternative fuel to coal and have identified black pellets as a good option due to their high energy density which flows through to cost benefits in transport, storage, and handling. It also appears that little modification to existing infrastructure and equipment would be needed.

We remain optimistic a trial will be held in FY23. Should the trial be successful, we believe there is an opportunity to develop a national biomass sector to support large scale thermal energy users to transition. We were encouraged to see the Government's Emissions Reduction Plan signal an intent to support the development of a local market. Among the wider benefits in establishing a bioeconomy is putting to good use marginal land not suitable for horticulture or dairy, while there are employment and growth opportunities in the related supply chain.

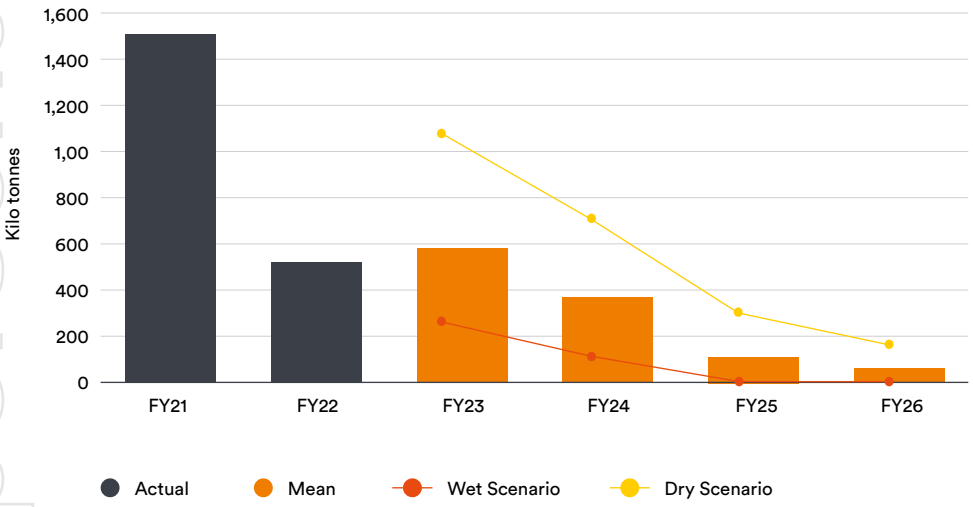
Large amounts of biomass will be required, and security of supply is crucial. The energy demand of all coal boilers for heat in New Zealand is approximately 24 PJ. The current coal demand for electricity and co-generation represents another 26 PJ. Approximately 225,000 ha of forestry would be required to provide the 50 PJ per year of energy required to convert all New Zealand's coal fired plant to biomass. This represents approximately 1.7% of the total grassland in New Zealand.

Huntly again supported the market earlier in the year when hydro levels were very low but not to the extent that was required in FY21. As such, emissions from thermal generation remain significantly down on FY21. We publicly report our emissions in our Quarterly Reports on our website.

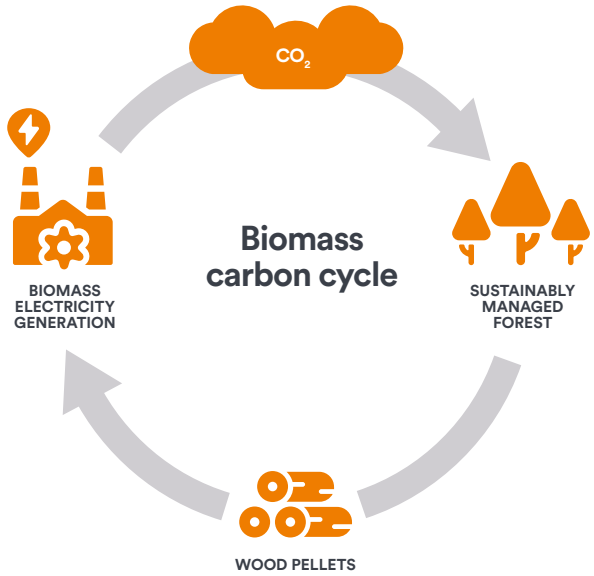
Genesis recognises the need for a conversation about which wholesale market settings / mechanisms best support market security of supply as the level of renewable generation steadily increases.

While looking to the future, we are also focused on investing to maximise performance across our sites to improve efficiency and output.

Coal consumption forecast to steeply decline



The bioeconomy has great potential but needs government and industry support to create an affordable and reliable local supply chain.



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Improving performance and efficiency

Three of our biggest projects this year involved upgrades at Tekapo B, Tuai at Lake Waikaremoana and Kupe.

A $15m+ upgrade at Tekapo B power station delivered substantial efficiency gains and future proofing after installing new turbine runners and refurbishing generators, headgates, and transformers. The work involved five years of planning, design and manufacturing and will improve operational flexibility and annual maintenance costs. It follows the completion of a two-year $26.5m project to install a new intake gate at Tekapo A.

Supply chain delays provided challenges in fitting a new generator stator at Tuai. The generator was manufactured in Spain and was expected to take six weeks to get here by sea but instead took three-and-a-half-months. Once it arrived on-site, it was successfully installed and work on commissioning started. This was the first of Tuai's three 90-year-old generators to be replaced over three years – a $32 million project that will potentially boost Tuai's capacity by 6MW. Nearby, Piripaua is part way through its own $7.7 million overhaul of its two generators, which were first commissioned in 1943. The work will increase their efficiency by up to 3.3%.

Along with our Kupe joint venture partners Beach Energy and NZ Oil and Gas, a $72m project was completed to increase production. The Kupe field delivers the equivalent of approximately 15% of New Zealand's daily natural gas demand. Since commissioning, well deliverability has declined faster than expected and has impacted the ability to reach daily capacity rates. Despite this, due to strong demand, the total FY22 production target was achieved. Opportunities to increase well productivity and production rates are being assessed and include in-wellbore intervention activities and development well drilling.

Kupe remains a high-quality gas asset and will continue to play a key role in New Zealand's energy transition. Consistent with the Kupe field development plan, the joint venture partners are now investigating the potential for drilling another development well to further increase recovery from the field. Beach Energy is leading the regulatory approvals and stakeholder engagement process on behalf of the joint venture partners. The well is not an exploration well, but a development well for production, targeting hydrocarbon reserves within the existing reservoir and, if successful, will extend Kupe's production to help back up an increasingly renewable electricity system.

Managing our carbon obligations

This year we entered a second limited liability partnership to invest in a geographically diversified forest portfolio to sequester carbon.

It follows a 2019 partnership with Air New Zealand, Contact Energy and Z Energy to form Drylandcarbon One Limited Partnership. It targets the purchase and licensing of marginal land suited to afforestation to establish a forest portfolio that produces a stable supply of forestry generated New Zealand emission unit carbon credits while expanding New Zealand's national forest estate. The credits support the partners to meet their annual requirements under the New Zealand Emissions Trading Scheme. Genesis has just over 25% stake in Drylandcarbon.

We are joined in the newly formed Forest Partners Limited Partnership by Contact Energy, Z Energy and Todd. Genesis has a 28% stake in the venture which will invest in 27,000 ha of new afforestation.

A $15m+ upgrade at Tekapo B Power Station delivered substantial efficiency gains and future proofing after installing new turbine runners and refurbishing generators, headgates and transformers.

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"When your power costs are as large as ours, every little step in the right direction is positive. Energy monitoring now provides us with a clear, digestible snapshot of where power is being used and allows us to track and predict our use."

Helping our customers reduce emissions

We are well positioned to help our customers with knowledge, advice, and tools so they can take action to reduce their own footprint and move towards a more sustainable future.

We do this for our commercial and industrial customers, as well as our SME and residential customers.

The starting point for any customer is to understand how they are using energy and to then look for how that can be managed more efficiently. For FY22 we increased the number of large business customers utilising an energy management service to 29%, up from 20% in FY21. One of the new features we developed and piloted is a version of our successful Energy IQ app for commercial customers that provides insights and information on consumption, costs, and associated emissions. We can then work with customers on the actions they want to take to reduce emissions.

A good example of this is the work we have done with Ruapehu Alpine Lifts (RAL) which operates the ski fields on Mt Ruapehu.

Operating New Zealand's largest ski areas requires an enormous amount of energy for the team at RAL. The Tūroa and Whakapapa ski areas attract hundreds of thousands of visitors each year, and it takes a phenomenal amount of power to keep the chairlifts moving, provide warm buildings and cafes, and generate extra snow – all in freezing weather at high altitude.

"Power represents around 10% of our business costs, and it's all in July and August during the time of day when the load on the grid is the heaviest," says Travis Donoghue, RAL's Chief Operating Officer. "The chairlifts and the snow guns drink the most juice."

Managing energy use on the mountain is an ongoing effort for the RAL team, so when their last power contract expired, they went to the market to choose the best provider.

"We picked Genesis because their response was really positive, and because they were able to collaborate on our energy efficiency work."

The RAL and Genesis teams held a workshop to come up with new ways to save power. It resulted in tweaks like installing energy monitoring in their buildings, putting timers and thermostats on the boot warming racks, optimising the snow-making water pumps, and setting capacity alerts. Together, these measures reduce RAL's annual power costs by just under 9.5% and its carbon emissions by 1.3 tonnes each year.

Supporting Government agencies to decarbonise

Government agencies are playing an important part in the country decarbonising. As the sole gas supplier for the agencies that participate in the All-of-Government (AoG) collaborative contract, Genesis also has a role to play in supporting national-level efforts to reduce emissions.

One of the ways we deliver extra value to AoG is with free decarbonisation workshops for agencies. Our 2021 workshop was hosted online due to pandemic restrictions, with a panel of experts including Minister for Climate Change, James Shaw, Chair of the Climate Change Commission, Dr Rod Carr, CEO of Toitu Envirocare, Becky Lloyd, and our CEO, Marc England.

We spoke to regional and district councils, agencies focused on commercial buildings, and district health boards, giving them both big-picture inspiration and practical tips on switching away from fossil fuels. Topics included supply chain decarbonisation, remote work, green buildings, and high-temperature heat pumps. We also heard about some success stories, like the DHB 'super clinic', which managed to cut its energy use by around 30%, resulting in a saving of $200,000 within 12 months.

"It's fantastic to get all these agencies together to talk about decarbonisation," says Matt Perkins, Director Delivery Services for the Ministry of Business, Innovation and Employment (MBIE), which is responsible for the AoG gas contract. "It's a valuable initiative from Genesis and tapping into their expertise gives agencies ideas and strategies that will help keep New Zealand on track to achieve its emissions targets."

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Energy IQ evolves

We believe energy retailers have a crucial role to play in providing information, insights, and tools to customers so they can make informed decisions about how to reduce their emissions. We do this for our residential customers through the Energy IQ platform which we continue to evolve and develop. Through Energy IQ customers can see which areas of their home consume the most power, monitor emissions when they use their electricity, and they are able to better forecast and understand their electricity bill.

In FY22, there were more than 21.8 million interactions with Energy IQ features, 273,216 unique users, 206,661 views of the billing insights tool and more than 301,000 energy saving tips were provided. We achieved our target for the year of having 18% of our residential customer base engage with energy management tools or features through the platform.

A big focus for the year has been on the refresh of the platform, giving it a facelift and new functionality. The project was led by Darren Tsang who heads our Digital Platforms team.

"The refresh is about presenting useful, relevant data for each customer that is easy to access and understand. We want customers to open the app and straight away understand what's happening and to then click through for more details. It's like when you log into a banking app, you get a view of all of your accounts and then click into each one for the details."

That meant rebuilding quite a few features from the ground up again so the data could be served in a simple, easy to understand way. We also made improvements to features customers were wanting. "For example, some of our residential customers and small and medium size business customers have multiple properties and the app, as it was, could be a bit confusing for them. Now, there's a view for each property that gives a summary and then they can deep dive into each property."

Customers can personalise the app to their situation. The new 3D design allows customers to choose icons that best illustrate their home or properties, building a real connection to their home. "LPG bottles will automatically show outside if that's what they have, put an EV in the garage, carport or driveway, solar panels on the roof with a storage battery on the side and so on. If you want to check out how the EV plan is tracking, you just click on the EV and if you want to see where your LPG bottle tracker is, you just click on the LPG bottle."

Climate Change Hub

We provide information, insights, research, and developments on the role of energy in combating climate change more widely.

Aligned to our purpose of empowering New Zealand's sustainable future and off the back of research, we launched the Climate Change Hub on our website in late 2021.

We believe demand for this content will grow. We started a monthly newsletter that you can subscribe to; our focus now is on getting the Hub's content in front of our customers on a regular basis.

Through the Hub we provide insights, developments, research, dissect issues, share opinions from subject matter experts and explore the challenges and opportunities for New Zealand, businesses, and our fellow Kiwis.

In early 2021 we commissioned an independent survey of 1,000 people online about how much they expected climate change to impact their lives over the next decade and if they had the information needed to change their personal footprint. Just under 70% said they expect climate change to impact their lives a lot or a reasonable amount over the next decade, with 37% saying they didn't have the information they need to change their footprint, 41% said they didn't have the information but thought they knew where to get it while 17% said they didn't have the information and didn't know where to get it. The Hub is our response to that - a resource of independently sourced information, insights, and guides covering three pillars – Your Country, Your Business and Yourself.

From launch in November 2021 to May 2022, the Hub had nearly 21,000 pageviews from 17,787 unique visits. The average time on page was an extraordinary seven minutes and 39 seconds versus an average of 64 seconds for the rest of our website. This was against targets of 45 seconds time on page and 5,000 unique visits for a full year. More than 30 articles have registered more than four minutes time on page.

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Tackling transport

Transport makes up approximately 20% of the country's emissions and we see a key role for electricity to decarbonise the sector. This includes focusing on reducing our own transport emissions as well as our customers'.

In July 2021, we were the first business in the southern hemisphere to add one of the new Fuso eCanter fully electric trucks to our fleet for LPG deliveries. After using it for several months there were a number of learnings around range and performance, low speed manoeuvring on steeper terrain such as customer driveways, and asset ownership structure.

Mapping that data against our distribution routes we determined the EV truck was better suited to another location and it was transferred to the Christchurch metro area.

New trucks will be deployed to Hamilton and Palmerston North and an additional one sent to Christchurch. Charging stations will be installed at each of those depots. Every diesel truck we replace with an electric one removes 26.5 tonnes of carbon emissions per year. Throughout FY22 we have shared what we are learning with other organisations looking to introduce EV trucks and we are directly engaged with the parent company of our vehicle supplier regarding operating data and customer feedback, which will be used to develop future models. We have also ordered two fully electric utes and an electric van for use around Huntly Power Station. This is another learning opportunity for us before deciding future steps across other locations.

Transport makes up approximately 20% of the country's emissions and we see a key role for electricity to decarbonise the sector.

More for our customers.

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It is testament to the commitment of our customer care teams that Genesis received our highest ever interaction Net Promoter Score (iNPS) during a year made difficult by Covid.

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Caring through Covid

It is testament to the commitment of our customer care teams that Genesis received our highest ever interaction Net Promoter Score (iNPS) of 51 during a year made difficult by Covid. The score measures customers willingness to recommend Genesis based on an interaction with a member of our team or through one of our digital channels.

Our customer churn also reduced from 15.9% in FY21 to 12.8% this year, well below our target of 15.3%.

We gave customers extensions to pay their bills due to financial hardship, instituted a policy of no disconnections for late payments during lockdowns, and gifted Power Shout hours to those who needed them most – a customer who had just had a baby, a mother struggling to buy school stationery, and others we identified in need.

Our Auckland SME customers, who were particularly hard hit by lockdowns, could send in photos of their meter readings rather than receive estimated bills. This helped during times of tight cashflow.

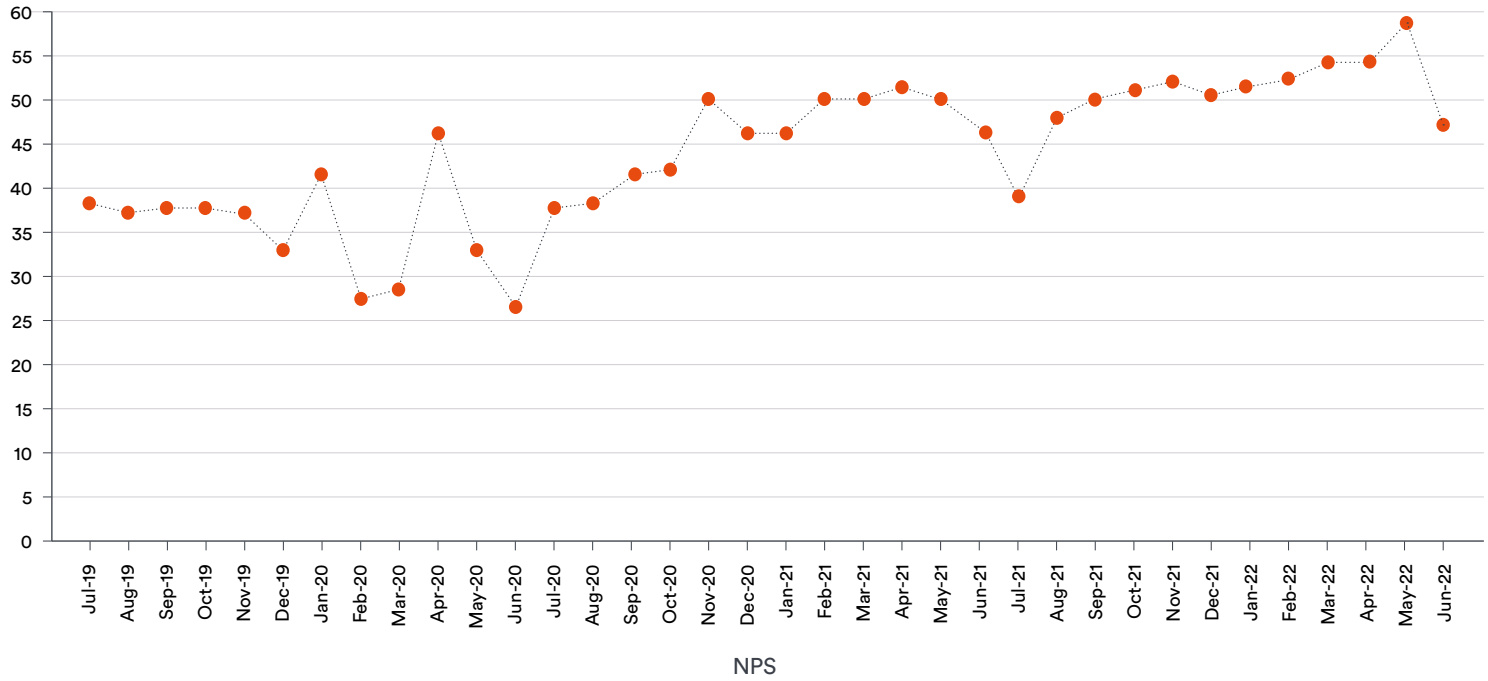
We rolled out a new professional ethics programme for our frontline sales and service teams, empowering and enabling them to do the right thing by our customers and our business.

As our customer care teams worked through waves of absences, particularly during the Omicron outbreak, we provided full transparency to our customers to explain delays.

And we looked after the people looking after our customers, sending care and wellness packs to all customer-facing team members.

The number of customer complaints increased from 1,130 in FY21 to 1,252. While this seems to conflict with our record iNPS, it's a reflection of heightened promotion of services provided by Utility Disputes Limited and an increase in billing complaints and unexpected power outages. We welcome complaints as a way of seeing where issues are affecting customers, and how we can improve our products and service.

Genesis customer interaction Net Promoter Score July 2019 – June 2022



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This year we gave away more than 3.8 million hours of power, valued at $2.32m, via campaigns and rewards.

Te Tira Manaaki o Kenehi

Our Genesis Caring Team came into its own during this difficult year. Te Tira Manaaki o Kenehi was established in 2020 to take care of our most vulnerable customers, and this year was a finalist in the Outcomes category of the NZ Energy Excellence Awards.

Manaaki Kenehi uses data analytics to help identify customers who may be experiencing early signs of financial hardship and aims to speak to about 1,000 customers each month. Personalised support includes offering a range of payment plans, ensuring customers are on the right price plan, deferring disconnections and referring customers to other agencies, including Money Talks, WINZ and EnergyMate.

This proactive approach reduces the risk of debt accumulating in a way that becomes damaging to customers and to our business. Since the programme's launch, we've seen an overall improvement in customer debt, reduced our residential disconnections for non-payment by more than 50%, and referred more than 1,600 customers to budgeting and energy advice agencies.

At the end of December 2020, we had 104,255 customers flagged as vulnerable due to age, health, and financial hardship. In 2022 that number has grown to 110,241. Manaaki Kenehi has permanently shaped the way Genesis serves its customers - it is an example of how they can be treated with empathy and flexibility to keep their lights on and homes warm, while also reducing debt.

Power Shout Gifting campaign

Knowing times are tough for many New Zealanders, we ran our first Power Shout Gifting campaign where customers could choose to either keep four free hours, or gift them to a Kiwi in financial hardship. The response was overwhelming, with 15,533 customers gifting 62,132 Power Shout hours. Genesis contributed an additional 67,868 hours – providing a total of 130,000 hours.

Te Tira Manaaki o Kenehi then worked with budgeting services to identify Genesis customers who were struggling financially as we approached winter. They included those whose income was reduced due to health reasons or who lost their livelihoods due to Covid. These customers received bundles of free hours of power as the colder months began.

The Power Shout programme continued to be extremely popular among existing and new customers overall with 22% of new customers gained during the year saying Power Shout was one of their reasons for choosing Genesis.

This year we gave away more than 3.8 million hours of power, valued at $2.32m, via campaigns and rewards for joining, taking out fixed terms and moving home with us. We also passed the milestone of giving away 14 million hours since the programme was introduced in 2018.

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Brand updates

Genesis refresh

In June 2022 our Genesis brand was refreshed and aligned with our purpose of empowering New Zealand's sustainable future. Our customers believe Genesis is a brand that cares; newer advocates see us as progressive, future focused and innovative. In the past year our approach to sustainability has emerged as a strength. Our competitive advantage is the unique combination of innovation and care; head and heart which our consumer research tells us makes our brand more compelling.

As a result, our strategic pillars remain unchanged and align with our refreshed retail vision – Together, inspiring millions of sustainable choices.

Our refreshed brand comprised three major workstreams - internal brand pride, a new external brand, and a new website. Our external brand is fronted by an endearing girl called George, who observes a family's energy use through a child's eyes, building an emotional connection with New Zealanders around their energy usage. This showcases how Genesis is leading our industry with digital tools and innovation, designed to empower better choices for our customers and drive brand growth.

Frank*Energy launched

In November 2021 Frank*Energy was launched as an affordable, no-contract offering for customers who want an energy provider that "sells it to you straight".

Frank's entry to the market with a series of tongue-in-cheek ads was well received. Its customer relationship Net Promoter Score (NPS) improved by nine points to 43 between September 2021 and May 2022, and customer churn improved from 24.6% in FY21 to 20.2% in FY22.

Continuous improvement in the digital sign-up journey saw the proportion of digital sales increase from 38% in June 2021 to 55% by June 2022.

Continuous improvement in the digital sign-up journey saw the proportion of digital sales increase from 38% in June 2021 to 55% by June 2022

Cyber security

Keeping our customers' data and technology systems safe

Managing cyber risk and security has become an even greater priority for Genesis as Covid presents new challenges – supporting our customers while working flexibly, and increased threat from cyber attackers taking advantage of the pandemic disruption.

Our people are our first and last line of defence. We have developed a training and awareness plan, including phishing simulations and regular newsletters. We've implemented controls that enable our staff to serve our customers and maintain our sites under widely varying work conditions.

We've improved our risk management approach, policies and procedures, continuous threat monitoring and management, and event detection technologies. We continue to invest in information and cyber security capabilities and controls, evolve our "zero trust" architecture and controls, and migrate our business systems to new architectures to address the evolving cyber risk landscape.

Our security maturity is a continual focus, and we've adopted the ISO 27001 Information Security Management standard as the measure for ongoing maturity improvements.

We're a contributing member of several forums, working with government, business partners and industry peers to understand relevant and emerging threats.

A more equal society.

Genesis wānanga with students of Pūhoro STEM Academy.

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We help our communities thrive and support the next generation in their career aspirations.

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Supporting our communities

We acknowledge our generation activities have a range of environmental and cultural impacts and we seek to ensure that a duty of care towards people, communities and the environment is exercised at and around our assets. We invest time and resources in the communities near our sites to help them thrive and support the next generation in their career aspirations. Most of our community work is targeted at young people through support of learning and careers in STEM (science, technology, engineering and maths).

This year our Community and Brand teams worked with our people at Huntly Power Station and representatives of the local community to produce two videos which will support the re-opening of the station to public tours. One of the videos sums up our community initiatives and the other, titled Te Puutake: Raahui Pookeka & Genesis, tells the story of the whenua on which the station was built, the difficulties its construction posed to local iwi, and the efforts Genesis and iwi have made in building a mutually supportive relationship of shared values.

The videos will be shown as part of the tour experience when Huntly reopens to the public in FY23. They will also be incorporated into our onboarding process for new staff to give them an understanding of the importance of our community relationships, and how they've developed over time.

Creating a future through STEM

Inspiring young people to become the energy innovators of the future is an integral part of New Zealand's pathway to a lower carbon future. Genesis has a particular focus on supporting the study of STEM subjects (Science, Technology, Engineering and Maths) by young New Zealanders to help lead them into high value career pathways.

School-gen

For 16 years School-gen has been inspiring young New Zealanders through STEM learning opportunities. Through a dedicated website, Genesis provides free resources, games and activities for teachers, students and parents. This year there were more than 5,700 downloads of resources.

In late 2021 we joined forces with Nanogirl Labs, founded by nanotechnologist and engineer Dr Michelle Dickinson (MNZM), to further boost STEM engagement among primary school students. Our first project together is STEMSTARS – bringing STEM to life through storytelling, hands-on experiments and group activities on topics such as electricity, wind, flotation and flight.

STEMSTARS operates a 'buy one, give one' social enterprise to enable schools that need extra support to also access this impressive resource. Since its launch in March 2022, 42 kits have been purchased, and 73 schools have been gifted one. Through the gifting programme STEM learning has been supported for 8,346 students in Years 3 and 4; 35% identifying as Māori and a further 33% identifying as Pasifika.

Watch a video of STEMSTARS in action here

Another highlight was our support of Rotorua Primary School to attend the World Aquabot Championships in Maryland, USA, in June 2022. In addition to a donation to the team's fundraising efforts, our Engineering Manager in charge of Civil and Dam Safety, Andrew Balme, visited the students and their teachers to pass on some tips and tricks on operating a submersible Remote Operated Vehicle (ROV) similar to their aquabot. We also gifted the school a robotics kit to benefit future cohorts. The team came 21st out of 68 teams from around the world.

Watch a video of Genesis' visit to the school here

The School-gen Trust

The independent, charitable School-gen Trust complements the School-gen programme by providing STEM equipment to schools. The Trust's annual funding round saw 267 applications received from schools all over the country. Trustees selected 33 schools to receive $200,000 worth of STEM and solar equipment. Since the Trust's inception in 2019 it has donated more than $400,000 worth of STEM and solar equipment to 55 schools, reaching nearly 18,000 students.

Customers and staff can donate to the Trust through their energy bill. A donation drive this year grew donors to the Trust by 27%, increasing the value of donations from about $60,000 to about $80,000pa.

Watch a video of Tauranga school Te Wharekura o Mauao putting their robotics equipment into action

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Inspiring the STEM leaders of tomorrow

During a 2021 visit to Hamilton Girls High School, our Community Liaison Manager Michaela Latimer met maths prefect Hannah Xiao and got talking about Hannah's love of engineering and chemistry. Michaela invited her to try a week of work experience in the laboratory at Huntly Power Station.

"I worked with the chemistry team making chemical solutions, and helping the team in the lab," Hannah says. "I mixed solvents for testing silicon dioxide levels in water cycling through the turbines."

Hannah said her Genesis experience helped cement her determination to study engineering. She is now pursuing a degree in mechatronics engineering at the University of Waikato, which focuses on integrated engineering to create smart systems.

"Mechatronics is a new discipline and it's a field on the rise," she says.

Karen Sky, Genesis GM Environment and Community, says communities want their young people to be exposed to new experiences, knowledge, and opportunities.

"Ngā Ara Creating Pathways is inspiring young people to become energy innovators – they will be integral to the country's transition to a low carbon future."

For other young women thinking about their future, Hannah has a word of advice: "Stay open minded – you don't need to follow everybody else. Maths and science are quite fascinating, so be open to learning new things and make the most of opportunities."

Hannah Xiao, right, with Genesis' Chemistry Lead at Huntly, Joy Ramos.

Ngā Ara Creating Pathways

Our Ngā Ara Creating Pathways programme was developed for rangatahi in our power schemes' local communities. Underpinned by best-practice research in developing a pipeline of talent, the programme focuses on attracting and nurturing diverse rangatahi in STEM education and career pathways. It includes apprenticeships and internships, work experience, hosting young people at our sites, and partnership programmes with community organisations.

One of those is Pūhoro STEMM Academy, which supports rangatahi to make the connection between mātauranga Māori and STEM. Students receive weekly mentoring in their STEM subjects, attend wānanga at tertiary campuses supported by Genesis staff, and are offered internships and work experience. Genesis has supported the launch of Pūhoro programmes in secondary schools close to our Tongariro and Waikaremoana Power Schemes.

During Covid, Genesis provided further sponsorship and technical support to Pūhoro for its Vax Chats video series campaign, which brought rangatahi and Māori medical experts together to answer questions about vaccination.

Genesis also donated Ngā Ara STEM Scholarship packs to 57 students from nine high schools near our generation sites, tailored to include technology equipment such as laptops; or tools to assist a trade apprenticeship.

Ngā Ara Creating Pathways is considered so impactful that it was included as a Future of Work target in a $100 million sustainability-linked loan with Westpac, announced in November.

More than 10,000 m^2 of curtain fabric was recycled and 1,074 households benefited from Genesis subsidised curtains

Supporting warm and healthy homes

Trying to heat a poorly insulated house is both wasteful and costly, and for people living on a tight budget it can have serious consequences for the health and wellbeing of families. Genesis helps to alleviate this by supporting curtain banks, which provide families with free, insulated curtains for their homes.

In FY22, 700 homes in Wellington were supplied with 3,000 pairs of curtains through the Sustainability Trust. In Christchurch, 374 homes were fitted with curtains through Community Energy Action. More than 10,000 m^2 of curtain fabric was recycled and 1,074 households benefited from Genesis subsidised curtains. These numbers have decreased this past year, as some customers were not comfortable with visitors due to Covid-19.

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Supporting our people

Our business is only as strong as our people. This year that meant caring for them through the pandemic so they could continue to serve our customers, operate our generation sites, and fulfil our purpose of empowering New Zealand's sustainable future.

Safety and wellbeing

Supporting our staff through Covid

Our Covid response involved four key elements:

- Our comprehensive PCR and RAT testing programme was the backbone of our response and enabled the business to continue to function while minimising the likelihood of workplace transmission. In August we were among the first companies to initiate PCR saliva testing, and in October joined 25 other companies in successfully calling on the Government to allow us to import RAT tests. We were at the forefront of trialling staff RAT testing in liaison with the Ministry of Health and helped pave the way for RAT testing to be rolled out by other businesses. Over the remainder of the financial year our staff completed more than 73,000 tests (more than 20,000 PCR tests and more than 53,000 RAT tests);
- Effective business continuity and tactical response plans. Lockdowns saw us put in place additional controls at our generation sites and LPG depots to ensure we could maintain essential services;
- The development and rollout of a simple and effective Safe Workplace Plan designed with and for our people;
- Clear and timely communications from the Executive, People Leaders and company-wide "Ask Me Anything" sessions.
- From early 2022 we welcomed our office staff back to their workplaces with a '#wemissedyou' campaign that included small gift packs, coffee vouchers and morning teas to complement safe workplace training sessions, an information hub on the intranet and the provision of masks and RAT testing kits.

Injury prevention

We've seen an increase in recordable injuries this year – 45 compared to 31 in FY21, 31 of which were in our LPG business. Most injuries were preventable sprains and strains associated with the manual handling of LPG bottles. Early intervention to avoid potential injuries has seen a decrease in overall injury severity, however, with the total number of lost or restricted workdays 26% lower than in FY21.

A comprehensive programme is underway to reduce the number of injuries we are having in LPG, including: improved early injury detection and intervention processes, strengthened access standards for delivering to customer sites, increasing our LPG workforce to manage demand and Covid challenges, developing a more sophisticated approach to workforce planning to reduce the physical loading on delivery drivers and driver fatigue, and introducing new tools to reduce manual handling requirements. We are also in the process of upgrading our safety systems and processes across our LPG depots.

Engineering out safety risk

In FY22 we redesigned our LPG trolleys, improving their stability, ergonomics, control, and reducing the weight loading on the user by approximately 40%. The trolley design is in production and will be rolled out in early FY23.

At our Tongariro Power Scheme, we successfully completed our first tunnel inspection using a submersible remote operated vehicle. The ROV travelled underwater through a 4.5m wide, 3km tunnel, taking photos and 3D sonar recordings to map the tunnel's interior and gather detailed data. The intention is to roll out this technology through our 70km tunnel network, reducing the frequency that people need to enter our tunnels, reducing risk of tunnel damage through draining, and significantly reducing plant outage times.

Artificial intelligence (AI) was deployed via cameras to monitor remote water intake structures, checking whether they were becoming blocked and required maintenance. This AI avoids the need for a 100km round trip by a lone worker.

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Diversity and inclusion

A diverse and inclusive workplace where everyone feels valued makes it stronger, more capable, and more innovative. It leads to enhanced ability to recruit and retain good people, increased employee engagement, boosted productivity, better connection with our customers and communities, and enhanced brand reputation.

Gaining the Rainbow Tick

We were delighted to attain Rainbow Tick certification this year, displaying our acceptance and value of all staff members whatever their sexual or gender identity.

The certification followed a two-year process, during which we set up an Inclusion Council, refreshed our Diversity and Inclusion Policy, and completed a rigorous evaluation with the Rainbow Tick organisation.

It shows our employees, customers, and the community that Genesis is a progressive, inclusive, and dynamic organisation that reflects the people of New Zealand.

In celebration, our Tokaanu Power Station in the central North Island was lit up in rainbow lights for a week (pictured).

Addressing the gender gap

In 2017 Genesis launched 'Minding the Gap', a programme to create transparency about gender pay and to drive change. We have also reported our Pay Equity Gap since 2018 and published a Gender Gap Statement in 2020.

There are three factors that make up our Gender Gap Statement - the Pay Equity Gap, Leadership Progression Gap, and the Total Gender Gap.

In FY22 our ongoing attention to the Pay Equity Gap, reducing inequity of pay for men and women doing 'equal value' work, saw it reduce from 1.7% in FY21 to 1.3% in FY22.

37.4%

Gender pay gap
FY21 35.5%

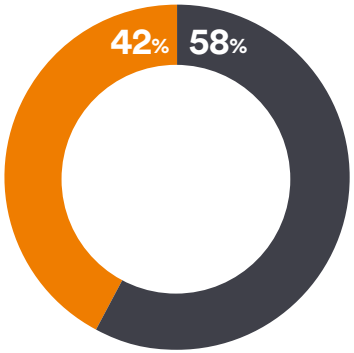
1.3%

Pay equity gap
FY21 1.7%

50:50

Executive gender diversity
FY21 30:70

Leadership progression gap
FY21 ● 45% ● 55%



Senior leadership roles
Females ● Males ●

We were also pleased to achieve a gender-balanced Executive team following the internal promotions of Rebecca Larking to Chief Operations Officer, and Pauline Martin to Chief Trading Officer. Their appointments will support our ongoing efforts to close the leadership progression gap.

Supporting development

The Adaptive Leaders Programme is designed to strengthen our leaders' ability to navigate and handle the complexities of continual change and pressure, and to develop high performance teams that are aligned, empowered and accountable. It has been rolled out through 10 cohorts over the past 18 months, including to our Executive team and their direct reports. Of its graduates to date, 136 are men and 92 (40%) are women.

Recruitment and retention

Our employee Net Promoter Score (NPS) increased from 67.5 in FY21 to 69 this year, reflective of the work we did in keeping our people safe through Covid, supporting them working from home and welcoming them back to the office, and our focus on embedding Genesis' Purpose on a personal level (see following page).

Over the past year we have filled more than 39% of roles through internal movement and promotion – not only retaining talent but also proving to our staff that we value them and will create career pathways for them.

A survey to assess our culture asked employees about their alignment, empowerment and accountability. Scores ranged from 8.5 to 9 out of 10. Our culture has matured, reflecting the focus and effort of the past five years, though we know there is still more to be done.

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Living our Purpose

Purpose Week 2022

The return of our office staff to workplaces in early 2022 presented the opportunity to galvanise our purpose internally. A challenge for everyone to commit to a personal sustainability goal became an anchor of Purpose Week, as a series of talks and activities provided ideas and inspiration for our staff to make our purpose meaningful for them individually in their day to day lives.

Aotearoa Bike Challenge

Around 20% of our people put our purpose into action through the national Aotearoa Bike Challenge run through February. We collectively rode 36,128km, and saved 1,855kg of CO_2, coming first among competing companies with staff numbering up to 1,999.

Purpose week: the numbers

12 Events across the week on offer

4.7/5 Average ratings

595 Attendees across live events

1,558 Attendees across streamed events

5,247 Purpose points accrued by staff for participation in events

378 Questions asked

226 People filled in the pre-event survey

1 Purpose

"Empowering New Zealand's sustainable future"

645 People participated across the week

295 People committed to a personal sustainability goal

Building a sustainable business.

Tuai Power Station near Lake Waikaremoana.

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We are committed to living our purpose of empowering New Zealand's sustainable future in all aspects of our business from the way we generate and supply energy, care for the environments in which we operate and interact with our customers, our people and wider communities.

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Genesis owns and operates a diverse portfolio of generation assets in New Zealand, including hydropower, wind and thermal generation.

We are committed to living our purpose of empowering New Zealand's sustainable future in all aspects of our business, from the way we generate and supply energy, care for the environments in which we operate and the way we interact with our customers, our people, and wider communities. It guides our vision of the future and the way we build it.

We understand the importance of our role in New Zealand's transition to a low carbon future and that decarbonising ourselves, helping our customers do the same and the individual actions of our people will contribute to achieving the country's goal. This means meeting the needs of the present, without compromising future generations.

Our purpose is underpinned by ambitious Science Based Targets with the goal to remove 1.2m tonnes of carbon by FY25 from a FY20 base (4,495,002 t/CO_2e), tied to the international benchmark of limiting global warming to 1.5°C. These targets ensure we can measure our progress and hold ourselves accountable. Progress through the current financial year can be tracked through our quarterly reports posted to the NZX and in our Climate Risk Report for FY22.

Genesis seeks to identify social, economic, and environmental risks and benefits as part of our strategic decision-making processes. Through our comprehensive and evolving Sustainability Framework, Genesis has made significant progress in the areas that we believe matter the most to, and have the greatest impact on, our stakeholders. These include reducing emissions from generation, providing a supportive and inclusive workplace, collaboration, and partnership within the communities we work with a particular focus on education relating to energy. We also understand that a 'just transition' is vital and that for the communities connected to our assets, community support with investment in new energy, new industries and new jobs is important.

We have embedded further accountability and transparency with a new Sustainable Finance Framework. This includes $250 million of sustainability linked loans to support our commitment to invest in sustainable assets and outcomes. Through the Sustainable Finance Framework, Genesis aims to lead the industry's response to helping New Zealand achieve its net zero emissions goals, address social challenges, and provide a mechanism for investors to contribute capital towards a more sustainable future.

Our purpose, visions and strategies

Our refreshed retail strategy emphasises five key priorities, delivering more from our core whilst building for the future

1. Improve customer experiences
2. Make sustainable choices compelling
3. Leverage our multi-brand platform
4. Build future-proof foundations
5. Supercharge our people

Our Future-gen strategy focuses on the opportunity to deliver value uplift navigating the energy transition

1. Grow renewables
2. Value from flexibility and reliability
3. Transition Huntly

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Sustainability Framework

We work hard to manage our impact on the environment, and the communities we are part of. Working with stakeholders such as investors, customers, iwi, community groups, and our people is key to creating shared success.

Our sustainability goals are focussed on two key themes: creating a low carbon future powered by renewable energy and creating a more equal society. Our framework is aligned with five of the United Nations Sustainable Development Goals (SDGs). The goals we have chosen are identified as areas where we can make the most positive impact for New Zealand.

FOCUS AREA	GOALS	ACTIVITY
A low carbon future for all **TARGET:** Reduce emissions in line with a 1.5°C trajectory (achievement of a Science Based Target): 1. reduce absolute scope 1 and 2 GHG emissions by 36%; and 2. reduce absolute scope 3 GHG emissions from use of sold products by 21%.	• Empower NZ's energy transition. • Future-gen strategy target to reduce CO_2 emissions by 1.2 million tonnes by FY25.	Total emissions (all scopes) have reduced 843,953 t/CO_2e compared with FY20. Target to secure 2,650 GWh per annum of renewable electricity by 2030. To date, we have power purchase agreements for 1,940 GWh pa including our commitment to solar.
	• Support customers & communities to transition to a low carbon future.	In FY22, there were 21.8 million interactions with our Energy IQ app, 273,216 unique users and more than 301,000 energy saving tips provided. Launched the Climate Change Hub to educate and inform customers, shareholders and the wider public on the role of energy in combating climate change. There have been 17,787 unique visits to the hub since it launched in November 2021.
	• Protect and restore biodiversity.	Supporting the restoration of Aotearoa's biodiversity through our 10-year partnership with DOC on Whio Forever Recovery Programme. Number of protected breeding pairs grew from 298 in 2011 to 694 in FY22.
A more equal society **TARGETS:** 21 annual apprenticeships, internships and work experience opportunities with a focus on Māori students, through our Ngā Ara Creating Pathways programme. 40:40:20 gender split (40% male, 40% female and 20% either gender) across the entire workforce.	• Create pathways for the future of work.	Through School-gen, we provide free online resources, games and activities on STEM for teachers, students, and parents. In FY22 there were more than 5,700 downloads of these resources.
	• Support energy wellbeing.	Our Genesis Caring Team, Te Tira Manaaki o Kenehi, aims to contact around 1,000 customers each month that data shows may be experiencing early signs of financial hardship. Helping Kiwis keep their homes warmer and healthier through our support of curtain banks. More than 10,000m² of curtain fabric was recycled and 1,074 households benefited from Genesis subsidised curtains.
	• Enable a diverse & inclusive workforce.	Gained Rainbow Tick certification in FY22. YWCA GenderTick for excellence in gender equality. Our eight-member Executive team became gender-balanced this year following two internal promotions.
A sustainable business	• Link our finance with sustainable outcomes. • Support and grow our people. • Good governance, transparent reporting, and open conversations with everyone we engage with.	Signed $250m of Sustainability Linked Loans to financially incentivise us to meet sustainability targets, including reductions across all scopes of emissions, developing renewable energy generation, and a future of work programme. Our Adaptive Leaders Programme is designed to strengthen our leaders' ability to navigate the complexities of continual change. Almost 230 people have completed the course, including all our executive and their direct reports.

What matters most

Issues that matter to Genesis and our stakeholders in FY22

We are committed to creating shared value – for our customers, our shareholders, our people, and our communities. We do this through our core business, which is focused on providing reliable energy to our customers, and more widely by generating positive economic, social, and environmental outcomes for New Zealand. We manage our approach to sustainable business through a suite of principles, policies, and statements.

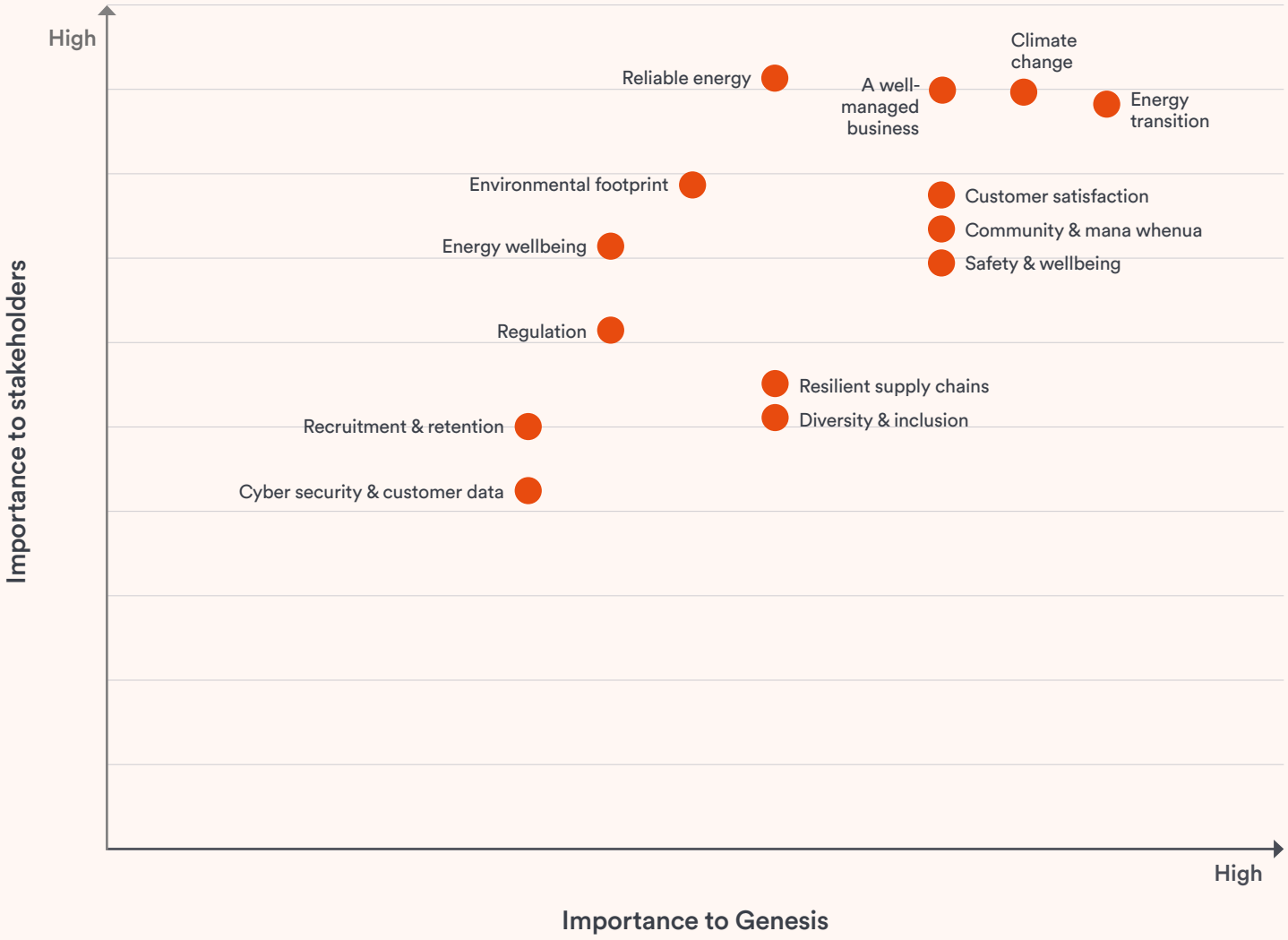
Identifying material sustainability issues

We have identified the most important current and emerging risks and opportunities. As part of the Sustainability Report materiality process, we interviewed Genesis executives, senior leaders, and external stakeholders to gain insights into material risks and opportunities.

This feedback, together with an assessment of industry trends, internal reports, and research feeds into Genesis' assessment of material topics, informing our strategic approach and guiding our reporting in line with the internationally recognised sustainability standards and principles of the Global Reporting Initiative.

This graph shows the material topics mapped by importance to our stakeholders and to Genesis in FY22.

FY22 Materiality Assessment



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Genesis FY22 Material Sustainability Issues (in alphabetical order)

The table below maps our response to the material topics arising from our analysis. For each, references are provided to further information on each topic.

TOPIC	DESCRIPTION OF ISSUE	HOW WE'RE RESPONDING
A well-managed business	Clear governance practices, active management of risk, commitment to compliance, and fair remuneration in our operations, supplier, and partner relationships. Maintaining a healthy financial performance and strong balance sheet. Focusing on improving corporate culture and outcomes for customers and employees. Open and transparent reporting and investor communications.	Genesis' Corporate Governance Statement is publicly available and updated annually. The Risk Management Framework is part of the induction process for all employees and is overseen by the Board. A key strategic pillar, 'Deliver More from our Core,' focusses on driving financial performance by leveraging stability from diverse revenue streams and opportunities for market growth. We are transparent about strategy and performance through disclosures including our Annual Report, Investor Presentations, Climate Risk Report and Modern Slavery Statement.
Climate change	Managing the risks and opportunities of climate change, reducing carbon emissions across our value chain, and supporting collaborative efforts to limit global warming.	Verified Science Based Target to remove 1.2m tonnes of carbon by FY25 (from a FY20 base) aligned to 1.5C. Committed to the Climate Leaders Coalition's 2022 Statement, to develop science-based emissions reduction targets. Reporting, and managing our climate-related financial risks in line with the Taskforce on Climate Related Financial Disclosures (TCFD). Working with supply chain partners to reduce carbon during upgrade projects at our generation sites.
Community and mana whenua	Building strong and enduring relationships with mana whenua, being a good neighbour and playing an active part in creating value for the whole community.	We regularly and proactively engage with local communities regarding our operations. Genesis continues to participate in the Whanganui catchment strategy group Te Kōpuka nā Te Awa Tupua that works to enhance the environmental, social, cultural, and economic health and wellbeing of the Whanganui River. Preparing for the reconsenting of the Tekapo Power Scheme, engaging with mana whenua and stakeholders within the Waitaki Catchment to understand the ongoing effects of our operations to ensure these can be appropriately managed into the future. Supporting and developing programmes to provide career opportunities, with a focus on Māori students, (Ngā Ara Creating Pathways).
Customer satisfaction	Meeting the needs of our customers.	Developing digital tools so customers better understand their energy use and emissions. In FY22, Energy IQ app was refreshed and a new digital platform for small and medium businesses was piloted.
Cyber security and customer data	Processes and controls to protect systems, networks, programmes, devices, and data from cyber-attacks, which can compromise customer and business information.	Cyber security is a key priority for us. Controls and processes are regularly assessed and include training and updates of policies and procedures. Genesis has a robust set of protections for customer data in place.

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TOPIC	DESCRIPTION OF ISSUE	HOW WE'RE RESPONDING
Diversity and inclusion	Providing a safe, welcoming, and supportive environment for our people to succeed, regardless of their background.	Rainbow Tick accreditation in FY22. YWCA Gender Tick for excellence in gender equality.
Energy transition	Empowering the transition to a low carbon future for ourselves, our customers and NZ Inc.	Through the Future-gen strategy we are investing in new renewables to reduce use of thermal fuels. Intention is to trial biomass as an alternative to coal at Huntly. Providing tools and insights to customers so they can manage their usage and reduce their carbon footprint. Green star rated offices, leased EVs for company carpool, employee subsidy for public transport.
Energy wellbeing	Supporting our customers in times of energy hardship and supporting our wider communities.	Established Te Tira Manaaki o Kenehi care team to help vulnerable customers and support households to better manage their energy use. Support curtain banks to help families have warmer homes and save money on energy bills. Provide 'Power Shout' hours for residential customers to save on energy costs.
Environmental footprint	Reducing the impact our operations have on the surrounding environment through best practice environmental controls and ongoing monitoring of our environmental performance.	Strict controls and processes in place at all sites to adhere to resource consents and to prevent harm to natural environments. Monitor a range of environmental indicators and have tailored management of generation assets to minimise impacts on surrounding ecosystems. Our ten-year partnership with the Department of Conservation to protect and enhance the environments in which Whio thrive.
Resilient supply chains	Ensuring robust supply chains for business operations.	While there have been some disruptions, our supply chains have largely operated well through FY22.
Regulation	Regulatory interventions that impact on the energy sector.	We engage in formal consultation processes on many regulatory proposals and changes that are material to our business. Among our submissions this year were the Emissions Reduction Plan; Transitioning to a Low Emissions and Climate Resilient Future; Defining Energy Hardship; Security of Supply Forecasting and Information Policy, and Emergency Management Policy. We also input our views into collective advocacy through the Climate Leaders Coalition and Sustainable Business Council.
Reliable energy (security of supply)	Energy is available when you need it.	Up to date asset management plans to ensure assets are well maintained, and outages are organised to minimise disruptions. Ensuring sufficient capacity to provide dry year cover. Advocating for appropriate regulatory settings to ensure a sustainable and reliable energy sector.
Recruitment and retention	Recruiting and retaining the best employees with relevant industry skills.	Positioning ourselves as an inclusive workplace that empowers employees. Delivering initiatives on pay equity, wellbeing, learning and development, social events, and volunteer days to help our people feel valued and supported. We are a Living Wage Accredited Employer which means all our people are paid a fair and decent wage.
Safety and wellbeing	Helping our employees and the community take care of their overall wellbeing and resilience.	We have supported New Zealanders to live in warmer, healthier homes through curtain bank programmes since 2010. We provide our people with learning programmes on various topics including health and safety and mental wellbeing. Each staff member can access $100 a year for medical or wellbeing support.

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External environment

Genesis' planning and operations are influenced by the external environment in which we operate. During FY22, that included landmark policy decisions regarding the country's pathway to a low carbon future along with the on-going global impacts of Covid-19 and the war in Ukraine.

Regulation

New Zealand's regulatory environment sets the framework within which we operate. We take an active role in contributing to public policy, regulatory and legislative proposals. We share our perspective in a constructive, evidence-based way to ensure regulators have a well-rounded and informed view so decisions can be made that are in the best interests of our customers, stakeholders, and all New Zealanders. This year we provided submissions to a range of organisations including Ministry of Business, Innovation and Employment (MBIE), Ministry for the Environment, the Electricity Authority (EA), Transpower, and Civil Defence and Emergency on issues such as energy sustainability, affordable energy, the wholesale market, Emissions Reduction Plan, and the outages of 9 August, 2021. We work hard on building relationships across all political parties and contribute to business and industry groups in a transparent and open-minded way.

Energy affordability

Genesis supports the Government's focus on energy affordability for residential users and we have been working to implement the recommendations of the 2019 Electricity Price Review in ways that work for our customers. This includes carefully implementing the phase out of Low User Fixed charges, which will see fixed and variable pricing phased out over five years to ensure a single line charge. We are taking care to ensure most customers see benefits, while those who experience cost increases are supported.

Advocating for customers, Genesis engaged with MBIE in defining energy hardship, the establishment of the energy hardship expert panel and the consumer advocacy council. As a company that recognises the importance of energy during the transition, Genesis has played a leading role to ensure all Kiwis have access to power as New Zealand becomes increasingly electrified. We are working with Government and NGOs on pilot projects that aim to understand how, for example, solar and energy monitoring technologies could be used to support energy wellbeing for the vulnerable.

Energy sustainability

Genesis is actively engaging with the Government as it creates the framework for the country's energy transition. From decarbonising electricity and gas through to the role of domestic pine forests in offsetting carbon emissions, Genesis has a clear and consistent voice on the importance of balancing the needs of the energy trilemma.

The Government delivered the Emissions Reduction Plan in May, setting out the policies and settings for meeting New Zealand's emissions budgets. This was the culmination of over two years' analysis and consultation across Government. Genesis' involvement in this process has included formal and informal engagement with agencies including the Climate Change Commission (CCC), Ministry for the Environment, MBIE, the EA and Gas Industry Company.

The ERP reflected key points we have emphasised including the development of a National Energy Strategy, a gas transition plan to ensure gas supply for industry and electricity generation is maintained as the economy decarbonises and moving away from a goal of 100% renewable electricity by 2030 to a 50% renewable energy target by 2035.

We are taking care to ensure most customers see benefits, while those who experience cost increases are supported.

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Supply Chain

Supply chain delays

While we have experienced delays in the IT area and in the supply of electric vehicles, the most significant delay in FY22 was in the transporting of a new generator for Tuai Power Station. Manufactured in Europe, it was shipped from Spain and expected to take one month to arrive here but instead took a little over three months.

We had some minor disruption to the coal supply chain due to Covid-19. This involved delays in loading while waiting for health inspectors to board, do testing and then issue clearance. These delays would take a couple of days to complete, compared to it previously being a formality. We had one major disruption when the Indonesian Government banned coal exports in January 2022. It meant that Genesis, at short notice, had to cancel or re-route ships, as well as re-negotiate future ship arrival dates. In February 2022, exports resumed as normal although it took suppliers until May to get back on schedule.

The other delay has been in securing access to biomass to trial as an alternative fuel to coal at Huntly. We had originally hoped to be able to hold the trial in February, then pushed that out to June. Demand for biomass is soaring across the world and securing a supply to conduct the trial has not been easy. We continue to review our supplier options and are hopeful of being able to run the trial in FY23.

Sustainable procurement

We introduced a Supplier Code of Conduct which is included in all new contracts and contract renewals. This sets a minimum expectation and encourages improvements in ethical business practice, safety and wellness, people and community, and environment practises.

We have also introduced sustainability questions in our request for proposal documents for potential vendors and ask specifically how they might be implemented if they become a supplier. These are then considered in our vendor selection process. We have also started bespoke discussions with high value, and values-aligned suppliers, to explore further sustainable initiatives, such as measuring and then mitigating carbon emissions on select projects to try to make them zero carbon.

We have extended our relationship with Pou, a locally owned and iwi-backed company in Huntly that started initially to support operations at the power station. Pou has now been engaged to provide cleaning services at our Hamilton office, helping Pou diversify and grow as a company.

Leadership

Lake Pukaki, part of the Tekapo Power Scheme.

Photo credit: George Empson

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Our Board of Directors

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Genesis Energy's Board of Directors bring varied experience and a broad set of skills to their governance of our company. They set Genesis' strategic direction, creating long-term value for shareholders while balancing the needs of our customers, stakeholders and the environments in which we operate.

In the Corporate Governance section of this report we include a matrix setting out the Board's expertise across a range of strategic skills. You can also find full profiles of the Directors on our website.

CHAIR

Barbara Chapman
CNZM, BCom, CMInstD

Barbara joined the Genesis Board in May 2018 and assumed the role of Chair in October 2018.

Catherine Drayton
BCom, LLB, FCA

Catherine joined the Genesis Board in March 2019. She is Chair of the Company's Audit and Risk Committee.

Doug McKay
ONZM, BA, AMP (Harvard)

Doug joined the Genesis Board in 2014 and is a member of the Company's Human Resources and Remuneration Committee, and the Nominations Committee.

Tim Miles
BA

Tim joined the Genesis Board in November 2016 and is Chairman of the Company's Human Resources and Remuneration Committee, and the Nominations Committee.

James Moulder
BA, BCA

James joined the Genesis Board in October 2018. He is a member of the Audit and Risk Committee.

Hinerangi Raumati-Tu'ua
BMS, MMS, FCA, MNZM

Hinerangi joined the Genesis Board in March 2022. She is a member of the Audit and Risk Committee.

Paul Zealand
BSc Mech. Eng (Hons), MBA

Paul joined the Genesis Board in October 2016. He is a member of the company's Human Resources and Remuneration Committee, and the Nominations Committee.

A refreshed leadership team to navigate the transition

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Marc England
CHIEF EXECUTIVE
MBA, MENG

Joined Genesis in May 2016, previous executive experience at AGL Energy and British Gas. Departs Genesis in October 2022 to join Ausgrid.

Tracey Hickman
CHIEF CUSTOMER OFFICER/ INTERIM CE
MA (Hons), AMP (Harvard)

Over 28 years energy sector experience, including 10 years in executive roles in generation, trading, fuels and retail. Interim CE from October 2022.

James Spence
CHIEF FINANCIAL OFFICER
BSc, CA

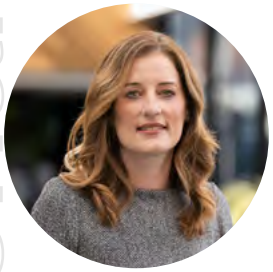
Experience as CFO at three integrated energy companies in Australia and North America.

Matthew Osborne
CHIEF CORPORATE AFFAIRS OFFICER
BCom, LLB

Corporate counsel and executive with over 20 years' experience across legal, regulatory, sustainability, communications and governance.

Rebecca Larking
CHIEF OPERATING OFFICER
MSc, Dip Business Admin

18 years energy sector experience across environmental, generation, business sales and retail operations.



Pauline Martin
CHIEF TRADING OFFICER
B.E (Electrical and Electronic)

15 years' experience in wholesale markets, transmission, generation development and retail markets.

Peter Kennedy
CHIEF DIGITAL OFFICER
BFor.Sc (Hons), ACMA

15 years of digital marketing and customer experience in the UK and New Zealand.

Nicola Richardson
CHIEF PEOPLE OFFICER
BA (Hons)

Experience in financial services, real estate and human resources consulting. Departs Genesis for ASB in September 2022.

Our leadership team execute strategy approved by the board and provide directors with accurate and timely information on company operations, performance, legal obligations and reputation.

They lead the operations of the company, our people and our resources. Full profiles of our leadership team can be found here.

Key sustainability data

A SUSTAINABLE BUSINESS		FY22	FY21	FY20
Financial	EBITDAF ($m)	$440	$355[1]	$356
	NPAT ($m)	$222	$32[1]	$46
Sustainable finance	Sustainability linked loan facilities ($m)	$250[2]	-	-
	Green bonds ($m)	$410[3]	-	-
	Sustainable finance as a percentage of total borrowings[4] excluding lease liabilities	29%	-	-
Customer	Number of retail customers	471,012	474,325	484,687
	Change in customer complaints from prior year (%)	+11%	+13%	-53%
	Net Promoter Score (NPS)	51	47	39
Supply chain	Total supply chain spend ($m)	$2,646	N/A[5]	N/A[5]
Employees	Employees (headcount)[6]	1,231	1,175	1,108
	Employees (FTE)	1,204	1,149	1,076
	Total recordable injuries	45	31[7]	22[7]
	Injury severity (lost/restricted days)	1,481	1,770	671
	Women as a % of workforce	44%	44%	43%
	Gender pay ratio	37.4%	35.5%	37.2%
	Pay equity gap	1.3%	1.7%	1.9%
	Exec gender diversity (% Female)	50%	30%	25%
	Women in leadership roles[8]	42%	45%	50%

1. FY21 EBITDAF and NPAT have been restated to reflect the revision of the accounting policy for intangible assets (refer to the general information and significant matters section of the consolidated financial statements). Refer to the consolidated comprehensive income statement on page 50 for reconciliation from EBITDAF to net profit after tax.
2. Sustainability linked revolving credit facilities available to be drawn down of which nil was drawn down at 30 June 2022.
3. Excludes fair value interest rate risk adjustments, capitalised issue costs and accrued interest.
4. The calculation is based on drawn debt at year end and excludes fair value interest rate risk adjustments, capitalised issue costs and accrued interest.
5. Total supply chain expenditure was not available prior to FY22.
6. Permanent, fixed term and casual.
7. Injury reporting changed from TRIFR to total recordable injuries in FY22, FY21 and FY20 have been restated for comparability purposes.
8. Measures the progress we are making in advancing females into senior leadership roles. Leaders are classified as Tier 1, Tier 2, and Tier 3 employees. Refer to our Gender Gap Statement on our website for more information.

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Key sustainability data (continued)

A LOW CARBON FUTURE FOR ALL		FY22	FY21	FY20
Empowering NZ's energy transition	Total Scope 1 emissions (tCO_2e)	2,223,126	3,940,063	2,690,013
	Total Scope 2 emissions (tCO_2e)	217	262	240
	Total Scope 3 emissions (tCO_2e)	1,427,706	1,732,480	1,804,749
	Carbon intensity – thermal generation (tCO_2e/GWh)	595	716	603
	Carbon intensity – total generation (tCO_2e/GWh)	342	491	395
	Carbon intensity – retail customers ($kgCO_2e$/$ retail revenue)	0.74	0.75	0.76
	Thermal generation as a % of total generation	58%	69%	66%
Supporting customers to transition to a low carbon economy	Customers engaging with tools (Energy IQ) to reduce energy use (residential and small to medium business customers)	273,216	274,727	N/A
Protecting and restoring nature	Number of Whio breeding pairs (showing improvement to quality of water and pest reduction in targeted areas)	694	863	748
A MORE EQUAL SOCIETY		**FY22**	**FY21**	**FY20**
Supporting local communities	Volunteering (value of hours in $)	$31,530	$61,248	$41,484
Supporting energy wellbeing	Households helped to improve warmth (through curtain banks)[9]	1,074	1,172	932
	'Power Shout' hours gifted by customers to those in financial need (hours of power)	62,132[10]	N/A	N/A
Creating pathways for the future of work	Apprenticeships, internships and work experience opportunities through Ngā Ara Creating Pathways	21	32	N/A[11]
	Schools receiving STEM equipment via the School-gen Trust	33	N/A[12]	16
	Numbers of people employed by Pou in the Waikato region[13]	45	46	40

9. Data is based on the financial year of each curtain bank (Sustainability Trust Wellington and Community Energy Action Christchurch).
10. In FY22, 15,533 customers gifted 62,132 Power Shout hours. Genesis contributed 67,868 hours giving a total of 130,000 hours.
11. Genesis has supported internships and apprenticeships for a number of years, however the programme was formalised under the Ngā Ara Creating Pathways programme in FY21.
12. FY21 funding was not completed until July 2021 (FY22), so no equipment was gifted in FY21.
13. Pou is a marae-owned entity that provides facilities management services through the employment of local people. It was established in partnership with Genesis and Waahi Paa, Te Kauri, Kaitumutumu, Te Ohaaki, Taupiri, Matahuru Marae, Waahi Whaanui Trust, Matawhaanui Board (as a representative of the collective marae). Pou is aiming to grow its business in the Waikato.

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Consolidated financial statements

Ngā Tauākī Pūtea Tōpū

For the year ended 30 June 2022

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Consolidated comprehensive income statement

For the year ended 30 June 2022

	Note	2022 $ million	Restated* 2021 $ million
Revenue	A3, A4	**2,834.1**	3,221.2
Expenses	A3	**(2,393.8)**	(2,813.7)
Arbitration decision in respect of a carbon liability dispute			
- 2021 emission costs	A2, A3	**-**	(16.6)
- 2020 emission costs	A2, A3	**-**	(15.2)
- 2018 and 2019 emission costs	A2, A3	**-**	(18.0)
- Reimbursement of other associated costs	A2, A3	**-**	(3.1)
Earnings before net finance expense, income tax, depreciation, depletion, amortisation, impairment, fair value changes and other gains and losses (EBITDAF)		**440.3**	354.6
Depreciation, depletion and amortisation	A5	**(215.8)**	(196.0)
Impairment of non-current assets	B1, B3	**(4.3)**	-
Revaluation of generation assets	B1	**9.6**	27.9
Change in fair value of financial instruments	F5	**139.2**	(86.8)
Share of associates and joint ventures		**(3.9)**	1.3
Other gains (losses)		**8.7**	3.3
Profit before net finance expense and income tax		**373.8**	104.3
Finance revenue		**0.8**	0.4
Finance expense	E6	**(64.4)**	(59.9)
Profit before income tax		**310.2**	44.8
Income tax expense	A6	**(88.3)**	(13.1)
Net profit for the year		**221.9**	31.7
Earnings per share (EPS) from operations attributable to shareholders		Cents	Cents
Basic and diluted EPS	E3	**21.24**	3.04

	Note	2022 $ million	Restated* 2021 $ million
Other comprehensive income			
Change in cash flow hedge reserve	F5	**39.8**	(6.1)
Income tax (expense) credit relating to items above		**(11.1)**	1.7
Total items that may be reclassified to profit or loss		**28.7**	(4.4)
Change in asset revaluation reserve	B1	**344.1**	163.6
Income tax expense relating to items above		**(96.3)**	(45.8)
Total items that will not be reclassified to profit or loss		**247.8**	117.8
Total other comprehensive income for the year		**276.5**	113.4
Total comprehensive income for the year		**498.4**	145.1

* The comparative information has been restated to reflect the revision of the accounting policy for intangible assets. Refer to the 'general information and significant matters' section in the notes for a reconciliation to the previously reported information.

The above statement should be read in conjunction with the accompanying notes.

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Consolidated statement of changes in equity

For the year ended 30 June 2022

	Note	Share capital $ million	Share-based payments reserve $ million	Asset revaluation reserve $ million	Cash flow hedge reserve $ million	Retained earnings $ million	Total $ million
Balance as at 1 July 2020		**635.0**	**1.8**	**1,398.0**	**(42.7)**	**77.7**	**2,069.8**
Restatement for adoption of revised accounting policy*		-	-	-		(3.4)	(3.4)
Restated balance as at 1 July 2020		**635.0**	**1.8**	**1,398.0**	**(42.7)**	**74.3**	**2,066.4**
Restated net profit for the year		-	-	-	-	31.7	31.7
Other comprehensive income							
Change in cash flow hedge reserve	F5	-	-	-	(6.1)	-	(6.1)
Change in asset revaluation reserve	B1	-	-	163.6	-	-	163.6
Income tax (expense) credit relating to other comprehensive income		-	-	(45.8)	1.7	-	(44.1)
Restated total comprehensive income (expense) for the year		**-**	**-**	**117.8**	**(4.4)**	**31.7**	**145.1**
Revaluation reserve reclassified to retained earnings on disposal of assets		-	-	(7.3)	-	7.3	-
Hedging gains and losses transferred to the cost of assets	F5	-	-	-	(4.4)	-	(4.4)
Income tax on hedging gains and losses transferred to the cost of assets		-	-	-	1.2	-	1.2
Changes associated with share-based payments		(0.1)	0.4	-	-	0.2	0.5
Shares issued under dividend reinvestment plan	E2	17.3	-	-	-	-	17.3
Dividends	E4	-	-	-	-	(179.6)	(179.6)
Restated balance as at 30 June 2021		**652.2**	**2.2**	**1,508.5**	**(50.3)**	**(66.1)**	**2,046.5**
Net profit for the year		-	-	-	-	221.9	221.9
Other comprehensive income							
Change in cash flow hedge reserve	F5	-	-	-	39.8	-	39.8
Change in asset revaluation reserve	B1	-	-	344.1	-	-	344.1
Income tax expense relating to other comprehensive income		-	-	(96.3)	(11.1)	-	(107.4)
Total comprehensive income for the year		**-**	**-**	**247.8**	**28.7**	**221.9**	**498.4**
Hedging gains and losses transferred to the cost of assets	F5	-	-	-	(1.9)	-	(1.9)
Income tax on hedging gains and losses transferred to the cost of assets		-	-	-	0.5	-	0.5
Changes associated with share-based payments		0.6	-	-	-	0.2	0.8
Shares issued under dividend reinvestment plan	E2	17.7	-	-	-	-	17.7
Dividends	E4	-	-	-	-	(182.5)	(182.5)
Balance as at 30 June 2022		**670.5**	**2.2**	**1,756.3**	**(23.0)**	**(26.5)**	**2,379.5**

* The accounting policy for intangible assets has been revised during the period. Refer to the 'general information and significant matters' section in the notes for a reconciliation to the previously reported information.

The above statement should be read in conjunction with the accompanying notes.

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Consolidated balance sheet

As at 30 June 2022

	Note	2022 $ million	Restated* 2021 $ million
Cash and cash equivalents		**105.6**	104.3
Receivables and prepayments	C1	**243.1**	341.3
Inventories	C2	**202.9**	93.2
Intangible assets	B3	**49.3**	55.4
Tax receivable		**8.0**	15.1
Derivatives	F1	**122.7**	320.1
Total current assets		**731.6**	929.4
Receivables and prepayments	C1	**3.6**	4.1
Property, plant and equipment	B1	**3,738.7**	3,485.4
Oil and gas assets	B2	**286.9**	293.9
Intangible assets	B3	**327.3**	340.4
Investments in associates and joint ventures	D3	**35.8**	21.0
Derivatives	F1	**148.5**	160.5
Total non-current assets		**4,540.8**	4,305.3
Total assets		**5,272.4**	5,234.7

	Note	2022 $ million	Restated* 2021 $ million
Payables and accruals	C3	**248.3**	390.5
Borrowings	E5	**292.0**	379.7
Provisions	C4	**10.3**	7.1
Derivatives	F1	**144.1**	404.3
Total current liabilities		**694.7**	1,181.6
Payables and accruals	C3	**3.8**	4.3
Borrowings	E5	**1,201.3**	1,048.1
Provisions	C4	**176.9**	159.1
Deferred tax	A6	**750.9**	619.5
Derivatives	F1	**65.3**	175.6
Total non-current liabilities		**2,198.2**	2,006.6
Total liabilities		**2,892.9**	3,188.2
Share capital	E2	**670.5**	652.2
Reserves		**1,709.0**	1,394.3
Total equity		**2,379.5**	2,046.5
Total equity and liabilities		**5,272.4**	5,234.7

* The comparative information has been restated to reflect the revision of the accounting policy for intangible assets. Refer to the 'general information and significant matters' section in the notes for a reconciliation to the previously reported information.

The above statement should be read in conjunction with the accompanying notes.

The Directors of Genesis Energy Limited authorise these financial statements for issue on behalf of the Board.

Barbara Chapman
Chairman of the Board

Date: 18 August 2022

Catherine Drayton
Chairman of the Audit and Risk Committee

Date: 18 August 2022

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Consolidated cash flow statement

For the year ended 30 June 2022

	Note	2022 $ million	Restated* 2021 $ million
Receipts from customers		**2,878.4**	3,083.7
Interest received		**0.8**	0.4
Payments to suppliers and related parties		**(2,430.3)**	(2,594.8)
Payments to employees		**(130.9)**	(113.6)
Tax paid		**(56.3)**	(56.2)
Operating cash flows		**261.7**	319.5
Proceeds from disposal of property, plant and equipment		**0.4**	0.1
Proceeds from assets under finance lease		**0.8**	-
Payments to associates and joint ventures		**(18.5)**	(15.2)
Purchase of assets under finance lease		**(9.1)**	-
Purchase of property, plant and equipment		**(58.2)**	(47.6)
Purchase of oil and gas assets		**(11.9)**	(20.1)
Purchase of intangibles (excluding emission units and deferred customer acquisition costs)		**(14.1)**	(18.4)
Investing cash flows		**(110.6)**	(101.2)
Proceeds from lease incentives	E5	**-**	11.1
Proceeds from sale of treasury shares	E2	**1.2**	-
Proceeds from borrowings	E5	**510.0**	309.8
Repayment of borrowings	E5	**(431.9)**	(248.5)
Interest paid and other finance charges		**(63.3)**	(56.2)
Dividends	E4	**(164.8)**	(162.3)
Acquisition of treasury shares	E2	**(1.0)**	(0.4)
Financing cash flows		**(149.8)**	(146.5)
Net increase (decrease) in cash and cash equivalents		**1.3**	71.8
Cash and cash equivalents at 1 July		**104.3**	32.5
Cash and cash equivalents at 30 June		**105.6**	104.3

Reconciliation of net profit to operating cash flows	Note	2022 $ million	Restated* 2021 $ million
Net profit for the year		**221.9**	31.7
Net loss (gain) on disposal of property, plant and equipment		**2.0**	(0.2)
Net loss on disposal of intangible assets		**0.1**	-
Finance expense excluding time value of money adjustments on provisions		**60.0**	55.8
Change in advances to associates and joint ventures receivable and change in lease receivable		**5.9**	2.2
Change in rehabilitation and contractual arrangement provisions		**(18.6)**	1.2
Items classified as investing/financing activities		**49.4**	59.0
Depreciation, depletion and amortisation expense	A5	**215.8**	196.0
Revaluation of generation assets	B1	**(9.6)**	(27.9)
Impairment of non-current assets	B1, B3	**4.3**	-
Change in fair value of financial instruments	F5	**(139.2)**	86.8
Deferred tax expense	A6	**24.5**	(53.6)
Change in capital expenditure accruals		**1.4**	3.6
Share of associates and joint ventures		**3.9**	(1.3)
Other non-cash items		**7.8**	7.8
Total non-cash items		**108.9**	211.4
Change in receivables and prepayments		**98.7**	(106.4)
Change in inventories		**(109.7)**	4.8
Change in emission units on hand		**6.1**	(50.5)
Change in deferred customer acquisition costs		**1.0**	0.8
Change in payables and accruals		**(142.7)**	153.1
Change in tax receivable/payable		**7.1**	9.9
Change in provisions		**21.0**	5.7
Movements in working capital		**(118.5)**	17.4
Net cash inflow from operating activities		**261.7**	319.5

* The comparative information has been restated to reflect the revision of the accounting policy for intangible assets. Refer to the 'general information and significant matters' section in the notes for a reconciliation to the previously reported information.

The above statement should be read in conjunction with the accompanying notes.

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Notes to the consolidated financial statements

For the year ended 30 June 2022

General information and significant matters

General information

These consolidated financial statements comprise Genesis Energy Limited ('Genesis'), its subsidiaries, controlled entities and the Group's interests in associates and joint arrangements (together, the 'Group'). Refer to section D for more information on the Group structure.

Genesis is registered under the Companies Act 1993. It is a mixed ownership model company, majority owned by the 'Crown', bound by the requirements of the Public Finance Act 1989. Genesis is listed on the New Zealand Stock Exchange (NZX) and the Australian Securities Exchange (ASX) and has bonds listed on the NZX debt market. Genesis is an FMC reporting entity under the Financial Markets Conduct Act 2013.

The core business of the Group and activities carried out by each segment is disclosed in note A3.

Basis of preparation

These financial statements have been prepared:

- In accordance with New Zealand generally accepted accounting practice ('GAAP') and comply with International Financial Reporting Standards ('IFRS') and New Zealand equivalents ('NZ IFRS'), as appropriate for profit-oriented entities;
- In accordance with the Financial Markets Conduct Act 2013, the Financial Reporting Act 2013 and the Companies Act 1993;
- Using the historical cost convention, modified by the revaluation of derivatives, emission units held for trading and generation assets;
- In New Zealand dollars rounded to the nearest 100,000;
- On a Goods and Services Tax ('GST') exclusive basis with the exception of receivables and payables, which include GST where GST has been invoiced;
- Using the accounting policies set out in the notes to the financial statements. The impact of adopting new and revised accounting standards, interpretations and amendments is disclosed below.

Estimates and judgements

In the process of preparing the financial statements Management makes a number of estimates and judgements based on historical experience and various other factors that are reasonable under the circumstances. The table below lists the key estimates and judgements.

Key estimates and judgements	Note	Page
Fair value of generation assets	B1	63
Depletion of oil and gas producing assets	B2	66
Valuation of rehabilitation and restoration provisions	C4	71
Valuation of electricity derivatives	F8	84

Estimates are also used in determining other items such as the expected credit loss provision (note C1), the useful lives of property, plant and equipment and software (notes B1 and B3), and whether assets with indefinite useful lives are impaired (note B3). Judgements are further used in determining whether an event gives rise to a provision or a contingent liability (note G5).

Impairment of assets

Assets that have indefinite useful lives are tested annually for impairment. Assets that are subject to depletion, depreciation or amortisation are reviewed for impairment annually or whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. If an asset's carrying value exceeds its recoverable amount, the difference is recognised as an impairment loss in the income statement, except where the asset is carried at a revalued amount then it is treated as a revaluation decrease up to the amount previously recognised in the revaluation reserve.

Adoption of new and revised accounting standards, interpretations and amendments

Implementation of IFRS Interpretations Committee ('IFRIC') agenda decision on Configuration and Customisation costs incurred in implementing Software-as-a-Service ('SaaS')

As noted in the 2021 Annual Report the IFRIC released an agenda decision in April 2021 in relation to accounting for configuration and customisation costs incurred in implementing 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. The agenda decision clarifies how current accounting standards should be applied to these types of arrangements.

The Group's accounting policy has historically been to capitalise costs directly attributable to the configuration and customisation of SaaS arrangements as intangible assets in the Balance Sheet, aligned to the underlying subscription contract. Following the adoption of the above IFRIC agenda decision, current SaaS arrangements were identified and assessed to determine if the Group has control of the software. For those arrangements where the Group does not have control of the developed software, the configuration and customisation costs previously capitalised have been derecognised and prospectively these costs are now recognised as operating expenses when the services are received; the ongoing fees to obtain access to the cloud provider's application software continue to be an operating expense. Amounts paid to the supplier in advance of the commencement of the service period, including for configuration or customisation that are not distinct from the underlying SaaS, are treated as a prepayment.

Costs may be incurred for the integration of the SaaS or the development of software code that enhances or modifies existing on-premise systems. This spend continues to meet the definition of, and recognition criteria for, an intangible asset. These costs are recognised as software assets and amortised over the useful life of the software on a straight line basis.

The change in accounting policy has been applied retrospectively and as a result the comparative information has been restated. The impact of the accounting policy change is disclosed on the following page.

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General information and significant matters (continued)

Comprehensive income statement For the year ended 30 June 2021	As originally presented $ million	SaaS agenda decision $ million	Restated $ million
EBITDAF	357.9	(3.3)	354.6
Depreciation, depletion and amortisation	(196.9)	0.9	(196.0)
Profit before income tax	47.2	(2.4)	44.8
Income tax expense	(13.7)	0.6	(13.1)
Net profit for the year	33.5	(1.8)	31.7

The restatement impacts the Retail segment ($(3.1) million EBITDAF, $0.8 million amortisation) and the Corporate segment ($(0.2) million EBITDAF, $0.1 million amortisation).

Earnings per share decreased from 3.22 cents per share to 3.04 cents per share as a result of applying the IFRIC agenda decision.

Consolidated balance sheet As at 30 June 2021	As originally presented $ million	SaaS agenda decision $ million	Restated $ million
Receivables and prepayments	343.5	1.9	345.4
Intangible assets	404.9	(9.1)	395.8
Deferred tax	(621.5)	2.0	(619.5)
Retained earnings	60.9	5.2	66.1

Consolidated balance sheet As at 1 July 2020	As originally presented $ million	SaaS agenda decision $ million	Restated $ million
Receivables and prepayments	238.1	0.9	239.0
Intangible assets	358.3	(5.7)	352.6
Deferred tax	(631.6)	1.4	(630.2)
Retained earnings	(77.7)	3.4	(74.3)

Consolidated cash flow statement For the year ended 30 June 2021	As originally presented $ million	SaaS agenda decision $ million	Restated $ million
Operating cash flows	323.8	(4.3)	319.5
Investing cash flows	(105.5)	4.3	(101.2)

Amendment to NZ IFRS 9, NZ IAS 39 and NZ IFRS 7 - Interest rate benchmark reform

IBOR Reform

A fundamental reform of major interest rate benchmarks is being undertaken globally, including the replacement of some interbank offered rates (IBORs) with alternative nearly risk-free rates (referred to as 'IBOR reform'). In the case of USD LIBOR, certain tenors will no longer be published after 30 June 2023. There is still uncertainty around transition to alternative rates, for example when existing rates will no longer be representative and the need for a liquid market.

The International Accounting Standards Board launched a project split in two phases. Phase 1 deals with issues affecting financial reporting before the replacement of the existing benchmark rates and Phase 2 deals with issues affecting financial reporting after the replacement of the benchmark rate.

Approach to IBOR Reform

The Group adopted the Phase 1 amendments of the Interest Rate Benchmark Reform in the prior year and continues to apply the relief provisions meaning there is no need to de-designate the hedge relationship during this period of uncertainty.

Phase 2 amendments of the Interest Rate Benchmark Reform apply when these uncertainties are no longer present and is effective now, with the practical implementation date being when the alternative rates are identified. One of the key reliefs is allowing hedge relationships affected by IBOR reform to continue without the need for de-designation.

Risks and accounting impacts arising from IBOR Reform

The Group has reviewed their exposures to the above IBORs and does not have any direct exposures to any of the IBOR rates. The Group does have financial instruments denominated in USD, but these are at a fixed rate so they do not have a direct exposure to LIBOR.

While the Group does not have a direct exposure to USD LIBOR, it does have an indirect exposure as it has hedge relationships for its cross currency interest rate swaps (CCIRS) (fair value notional USD150m and cash flow notional NZD$193.2m) that reference USD LIBOR. The Group uses CCIRS to manage interest rate risk on the fixed rate United States Private Placement ('USPP') notes by swapping back to floating rates, maturing in 2026 and 2027 (refer to note F4 for further information on the CCIRS). As at 30 June 2022, no hedging instruments or related hedged items have transitioned to alternative risk free rates.

The Group does not expect the transition to alternative benchmark rates to change the overall economics of the hedging transactions as there is no direct exposure to LIBOR, however, the benchmark rate changes will effect the underlying hedge relationships. The Group does not expect this to lead to discontinuation of hedge accounting relationships and continues to work through the transition plan including actions required to update processes, systems and documentation.

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General information and significant matters (continued)

Accounting standards, interpretations and amendments not yet effective

The External Reporting Board ('XRB') of New Zealand is currently developing reporting standards to support mandatory reporting on climate risks. The XRB intends to issue a climate-related disclosure framework: Aotearoa New Zealand Climate Standards with three Climate Standards being issued that set requirements for: Climate-related Disclosures; First-time adoption; and General Requirements for Disclosures. The disclosure areas are expected to be in line with the International Task Force on Climate-related Disclosures ('TCFD'), being Governance, Strategy, Risk Management and Metrics & Targets.

The XRB anticipates issuing the standards by December 2022 and so the first climate statement required under these new standards would be as at 30 June 2024, with mandatory assurance required on the Greenhouse Gas emissions included in the climate statements for the 2025 Annual Report.

The Group has prepared separate voluntary Climate-related Financial Disclosures that follow the principles outlined in the TCFD. This does not form part of the consolidated financial statements.

Climate change and environmental policies established by the New Zealand Government have an impact throughout the New Zealand energy sector and impacts the strategy of the business and therefore is reflected in the financial statements through:

- The Generation assets and energy derivatives are revalued to fair value at each period-end, with the wholesale electricity price path being the key driver of changes in the valuations. The wholesale electricity price path reflects the impact of the New Zealand Government's climate change policy which could have an impact on future prices. Refer to note B1.
- The useful lives of the Group's thermal assets are estimated to be up to 10 years. The useful lives of all assets are reviewed annually to determine whether there have been any changes due to operational or external factors, including climate change considerations, and updated as appropriate. Refer to note B1.
- The Group has provided for its share of the costs of the Kupe production facility at the end of life of this asset. Note the provision assumes the subsea pipeline will be left in situ. Refer to note C4.
- The investment and participation in renewable generation schemes including: a new joint venture agreement for the development of solar generation (refer to note D2); and new long-term power purchase agreements from the Kaiwaikawe wind farm and the Tauhara geothermal field (refer to note F8).
- The Group launched its Sustainable Finance Programme during the year that includes the issue of green bonds to fund green activities and the establishment of sustainability linked facilities that have variable payments linked to performance against the Group's sustainability targets. Refer to note E5.

A. Financial performance

A1. Underlying EBITDAF and underlying earnings

Underlying EBITDAF and underlying earnings are performance measures used internally to provide insight into the operating performance of the Group by adjusting for items that are outside Management's control or items that relate to strategic rather than operational decisions. Items are excluded from underlying EBITDAF and underlying earnings when they meet the criteria outlined in the Group's non-GAAP financial information policy (refer to www.genesisenergy.co.nz/investors/governance/documents for a copy of the policy). These measures are considered to be non-GAAP performance measures. They should not be viewed in isolation nor considered a substitute for measures reported in accordance with New Zealand Equivalents to International Financial Reporting Standards ('NZ IFRS'). Underlying EBITDAF and underlying earnings are used by many companies; however, because these measures are not defined by NZ IFRS they may not be uniformly defined or calculated by all companies. Accordingly, these measures may not be comparable.

Reconciliation of reported net profit to underlying earnings	Note	2022 $ million	Restated 2021 $ million
Net profit for the year		**221.9**	31.7
Change in fair value of financial instruments	F5	**(139.2)**	86.8
Revaluation of generation assets	B1	**(9.6)**	(27.9)
Impairment of non-current assets	B1, B3	**4.3**	-
Unrealised loss (gain) on revaluation of carbon units held for trading		**1.2**	(0.9)
Adjustments before tax expense		**(143.3)**	58.0
Tax expense on adjustments		**40.1**	(16.2)
Adjustments after tax expense		**(103.2)**	41.8
Underlying earnings		**118.7**	73.5

	Cents	Cents
Underlying EPS	**11.36**	7.06

There were no differences between reported EBITDAF and underlying EBITDAF.

A2. Arbitration decision in respect of a carbon liability dispute

In July 2021, following an arbitration process, Genesis settled a contractual dispute relating to the carbon terms of one of its long term gas supply agreements. The arbitrator's decision determined that Genesis was required to meet the carbon liability for gas supplied since 1 January 2018 up to the date the contract expires. The arbitrator's decision was final and binding. As a result an accrual for $52.9 million was recognised at 30 June 2021, comprised of $45.9 million in trade payables and accruals and $7.0 million in emission obligations. The trade payable was settled during the year, reflected in operating cash flows, whilst the emission obligations were settled as part of the normal settlement process.

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A3. Segment reporting

The Group reports activities under four operating segments as follows:

Segment	Activity
Retail	Supply of energy (electricity, gas and LPG) and related services to end users.
Wholesale	Supply of electricity to the wholesale electricity market, supply of gas and LPG to wholesale customers and the Retail segment and the sale and purchase of derivatives to fix the price of electricity.
Kupe	Exploration, development and production of gas, oil and LPG. Supply of gas and LPG to the Wholesale segment and supply of light oil.
Corporate	Head office functions, including human resources, finance, corporate relations, property management, legal, corporate governance and strategy.

Segmentation

The segments are based on the different products and services offered by the Group. All segments operate in New Zealand. No operating segments have been aggregated. The Group has no individual customers that account for 10.0 per cent or more of the Group's external revenue (2021: none).

Intersegment revenue

Sales between segments is based on transfer prices developed in the context of long-term contracts. The electricity transfer price per MWh charged between Wholesale and Retail was $106.56 (2021: $90.73).

Reconciliation of expenses in the income statement to the segment note	2022 $ million	Restated 2021 $ million
Expenses	(2,393.8)	(2,813.7)
Arbitration decision in respect of a carbon liability dispute		
- 2021 emission costs	-	(16.6)
- 2020 emission costs	-	(15.2)
- 2018 and 2019 emission costs	-	(18.0)
- Reimbursement of other associated costs	-	(3.1)
Total expenses in the income statement	**(2,393.8)**	**(2,866.6)**
Made up of:		
Total segment costs	(2,095.1)	(2,592.3)
Employee benefits	(131.3)	(117.5)
Other operating expenses	(167.4)	(156.8)
Total expenses in the segment note	**(2,393.8)**	**(2,866.6)**

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A3. Segment reporting (continued)

	Year ended 30 June 2022					Year ended 30 June 2021				
	Retail $ million	Wholesale $ million	Kupe $ million	Corporate $ million	Total $ million	Restated retail $ million	Wholesale $ million	Kupe $ million	Restated corporate $ million	Restated total $ million
Electricity	1,290.0	1,041.0	-	-	2,331.0	1,328.3	1,413.5	-	-	2,741.8
Gas	188.3	79.7	-	-	268.0	162.9	106.9	-	-	269.8
LPG	86.3	20.1	-	-	106.4	82.9	11.8	-	-	94.7
Oil	-	-	25.1	-	25.1	-	-	23.1	-	23.1
Emissions on fuel sales and electricity contracts	0.7	42.6	-	-	43.3	0.4	47.6	-	-	48.0
Emission unit revenue from trading	-	55.9	-	-	55.9	-	39.0	-	-	39.0
Other revenue	2.0	0.4	0.9	1.1	4.4	2.7	0.7	0.5	0.9	4.8
Total external revenue	**1,567.3**	**1,239.7**	**26.0**	**1.1**	**2,834.1**	**1,577.2**	**1,619.5**	**23.6**	**0.9**	**3,221.2**
Intersegment revenue *	-	770.6	112.3	-	882.9	-	699.3	128.2	-	827.5
Total segment revenue	**1,567.3**	**2,010.3**	**138.3**	**1.1**	**3,717.0**	**1,577.2**	**2,318.8**	**151.8**	**0.9**	**4,048.7**
Electricity purchases	-	(944.9)	-	-	(944.9)	-	(1,243.8)	-	-	(1,243.8)
Electricity network, transmission, levies and meters	(506.2)	(14.6)	-	-	(520.8)	(495.9)	(16.4)	-	-	(512.3)
Fuel consumed in electricity generation	-	(227.6)	-	-	(227.6)	-	(308.7)	-	-	(308.7)
Gas purchases	(0.2)	(148.6)	-	-	(148.8)	(0.1)	(178.4)	-	-	(178.5)
Gas network, transmission, levies and meters	(67.8)	(10.5)	-	-	(78.3)	(66.0)	(17.4)	-	-	(83.4)
LPG purchases, inventory changes and transportation costs	(15.4)	(12.7)	(0.1)	-	(28.2)	(15.3)	(6.9)	0.1	-	(22.1)
Oil inventory changes, storage and transportation costs	-	-	(0.9)	-	(0.9)	-	-	(0.8)	-	(0.8)
Emissions associated with electricity generation ^	-	(43.0)	-	-	(43.0)	-	(101.2)	-	-	(101.2)
Emission costs associated with arbitration decision in respect of gas supplied in prior years	-	-	-	-	-	-	(33.2)	-	-	(33.2)
Emissions associated with fuel sales	-	(24.0)	(23.7)	-	(47.7)	-	(31.6)	(27.3)	-	(58.9)
Emission unit expenses from trading	-	(41.0)	-	-	(41.0)	-	(34.9)	-	-	(34.9)
Other costs	(0.5)	-	(13.4)	-	(13.9)	(0.5)	-	(14.0)	-	(14.5)
Total external costs	**(590.1)**	**(1,466.9)**	**(38.1)**	**-**	**(2,095.1)**	**(577.8)**	**(1,972.5)**	**(42.0)**	**-**	**(2,592.3)**
Intersegment costs *	(770.6)	(112.3)	-	-	(882.9)	(699.3)	(128.2)	-	-	(827.5)
Total segment costs	**(1,360.7)**	**(1,579.2)**	**(38.1)**	**-**	**(2,978.0)**	**(1,277.1)**	**(2,100.7)**	**(42.0)**	**-**	**(3,419.8)**
Gross margin	**206.6**	**431.1**	**100.2**	**1.1**	**739.0**	**300.1**	**218.1**	**109.8**	**0.9**	**628.9**
Employee benefits	(66.9)	(33.3)	-	(31.1)	(131.3)	(55.0)	(31.7)	-	(30.8)	(117.5)
Other operating expenses ^	(84.0)	(44.3)	(22.8)	(16.3)	(167.4)	(75.9)	(42.3)	(22.4)	(16.2)	(156.8)
EBITDAF	**55.7**	**353.5**	**77.4**	**(46.3)**	**440.3**	**169.2**	**144.1**	**87.4**	**(46.1)**	**354.6**

* The intersegment revenue and expenses have been split out in full on the next page. ^For the year ended 30 June 2021 $16.6 million is included in emissions associated with electricity generation and $3.1 million is included in other operating expenses associated with the arbitration decision in respect of a carbon liability dispute, refer to note A2.

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A3. Segment reporting (continued)

	Year ended 30 June 2022					Year ended 30 June 2021				
	Retail $ million	Wholesale $ million	Kupe $ million	Corporate $ million	Total $ million	Restated retail $ million	Wholesale $ million	Kupe $ million	Restated corporate $ million	Restated total $ million
EBITDAF	**55.7**	**353.5**	**77.4**	**(46.3)**	**440.3**	**169.2**	**144.1**	**87.4**	**(46.1)**	**354.6**
Depreciation, depletion and amortisation	(26.9)	(142.2)	(39.6)	(7.1)	(215.8)	(28.0)	(123.1)	(37.6)	(7.3)	(196.0)
Impairment of non-current assets	(1.9)	(2.4)	-	-	(4.3)	-	-	-	-	-
Revaluation of generation assets	-	9.6	-	-	9.6	-	27.9	-	-	27.9
Change in fair value of financial instruments	-	139.2	-	-	139.2	-	(87.3)	(0.1)	0.6	(86.8)
Share of associates and joint ventures	(3.4)	(0.5)	-	-	(3.9)	1.8	(0.5)	-	-	1.3
Other gains (losses)	(1.7)	11.9	0.2	(1.7)	8.7	(0.1)	2.9	-	0.5	3.3
Profit (loss) before net finance expense and income tax	**21.8**	**369.1**	**38.0**	**(55.1)**	**373.8**	**142.9**	**(36.0)**	**49.7**	**(52.3)**	**104.3**
Finance revenue	0.1	0.1	0.1	0.5	0.8	-	-	-	0.4	0.4
Finance expense	(0.5)	(3.6)	(2.7)	(57.6)	(64.4)	(0.6)	(3.1)	(2.6)	(53.6)	(59.9)
Profit (loss) before income tax	**21.4**	**365.6**	**35.4**	**(112.2)**	**310.2**	**142.3**	**(39.1)**	**47.1**	**(105.5)**	**44.8**
Other segment information										
Capital expenditure excluding leased assets	21.4	44.8	10.3	1.9	78.4	22.3	30.7	22.0	6.0	81.0

	Year ended 30 June 2022					Year ended 30 June 2021				
Intersegment analysis	Retail $ million	Wholesale $ million	Kupe $ million	Corporate $ million	Total $ million	Restated retail $ million	Wholesale $ million	Kupe $ million	Restated corporate $ million	Restated total $ million
Electricity - intersegment	-	651.9	-	-	651.9	-	596.5	-	-	596.5
Gas - intersegment	-	90.6	78.8	-	169.4	-	79.8	89.8	-	169.6
LPG - intersegment	-	28.1	21.3	-	49.4	-	23.0	27.3	-	50.3
Emissions on fuel sales - intersegment	-	-	12.2	-	12.2	-	-	11.1	-	11.1
Intersegment revenue	**-**	**770.6**	**112.3**	**-**	**882.9**	**-**	**699.3**	**128.2**	**-**	**827.5**
Electricity purchases - intersegment	(651.9)	-	-	-	(651.9)	(596.5)	-	-	-	(596.5)
Fuel consumed in electricity generation - intersegment	-	(78.8)	-	-	(78.8)	-	(89.8)	-	-	(89.8)
Gas purchases - intersegment	(90.6)	-	-	-	(90.6)	(79.8)	-	-	-	(79.8)
LPG purchases, inventory changes and transportation costs - intersegment	(28.1)	(21.3)	-	-	(49.4)	(23.0)	(27.3)	-	-	(50.3)
Emission costs - intersegment	-	(12.2)	-	-	(12.2)	-	(11.1)	-	-	(11.1)
Intersegment costs	**(770.6)**	**(112.3)**	**-**	**-**	**(882.9)**	**(699.3)**	**(128.2)**	**-**	**-**	**(827.5)**

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A4. Revenue

The accounting policies applied to material revenue streams are disclosed below and the quantum of each revenue stream is disclosed in note A3. Emissions on fuel sales and electricity contracts is not a separate performance obligation under the revenue standard. It has been reported separately as it provides useful information to the financial statement users.

Revenue stream	Contract term	Nature of goods or services and revenue recognition	Payment terms
Electricity (retail), gas and LPG (including emissions)	0-36 months	Daily supply of electricity, gas or metered LPG over the contract period. Revenue is recognised over time at the end of each day when the consumption is known. The amount of revenue recognised is based on the amount the Group has the right to invoice. Individual supply of bottled LPG. Revenue is recognised when the bottle is delivered to the customer.	Customers are invoiced monthly and payment is due between two weeks to one month after invoice.
Electricity (wholesale)	No term	Half hourly supply of electricity. Revenue is recognised over time when each trading period is concluded and the electricity generation is known.	The clearing manager calculates and invoices the revenue. Payment is received on the 20th of the following month.
Emission unit revenue from trading	No term	Sale of emission units. Revenue is recognised at the point in time that the emission unit is confirmed as being transferred into the acquirer's emission unit account.	Payment is due within five business days of the units being transferred.
Oil	12 months	Individual oil shipments. Revenue is recognised on the bill of lading date.	Payment is due no later than 30 days from the bill of lading date.

Judgement used in determining revenue

Where customer meters are unbilled at balance date the Group uses judgement to determine the volume of the unbilled revenue. The Group estimates the unbilled volume using historical consumption information. Unbilled revenue is disclosed in note C1. Where a discount is offered, revenue is initially recognised net of the estimated discount.

A5. Depreciation, depletion and amortisation

	Note	2022 $ million	Restated 2021 $ million
Property, plant and equipment	B1	**153.7**	134.6
Oil and gas assets	B2	**37.4**	35.5
Intangibles (excluding amortisation of deferred customer acquisition costs)	B3	**24.7**	25.9
		215.8	196.0

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A6. Income tax

	2022 $ million	Restated 2021 $ million
Current tax	**63.8**	66.7
Deferred tax	**24.5**	(53.6)
Income tax expense	**88.3**	13.1

Reconciliation of pre-tax accounting profit to income tax expense	2022 $ million	Restated 2021 $ million
Profit before income tax	**310.2**	44.8
Income tax at 28%	**86.9**	12.5
Tax effect of adjustments:		
Over provided in prior periods	**-**	(0.5)
Non-deductible expenditure and other adjustments	**1.4**	1.1
Income tax expense	**88.3**	13.1

Income tax

Income tax is recognised in the income statement unless it relates to other comprehensive income.

Current tax

Current tax is the expected tax payable on taxable income for the year, using tax rates enacted or substantively enacted at the end of the reporting period, together with any unpaid tax or adjustment to tax payable in respect of previous years.

Deferred tax

Deferred tax reflects the differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. The amount of deferred tax provided is based on the expected manner of realisation or settlement of the carrying amounts of assets and liabilities, using tax rates enacted or substantively enacted at the end of the reporting period.

Deferred tax	Restated depreciable capital property* $ million	Oil and gas assets $ million	Provisions $ million	Intangible contractual arrangements $ million	Derivatives $ million	Restated other $ million	Restated total $ million
Restated balance as at 1 July 2020	613.4	72.2	(44.4)	18.0	(13.1)	(15.9)	630.2
Recognised in the income statement	(8.3)	(6.5)	(1.1)	(2.1)	(24.7)	(10.9)	(53.6)
Recognised in other comprehensive income	45.8	-	-	-	(2.9)	-	42.9
Restated balance as at 30 June 2021	**650.9**	**65.7**	**(45.5)**	**15.9**	**(40.7)**	**(26.8)**	**619.5**
Recognised in the income statement	(19.6)	(0.6)	(6.8)	(2.1)	38.0	15.6	24.5
Recognised in other comprehensive income	96.3	-	-	-	10.6	-	106.9
Balance as at 30 June 2022	**727.6**	**65.1**	**(52.3)**	**13.8**	**7.9**	**(11.2)**	**750.9**

* Includes property, plant, equipment and software

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B. Operating assets

B1. Property, plant and equipment

	Note	Generation assets $ million	Other property, plant and equipment $ million	Capital work in progress $ million	Leased assets $ million	Total $ million
Carrying value at 1 July 2020		3,177.3	80.6	54.9	54.9	3,367.7
Additions		-	-	41.9	26.1	68.0
Revaluation of generation assets						
Increase taken to revaluation reserve		163.6	-	-	-	163.6
Increase taken to the income statement		27.9	-	-	-	27.9
Change in rehabilitation and contractual arrangement assets		-	-	1.7	-	1.7
Transfer between asset categories		24.2	19.6	(43.8)	-	-
Transfer to intangible assets	B3	-	-	(1.6)	-	(1.6)
Disposals		(0.9)	(0.4)	-	(4.7)	(6.0)
Depreciation expense recognised in inventories		-	-	-	(1.3)	(1.3)
Depreciation expense	A5	(118.9)	(9.8)	-	(5.9)	(134.6)
Carrying value at 30 June 2021		**3,273.2**	**90.0**	**53.1**	**69.1**	**3,485.4**
Additions		-	-	54.9	3.9	58.8
Revaluation of generation assets						
Increase taken to revaluation reserve		344.1	-	-	-	344.1
Increase taken to the income statement		9.6	-	-	-	9.6
Change in rehabilitation and contractual arrangement assets		-	-	0.8	-	0.8
Transfer between asset categories		44.4	5.6	(50.0)	-	-
Transfer to intangible assets	B3	-	-	(0.9)	-	(0.9)
Disposals		(1.8)	(0.6)	-	-	(2.4)
Impairment		-	-	(1.8)	-	(1.8)
Depreciation expense recognised in inventories		-	-	-	(1.2)	(1.2)
Depreciation expense	A5	(138.3)	(9.4)	-	(6.0)	(153.7)
Carrying value at 30 June 2022		**3,531.2**	**85.6**	**56.1**	**65.8**	**3,738.7**
Summary of cost and accumulated depreciation and impairment						
Fair value or cost		3,273.2	174.6	54.4	141.2	3,643.4
Accumulated depreciation and impairment		-	(84.6)	(1.3)	(72.1)	(158.0)
Carrying value at 30 June 2021		**3,273.2**	**90.0**	**53.1**	**69.1**	**3,485.4**
Fair value or cost		3,531.2	170.4	59.2	145.0	3,905.8
Accumulated depreciation and impairment		-	(84.8)	(3.1)	(79.2)	(167.1)
Carrying value at 30 June 2022		**3,531.2**	**85.6**	**56.1**	**65.8**	**3,738.7**

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B1. Property, plant and equipment (continued)

Generation assets

Generation assets include land, buildings, and plant and equipment associated with generation assets. Generation assets are recognised in the balance sheet at fair value at the date of the valuation, less any subsequent accumulated depreciation and impairment losses. The underlying assumptions used in the valuation are reviewed at each reporting date. Revaluations are performed with sufficient regularity to ensure the carrying amount does not materially differ from the estimated fair value at balance date.

Any increase in the valuation is recognised in other comprehensive income, unless it reverses a revaluation decrease for the same asset previously recognised in the income statement, in which case it is recognised in the income statement to the extent it reverses a decrease previously recognised. A decrease in carrying amount arising on revaluation is recognised in the income statement to the extent that it exceeds the balance, if any, held in the asset revaluation reserve for that asset. Accumulated depreciation at the date of the revaluation is eliminated against the gross carrying value so that the gross carrying amount after revaluation equals the revalued amount.

Subsequent additions to generation assets are recognised at cost. Cost includes the consideration given to acquire the asset plus any other costs incurred in bringing the asset to the location and condition necessary for its intended use, including major inspection costs, resource consent, relationship agreement costs and financing costs where appropriate.

Generation assets were revalued at 30 June 2022 to $3,531.2 million (2021: $3,273.2 million) resulting in a net gain on revaluation of $353.7 million (2021: $191.5 million). The revaluation gain was principally driven by an increase in wholesale electricity prices, partially offset by higher fuel costs and an increase in the Weighted Average Cost of Capital assumption. The revaluation increase taken to the income statement partially reverses previous revaluation decreases for Huntly Rankine units.

The valuation is based on a discounted cash flow model prepared by Management, calculated by generating scheme, except for the Huntly site where it is calculated by type of unit (Rankine units, unit 5 and unit 6). As the key inputs into the valuation are based on unobservable market data, the valuation is classified as level three in the fair value hierarchy. It requires significant judgement, and therefore there is a range of reasonably possible assumptions that could be used in estimating the fair value. Refer to note F8 for an overview of the fair value hierarchy.

If generation assets were carried at historical cost less accumulated depreciation and accumulated impairment, the carrying amount would be approximately $1,496.6 million (2021: $1,515.0 million).

Key estimates and judgements

Wholesale electricity price path

The wholesale electricity price path is the key driver of changes in the valuation. The price path is an average of the internally generated price path and price paths published by two independent third parties, and as a result reflects the uncertainty surrounding Tiwai Point smelter operating beyond 2024 and the impact of the New Zealand Government's climate change policy, both of which could have an impact on future prices.

Internally generated price path

The internally generated price path assumes wholesale electricity demand will continue to grow based on the latest available industry analysis and Genesis' view of future economic growth. As the internally generated price path is underpinned by 83 years of historical hydrological inflow data, the impact of climate change on hydrology over this period has been reflected in the internally generated price path. New and retiring generation plant assumptions are based on publicly available information and Genesis' view on wholesale electricity prices required to support the plant. The internally generated price path assumes that Tiwai Point smelter will continue to operate beyond 2024.

Price paths published by independent third parties

Independent third party price path assumptions on the future of Tiwai Point smelter range from Tiwai Point smelter exiting in 2025 through to operating beyond 2025 or the generation load consumed by Tiwai Point smelter being replaced by other major industrial loads beyond 2025. However, concensus is now shifting towards Tiwai Point remaining open which is reflected in the 2025 ASX energy futures pricing.

Significant unobservable inputs in the valuation model were:

Significant unobservable inputs	Method used to determine input	Sensitivity range	Increase/ (decrease) in fair value of generation assets	Inter-relationships between unobservable inputs
Wholesale electricity price path	The average annual wholesale electricity price ranged between $98 per MWh and $191 per MWh referenced to the Otahuhu 220KV locational node from July 2022 to June 2042.	+10% - 10%	$578 million ($578) million	Hydrological inflows affect generation volumes, as well as wholesale electricity prices.
Generation volumes	In-house modelling of the wholesale electricty market has been used to determine the generation volumes required to meet energy demand both on a wholesale market and asset level basis. The generation volumes used in the valuation range between 2,682 GWh and 7,014 GWh per annum. The low end of the range relates to periods where there is no thermal generation.	+10% - 10%	$454 million ($454) million	Wholesale electricity prices affect the amount of generation.
Discount rate	Pre-tax equivalent discount rate of 10.1%..	+1% - 1%	($211) million $355 million	Discount rate is independent of wholesale electricity prices and generation volumes.

Other key assumptions

The valuation also includes assumptions around market fuel and electricity supply and demand. Our longer term demand assumption increases from industrial electrification and electric vehicle fleet growth in response to climate change. Changes in these interrelated factors will impact the wholesale electricity price path and generation volumes. These factors are reviewed for reasonableness by senior management personnel who are responsible for the price path used by the business.

B1. Property, plant and equipment (continued)

Leased assets

Leased assets include right of use assets recognised in relation to office buildings, land for generation sites and LPG depot leases. The cost of leased assets comprises the amount of the corresponding initial lease liability, lease payments made at or before the commencement date, initial direct costs and restoration costs. The leased asset is subsequently measured at cost less accumulated depreciation and impairment losses. The leased asset is depreciated over the lease term.

All other categories of property, plant and equipment

All other categories of property, plant and equipment, with the exception of land and capital work in progress, are recognised at cost less accumulated depreciation and any accumulated impairment losses. Land and capital work in progress are not depreciated.

Depreciation

Depreciation is calculated on a straight line basis. The estimated useful lives are reviewed annually to determine whether there have been any changes due to operational or external factors, including climate change considerations, and updated as appropriate. An asset's carrying amount is written down immediately to its recoverable amount if the carrying amount is greater than its estimated recoverable amount.

Asset category	Estimated useful lives
Generation assets	
Thermal	up to 10 years
Renewable	up to 85 years
Other property, plant and equipment	3 to 50 years
Leased assets	4 to 38 years

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B2. Oil and gas assets

	Note	Exploration, evaluation and development expenditure $ million	Oil and gas producing assets $ million	Other oil and gas assets $ million	Capital work in progress $ million	Total $ million
Carrying value at 1 July 2020		26.3	260.6	16.0	4.5	307.4
Additions		18.1	0.7	-	3.2	22.0
Transfer between asset categories		-	4.2	0.1	(4.3)	-
Depreciation and depletion expense	A5	-	(34.3)	(1.2)	-	(35.5)
Carrying value at 30 June 2021		**44.4**	**231.2**	**14.9**	**3.4**	**293.9**
Additions		2.2	4.2	0.1	3.8	10.3
Transfer between asset categories		(37.8)	39.6	1.0	(2.8)	-
Change in rehabilitation asset		-	20.1	-	-	20.1
Depreciation and depletion expense	A5	-	(36.2)	(1.2)	-	(37.4)
Carrying value at 30 June 2022		**8.8**	**258.9**	**14.8**	**4.4**	**286.9**
Summary of cost and accumulated depreciation, depletion and impairment						
Cost		62.9	772.7	25.6	3.4	864.6
Accumulated depreciation, depletion and impairment		(18.5)	(541.5)	(10.7)	-	(570.7)
Carrying value at 30 June 2021		**44.4**	**231.2**	**14.9**	**3.4**	**293.9**
Cost		27.3	836.5	26.7	4.4	894.9
Accumulated depreciation, depletion and impairment		(18.5)	(577.6)	(11.9)	-	(608.0)
Carrying value at 30 June 2022		**8.8**	**258.9**	**14.8**	**4.4**	**286.9**

Exploration, evaluation and development expenditure

All exploration and evaluation costs, including directly attributable overheads and general permit activity, are expensed as incurred except for the costs of drilling exploration wells, compression work and the costs of acquiring new interests. The costs of drilling exploration wells and compression work is initially capitalised pending the determination of the success of the wells or compression work. Costs are expensed immediately where the work does not result in a successful discovery. Costs incurred before the Group has obtained the legal rights to explore an area are expensed as incurred.

Exploration, evaluation and development expenditure assets are not amortised; instead, they are assessed annually for indicators of impairment. Any impairment is recognised in the income statement. Once development of a project has been completed, the accumulated expenditure in relation to the project is transferred to oil and gas producing assets.

Oil and gas producing assets

Oil and gas producing assets include costs associated with the production station, platform and pipeline transferred from exploration, evaluation and development expenditure, mining licences and major inspection costs. Depletion of oil and gas producing assets, excluding major inspection costs, is calculated on a unit-of-production basis using proved remaining reserves ('1P') estimated to be obtained from, or processed by, the specific asset. Major inspection costs are depreciated on a straight line basis over the period up to the next major inspection. Major inspections occur every two to ten years depending on the nature of the work undertaken.

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B2. Oil and gas assets (continued)

Key estimates and judgements

Proved reserves ('1P') are the estimated quantities of oil and gas that geological and engineering data demonstrates with reasonable certainty to be recoverable in future years from known reservoirs, under existing economic and operating conditions. Proved reserves ('1P') are defined as those that have a 90 per cent likelihood of being delivered. Because the geology of the Kupe oil and gas field subsurface cannot be examined directly, an indirect technique, known as volumetrics, has been used to estimate the size and recoverability of the reserve. There are high levels of uncertainty in terms of accessibility of reserves through sealing faults and pressure support.

In the current year the Joint Venture Operator performed a review of Kupe's reserves. Genesis engaged Gaffney Cline, an independent expert, to review and verify the Operator's reserve estimate, which resulted in an increase in remaining reserves for proved reserves ('1P') and a decrease in remaining reserves for proved and probable reserves ('2P'). A reduction of 10 per cent in these reserves would increase depletion charges going forward by approximately $3.7 million per annum at current production rates. The table below presents the remaining Kupe oil and gas field reserves in Peta joule equivalents ('PJe') of which the Group has a 46.0 per cent interest (2021: 46.0 per cent).

	Proved reserves ('1P')		Proved and probable reserves ('2P')	
	2022 PJe	2021 PJe	2022 PJe	2021 PJe
Opening remaining field reserves at 1 July	**218.3**	250.0	**308.8**	340.5
Change in reserve estimate	**22.9**	-	**(25.8)**	-
Production	**(32.6)**	(31.7)	**(32.6)**	(31.7)
Closing remaining field reserves at 30 June	**208.6**	218.3	**250.4**	308.8
Developed	**187.1**	51.8	**218.2**	108.5
Undeveloped	**21.5**	166.5	**32.2**	200.3
Closing remaining field reserves at 30 June	**208.6**	218.3	**250.4**	308.8

Further investment will be required to access the remaining undeveloped field reserves disclosed above which would entail the drilling of an additional development well.

Other oil and gas assets

Other oil and gas assets include land, buildings, storage facilities, sales pipeline and motor vehicles. The cost of other oil and gas assets, less any estimated residual value, is depreciated on a straight line basis.

Asset category	Estimated useful lives
Buildings	50 years
Storage facilities	25 years
Sales pipeline	25 years
Motor vehicles	5 years

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B3. Intangible assets

	Note	Goodwill $ million	Restated software $ million	Emission units held for own use $ million	Contractual arrangements $ million	Deferred customer acquisition costs $ million	Restated total $ million
Restated carrying value at 1 July 2020		228.4	50.0	4.9	64.1	5.2	352.6
Additions		-	17.1	69.0	0.7	3.3	90.1
Transfer from property, plant and equipment	B1	-	1.6	-	-	-	1.6
Disposal or surrender		-	-	(18.5)	-	-	(18.5)
Amortisation expense	A5	-	(17.8)	-	(8.1)	-	(25.9)
Amortisation expense included in other operating expenditure		-	-	-	-	(4.1)	(4.1)
Restated carrying value at 30 June 2021		**228.4**	**50.9**	**55.4**	**56.7**	**4.4**	**395.8**
Additions		-	13.2	112.2	1.1	2.2	128.7
Transfer from property, plant and equipment	B1	-	0.9	-	-	-	0.9
Disposal or surrender		-	(0.1)	(118.3)	-	-	(118.4)
Impairment		-	(2.5)	-	-	-	(2.5)
Amortisation expense	A5	-	(16.3)	-	(8.4)	-	(24.7)
Amortisation expense included in other operating expenditure		-	-	-	-	(3.2)	(3.2)
Carrying value at 30 June 2022		**228.4**	**46.1**	**49.3**	**49.4**	**3.4**	**376.6**
Summary of cost and accumulated amortisation and impairment							
Cost		228.4	212.8	55.4	91.5	9.0	597.1
Accumulated amortisation and impairment		-	(161.9)	-	(34.8)	(4.6)	(201.3)
Carrying value at 30 June 2021		**228.4**	**50.9**	**55.4**	**56.7**	**4.4**	**395.8**
Cost		228.4	190.6	49.3	90.0	7.2	565.5
Accumulated amortisation and impairment		-	(144.5)	-	(40.6)	(3.8)	(188.9)
Carrying value at 30 June 2022		**228.4**	**46.1**	**49.3**	**49.4**	**3.4**	**376.6**

The current portion of intangible assets disclosed in the balance sheet relates to emission units held for own use. The remaining $327.3 million (2021: $340.4 million) of intangible assets are non-current.

Goodwill

Goodwill represents the excess of the cost of a business acquisition over the fair value of the Group's share of the net identifiable assets, liabilities and contingent liabilities at the date of acquisition. Goodwill is assessed as having an indefinite useful life and is not amortised but is subject to impairment testing at each reporting date or whenever there are indications of impairment. For the purpose of impairment testing, goodwill has been allocated to the following cash-generating units ('CGU'):

Goodwill by CGU	2022 $ million	2021 $ million
Retail – electricity and gas	**102.6**	102.6
Retail – LPG	**112.6**	112.6
Kupe	**13.2**	13.2
Total goodwill	**228.4**	228.4

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B3. Intangible assets (continued)

Retail – electricity and gas

The goodwill associated with the electricity and gas business mainly relates to the acquisition of NGC electricity and gas business in 2002 and 2003. The impairment test is based on an estimated discounted cash flow analysis (value in use). Estimated future cash flow projections are based on the Group's five-year business plan for the CGU. Cash flows beyond the five-year business plan are extrapolated using a 1.0 per cent year-on-year growth rate (2021: 1.0 per cent). The estimated future cash flow projections are discounted using a pre-tax equivalent discount rate of 10.1 per cent (2021: 9.3 per cent). Any reasonably possible change in key assumptions on which the recoverable amount is based is not expected to cause the carrying value of the goodwill to exceed its recoverable amount.

Retail – LPG

The goodwill associated with LPG relates to the acquisition of the LPG business from Nova Energy on 1 June 2017. The impairment test is based on an estimated discounted cash flow analysis (fair value less disposal costs) using ten years of forecast information. Cash flows beyond the forecast period are based on an EBITDAF multiple of 7.5x (2021: 7.5x). The estimated future cash flow projections are discounted using a pre-tax equivalent discount rate of 11.3 per cent (2021: 10.3 per cent). The forecast takes into consideration both the acquired and existing LPG business, as the assets of the acquired business are used to service the pre-acquisition LPG customers. Any reasonably possible change in key assumptions on which the recoverable amount is based is not expected to cause the carrying value of the goodwill to exceed its recoverable amount.

Key assumptions in the impairment tests for electricity and gas and LPG were:

Assumptions	Method of determination
Customer numbers and customer churn	Review of actual customer numbers and historical data regarding movements in customer numbers (the historical analysis is considered against expected market trends and competition for customers).
Gross margin (electricity and gas)	Review of actual gross margins and consideration of expected market movements and impacts.
EBITDAF (LPG)	Review of actual EBITDAF and consideration of expected market movements and impacts.
Cost to serve	Review of actual costs to serve and consideration of expected future costs.

Kupe

The goodwill associated with Kupe relates to the acquisition of the Kupe subsidiaries from New Zealand Oil and Gas Limited ('NZOG') on 1 January 2017. The impairment test is based on an estimated discounted cash flow analysis (value in use). The estimated future cash flow projections are based on proved and probable reserves ('2P'), as disclosed in note B2. The pre-tax equivalent discount rate was 13.3 per cent (2021: 11.3 per cent). A reasonable change to the key assumptions on which the recoverable amount is based does not cause the carrying value of the goodwill to exceed its recoverable amount.

Software

Software are assets with finite lives. These assets are recognised at cost less accumulated amortisation and impairment losses. Amortisation is recognised in the income statement on a straight line basis over the estimated useful life of the asset from the date it is available for use. The estimated useful life is between one and ten years.

Emission units held for own use

Emission units held for own use are used to settle the Group's emission obligation. The units are initially recognised at fair value and are not revalued.

Contractual arrangements

Contractual arrangements include customer contracts and relationships acquired through business acquisitions, and sponsorship contracts.

Customer contracts and relationships

Customer contracts and relationships are assets with finite lives. These assets are recognised at cost less accumulated amortisation and impairment losses.

Amortisation of customer contracts and relationships related to Kupe are recognised in the income statement on a units-of-use basis, using proved remaining reserves ('1P') expected to be obtained over the contract period. Remaining reserves used in the calculations range from 87.4 to 208.6 PJe (2021: 129.0 to 218.3 PJe). Refer to note B2 for further information on the reserves estimate.

Amortisation of customer relationships related to the LPG business are recognised in the income statement on a diminishing value basis over the estimated life of the relationship to reflect the likely churn of customers. The assets remaining at 30 June 2022 have fifty year lives.

Sponsorship contracts

Sponsorship contracts are assets with finite lives. These assets are recognised at cost less accumulated amortisation and impairment losses. Amortisation is recognised in the income statement on a straight line basis over the estimated useful life of the asset from the date it is available for use. The useful life is based on the contract period, which ranges between one and fifteen years.

Deferred customer acquisition costs

Customer acquisition costs that are directly attributable to securing a particular customer contract are capitalised and amortised over the expected customer tenure (30 months). Amortisation of these costs is included within operating expenditure.

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C. Working capital and provisions

C1. Receivables and prepayments

	2022 $ million	Restated 2021 $ million
Trade receivables	**97.6**	186.9
Accrued revenue	**103.8**	105.2
Expected credit loss provision	**(5.2)**	(5.0)
Deferred customer account credits	**3.9**	4.4
Total	**200.1**	291.5
Advances to associates and joint ventures	**0.6**	2.2
Lease receivable	**9.9**	3.7
Emission units receivable	**20.5**	31.8
Other receivables	**10.2**	10.7
Prepayments	**5.4**	5.5
Total	**246.7**	345.4
Current	**243.1**	341.3
Non-current	**3.6**	4.1
Total	**246.7**	345.4

Trade receivables and accruals

Trade receivables and accruals are initially recognised at fair value and are subsequently measured at amortised cost. Trade receivables and accrued revenue that are known to be uncollectable are written off. Total bad debts written off during the year was $2.9 million (2021: $4.2 million).

Lease receivable

The Group enters into lease agreements as a lessor in respect of some of its property leases and vehicles.

Where the Group is a head lessor, the leases have been classified as finance leases as the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. Where the Group is an intermediate lessor, the head lease and the sublease are accounted for as two separate contracts. Subleases that transfer substantially all of the risks and rewards of ownership to the lessee are classified as finance leases, all other subleases are classified as operating leases. The assessment is based on the right-of-use asset arising from the head lease.

Amounts due from lessees under finance leases are recognised as lease receivables. Finance lease income is allocated to individual periods based on a constant periodic rate of return. Rental income from operating leases is recognised on a straight line basis over the term of the lease.

Expected credit loss provision

The expected credit loss provision is calculated using the simplified approach, which takes into account the lifetime expected credit loss on trade receivables and accrued revenue. The allowance for expected credit losses is calculated using a provision matrix, which is based on historic write-offs. Where possible the percentages are adjusted for foreseeable future economic conditions which may impact the collectability of trade receivables and accrued revenue.

Expected credit loss	Residential	Business
0-30 days overdue	0.40%	0.13%
30-60 days overdue	3.44%	0.54%
60-90 days overdue	9.83%	4.97%
90+ days overdue	16.83%	4.38%
Debt at collection agency	72%	46%
Unoccupier debt	100%	100%

Deferred customer account credits

Account credits given to customers are included in the measurement of revenue. The account credit is spread over the term of the customer contract.

Amounts receivable under finance leases:	2022 $ million	2021 $ million
Less than 1 year	**6.6**	2.4
1 to 2 years	**2.9**	0.7
2-5 years	**0.6**	0.9
Undiscounted lease payments	**10.1**	4.0
Less: unearned finance income	**(0.2)**	(0.3)
Lease receivable	**9.9**	3.7

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C2. Inventories

	2022 $ million	2021 $ million
Fuel	**150.5**	47.0
Petroleum products	**2.4**	2.3
Consumables and spare parts	**30.3**	29.5
Emission units held for trading	**19.7**	14.4
Total	**202.9**	93.2

Emission units held for trading

Emission units held for trading are measured at fair value. Changes in the fair value are recognised in the income statement within other gains (losses). The fair value is determined using CommTrade's forward curve. As the fair value is calculated using inputs that are not quoted prices, the units are classified as level two in the fair value hierarchy. Refer to note F8 for an overview of the fair value hierarchy.

Fuel, petroleum, consumables and spare parts

Fuel, petroleum, consumables and spare parts are recognised at the lower of cost and net realisable value. Cost is determined using the weighted average cost basis which includes expenditure incurred in bringing the inventories to their present location and condition, including shipping and handling. Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs necessary to make the sale.

Fuel inventories mainly consist of coal used in electricity production. Fuel inventories (excluding natural gas) expensed during the year amounted to $86.4 million (2021: $207.1 million).

Petroleum products consist of LPG and light crude oil held for resale produced from the Kupe production facility. Petroleum products expensed during the year amounted to $22.1 million (2021: $22.4 million).

Consumables and spare parts are held to service or repair generating assets. Consumables and spare parts relating to Huntly unit 6 are impaired when incurred as the fair value of this unit is nil.

C3. Payables and accruals

	2022 $ million	2021 $ million
Trade payables and accruals	**182.8**	297.9
Employee benefits	**16.1**	16.4
Emission obligations	**53.2**	80.5
Total	**252.1**	394.8
Current	**248.3**	390.5
Non-current	**3.8**	4.3
Total	**252.1**	394.8

Trade payables and accruals

Trade payables and accruals are recognised when the Group becomes obligated to make future payments, resulting from the purchase of goods or services, and are subsequently carried at amortised cost.

Employee benefits

A liability for employee benefits (wages and salaries, annual and long service leave, and employee incentives) is recognised when it is probable that settlement will be required and the amount is capable of being measured reliably. Provisions made in respect of employee benefits are measured using the remuneration rate expected to apply at the time of settlement.

Emission obligations

Emission obligations are recognised as a liability when the Group incurs the emission obligation. Emission units payable to third parties are recognised at the average cost of emission units on hand, up to the amount of units on hand at the recognition date. Where the emission obligation exceeds the level of units on hand, the excess obligation is measured at the contract price where forward contracts exist or the market price for any obligation not covered by units on hand or forward contracts.

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C4. Provisions

	Note	Contractual arrangements $ million	Rehabilitation and restoration $ million	Other provisions $ million	Total $ million
Balance at 1 July 2020		46.3	113.3	0.9	160.5
Created		2.3	4.1	-	6.4
Used		(4.7)	-	(0.1)	(4.8)
Time value of money adjustment	E6	1.1	3.0	-	4.1
Balance at 30 June 2021		**45.0**	**120.4**	**0.8**	**166.2**
Created		2.0	21.3	-	23.3
Released		(0.1)	(3.2)	-	(3.3)
Used		(3.4)	-	-	(3.4)
Time value of money adjustment	E6	1.1	3.3	-	4.4
Balance at 30 June 2022		**44.6**	**141.8**	**0.8**	**187.2**
Current		4.4	2.5	0.2	7.1
Non-current		40.6	117.9	0.6	159.1
As at 30 June 2021		**45.0**	**120.4**	**0.8**	**166.2**
Current		5.2	5.1	-	10.3
Non-current		39.4	136.7	0.8	176.9
As at 30 June 2022		**44.6**	**141.8**	**0.8**	**187.2**

Contractual arrangements

Contractual arrangement provisions relate to sponsorship and relationship agreements with various parties. The provisions represent the present value of the best estimate of cash flows required to settle the Group's obligations under the agreements. The timing of the outflows is expected to occur over the next 17 years.

Rehabilitation and restoration

The majority of this provision relates to the remediation of the Huntly ash ponds and the Kupe production facility. The provision represents the present value of the Group's best estimate of future expenditure to be incurred to remediate the sites at balance date. Key assumptions include: an estimate of when the rehabilitation and restoration is likely to take place, the possible remediation alternatives available, the expected expenditures attached to each alternative and the foreign currency exchange rate.

There is no provision for the remediation of the Huntly generation site because the Group has the right to lease the site in perpetuity, there is no fixed or planned termination date for the Huntly lease and the site remains a key electricity generation site for the Group. The lease of the site is independent of decisions around the retirement of Huntly Rankine units, which are planned to be available to the electricity market until such time they are uneconomic to run. There may be costs and recoveries associated with retiring Huntly Rankine units but these cannot be reliably estimated at this time.

Key estimates and judgements

The key assumptions that could have a material impact on the Kupe production facility rehabilitation estimate relate to: the level of remediation required; foreign exchange rates; mobilisation and demobilisation costs for rig and offshore supply vessel; and regulatory requirements in relation to the removal of the subsea pipeline. The majority of costs are based in United States dollars, and therefore are sensitive to fluctuations in foreign exchange rates. If the foreign exchange rate were to decrease by 10 per cent the provision would increase by $10.6 million. Given the equipment required to complete the rehabilitation comes from overseas, the mobilisation and demobilisation costs can fluctuate significantly depending on the volume of work the contractor has nearby at the time the rehabilitation is required to be completed. The full cost of mobilisation and demobilisation has been provided for, given the uncertainty around the ability to share these costs with other entities. If the costs could be shared with other entities the provision would decrease by up to $11.2 million. The provision is based on the removal of the shore section of the subsea pipeline. The remaining pipeline will be flushed and left in situ. If all of the pipeline needed to be removed, the cost would increase the provision by $20.6 million. The rehabilitation is estimated to be completed in approximately 14 years.

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D. Group structure

D1. Subsidiaries and controlled entities

The consolidated financial statements include Genesis, its subsidiaries and controlled entities listed below. The two Trusts have been consolidated into the Group on the basis that Genesis determined how the Trusts were designed and how they operate; Genesis controls the financing and investing activities of the Trusts and the Trusts are dependent on funding from Genesis.

Name of entity	Principal activity	Place of incorporation	Interest held 2022 %	Interest held 2021 %
Kupe Venture Limited	Joint venture holding company	New Zealand	**100**	100
Genesis Energy Insurance Pte Limited	Captive insurance company	Singapore	**100**	100
Frank Energy Limited (formerly Energy Online Limited)	Holding company	New Zealand	**100**	100
Genesis Energy Talent Retention Plan Trust	Trust	New Zealand	**-**	-
Genesis Energy Limited Executive Long Term Incentive Plan Trust	Trust	New Zealand	**-**	-

All entities have 30 June balance dates.

D2. Joint operations

The Group has a 46.0 per cent interest in the Kupe production facility and Petroleum Mining Permit 38146 held by the Kupe Joint Venture (2021: 46.0 per cent) through its wholly owned subsidiary Kupe Venture Limited. The principal activity of the Kupe Joint Venture is petroleum production and sales. The Joint Venture is unincorporated and operates in New Zealand. The Group is considered to share joint control based on the contractual arrangements between the Group and other joint operators that state unanimous decision-making is required for relevant activities that most significantly impact the returns of the joint operation.

Kupe Venture Limited is a party to a Deed of Cross Charge ('Deed'). The Deed was entered into pursuant to the Kupe Joint Venture Operating Agreement ('JVOA') for the purpose of securing the joint venture parties payment obligations under the JVOA. Each joint venture party has granted a security interest in its participating interest in the joint venture (together with certain related assets e.g. its petroleum derived from operations under the JVOA), in favour of the other joint venture parties. If a joint venture party defaults in the performance of an obligation to pay an amount due and payable under the JVOA, the appointed agent may enforce on behalf of the non-defaulting joint venture parties, the security interests created by the Deed.

Kupe Joint Venture is classified as a joint operation under NZ IFRS 11 Joint Arrangements. The Group's share of revenue, expenditure, assets and liabilities is included in the Group financial statements on a proportionate line-by-line basis. The operating results of the Kupe Joint Venture are included in the Kupe segment in note A3 and the Group's share of capital expenditure commitments is disclosed in note G4.

On 22 February 2022, the Group entered into a Joint Venture Agreement ('JVA') with FRV Services Australia Pty Limited for the development of solar generation. The Group has a 60.0 per cent interest in the JVA. The principal activity of the Solar Joint Venture is the development of up to 500MW of solar capacity over the next five years. There were no transactions for the Solar Joint Venture in the year.

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D3. Investments in associates and joint ventures

The Group has interests in the following arrangements, which are accounted for as either associates or joint ventures using the equity method.

Name of entity	Principal activity	Place of incorporation	Interest held 2022 %	Interest held 2021 %	Carrying amount 2022 $ million	Carrying amount 2021 $ million
DrylandCarbon One Limited Partnership	Investment in forestry	New Zealand	**25.2**	25.2	**29.0**	15.1
Ecotricity Limited Partnership and Ecotricity GP Limited	Electricity retailer	New Zealand	**70.0**	60.0	**3.8**	4.8
Forest Partners Limited Partnership	Investment in forestry	New Zealand	**28.0**	-	**3.0**	-
Total share in associates					**35.8**	19.9
Sustainable Mobility Limited *	EV car sharing	New Zealand	**-**	40.0	**-**	1.1
Total share in associates and joint ventures					**35.8**	21.0

* Trading as Zilch

The Group acquired a further 10.0 per cent interest in Ecotricity Limited Partnership and Ecotricity GP Limited on 28 February 2022. The additional ownership interest has not changed the decision-making rights in the investment and therefore it continues to be accounted for as an associate.

During the year Genesis entered into Forest Partners Limited Partnership, a limited liability partnership with three other investors to establish a geographically diverse forest portfolio. The objective of entering into the arrangement is to provide the Group with a stable supply of forestry-generated emission units. The investment in Forest Partners Limited Partnership is accounted for using the equity method.

On 16 June 2022, the Group disposed of its interest in Sustainable Mobility Limited. A $1.4 million loss on disposal has been recorded in other gains (losses) in the consolidated comprehensive income statement.

The $3.9 million share of associates and joint ventures loss recorded in the income statement is made up of $3.6 million loss relating to associates and $0.3 million loss relating to joint ventures (2021: $1.6 million profit and $0.3 million loss respectively).

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E. Funding

E1. Capital management

The Group manages its capital to ensure that each entity in the Group will be able to continue as a going concern while maximising the return to shareholders through the appropriate balance of debt and equity. This is achieved by ensuring that the level and timing of its capital investment programmes, equity raisings and dividend distributions are consistent with the Group's capital structure strategy. This strategy remains unchanged from previous years. The capital structure of the Group consists of debt, which includes the borrowings disclosed in note E5, cash and cash equivalents and equity attributable to the shareholders of Genesis, comprising issued capital, reserves and retained earnings, as disclosed in the balance sheet.

Under the Group's debt funding facilities, the Group has given undertakings that the ratio of debt to equity will not exceed a prescribed level and the interest cover will not be below a prescribed level. For the purpose of these undertakings the capital bonds and related interest costs are treated as 50 per cent equity. The covenants are monitored on a regular basis to ensure they are complied with. There were no breaches in covenants during the year (2021: none).

E2. Share capital

	Note	2022 No. of shares million	2022 $ million	2021 No. of shares million	2021 $ million
Balance as at 1 July		**1,042.7**	**652.2**	1,036.4	635.0
Shares acquired for LTI and TRP plans		**(0.3)**	**(1.0)**	(0.1)	(0.4)
Treasury shares sold		**0.5**	**1.2**	-	-
Shares issued to LTI and TRP participants		**0.2**	**0.4**	0.2	0.3
Shares issued under dividend reinvestment plan	E4	**6.4**	**17.7**	6.2	17.3
Balance as at 30 June		**1,049.5**	**670.5**	1,042.7	652.2
Issued capital		**1,050.0**	**672.0**	1,043.6	654.6
Treasury shares		**(0.5)**	**(1.5)**	(0.9)	(2.4)
Total share capital		**1,049.5**	**670.5**	1,042.7	652.2

All shares are ordinary authorised, issued and fully paid shares. They all have equal voting rights and share equally in dividends and any surplus on winding up. Treasury shares relate to shares held in trust for the employee Talent Retention Plan ('TRP') and the Long Term Incentive Plan ('LTI') which was wound up in March 2022 (refer to notes G1 and G2).

E3. Earnings per share

	2022	Restated 2021
Net profit for the year attributable to shareholders ($ million)	**221.9**	31.7
Weighted average number of ordinary shares (million units)	**1,045.2**	1,042.1
Less weighted average number of Treasury shares (million units)	**(0.7)**	(0.9)
Weighted average number of shares used in EPS calculation (million units)	**1,044.5**	1,041.2
	Cents	Cents
Basic and diluted EPS	**21.24**	3.04

E4. Dividends

	Note	2022 Imputation	2022 Cents per share	2022 $ million	2021 Imputation	2021 Cents per share	2021 $ million
Dividends declared and paid during the year							
Prior year final dividend		**80%**	**8.80**	**91.8**	80%	8.675	90.0
Current year interim dividend		**80%**	**8.70**	**90.7**	80%	8.60	89.6
			17.50	**182.5**		17.275	179.6
Less shares issued under the dividend reinvestment plan	E2			**(17.7)**			(17.3)
Cash dividend paid				**164.8**			162.3
Dividends declared subsequent to balance date							
Final dividend		80%	8.90	93.5	80%	8.80	91.8

Imputation credits

There were no imputation credits as at 30 June 2022 (2021: nil). Future tax payments will cover the imputation of dividends.

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E5. Borrowings

		2022								2021							
		Borrowings by year of expiry:								Borrowings by year of expiry:							
$ million	Weighted average effective interest rate %	Less than 1 year	1 to 2 years	2-5 years	More than 5 years	Fair value interest rate risk adjustment	Capitalised issue costs	Accrued interest	Carrying amount	Less than 1 year	1 to 2 years	2-5 years	More than 5 years	Fair value interest rate risk adjustment	Capitalised issue costs	Accrued interest	Carrying amount
Sustainable financing																	
Green bonds	4.2%	-	-	-	125.0	(2.4)	(0.5)	1.5	123.6	-	-	-	-	-	-	-	-
Green capital bonds	5.9%	-	-	-	285.0	(1.5)	(3.6)	1.0	280.9	-	-	-	-	-	-	-	-
Other financing																	
Revolving credit facility	Floating	20.0	-	-	-	-	-	-	20.0	10.0	-	-	-	-	-	-	10.0
Term loan facility	4.6%	-	30.0	-	-	-	-	-	30.0	-	30.0	-	-	-	-	-	30.0
Money market	Floating	5.5	-	-	-	-	-	-	5.5	-	-	-	-	-	-	-	-
Commercial paper	2.4%	144.5	-	-	-	-	-	-	144.5	259.8	-	-	-	-	-	-	259.8
Wholesale term notes	4.2%	120.0	-	100.0	100.0	-	(0.3)	2.9	322.6	-	120.0	100.0	-	-	(0.2)	2.9	222.7
Retail term notes	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	(0.1)	1.1	101.0
Capital bonds	5.0%	-	-	-	240.0	(3.1)	(0.7)	2.3	238.5	-	-	-	465.0	8.9	(2.2)	3.0	474.7
United States Private Placement ('USPP')	3.9%	-	-	240.3	-	(4.5)	(0.4)	3.2	238.6	-	-	71.6	143.2	17.9	(0.4)	2.9	235.2
		290.0	**30.0**	**340.3**	**750.0**	**(11.5)**	**(5.5)**	**10.9**	**1,404.2**	**369.8**	**150.0**	**171.6**	**608.2**	**26.8**	**(2.9)**	**9.9**	**1,333.4**
Lease liability	4.0%								89.1								94.4
Total									**1,493.3**								**1,427.8**
Current									292.0								379.7
Non-current									1,201.3								1,048.1
Total									**1,493.3**								**1,427.8**

Borrowings

Borrowings are initially recognised at fair value, net of transaction costs incurred and are subsequently measured at amortised cost using the effective interest rate method. Borrowings designated in a fair value hedge relationship are carried at amortised cost adjusted for the change in the fair value of the hedged risk.

Borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least 12 months after the balance date.

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E5. Borrowings (continued)

Bond and notes issued during the year

A $100.0 million wholesale term note was issued in December 2021. The note expires in December 2028.

A $125.0 million green bond was issued in March 2022. The bond expires in March 2028.

The Group's FY47 capital bonds were designated as Green Capital Bonds on 28 January 2022. On 9 June 2022 the Group exercised its right to redeem $225.0 million of fixed rate subordinated green capital bonds with an original maturity date of 9 June 2047. The redeemed capital bonds were replaced by $285.0 million unsubordinated green capital bonds with a maturity date of 9 June 2052. This issue pays a quarterly coupon of 5.66 per cent per annum. On the first reset date and every five years thereafter, the interest rate will reset to be the sum of the five-year swap rate on the relevant reset date plus the margin of 1.75 per cent per annum plus the step-up margin of 0.25 per cent per annum. Issue costs are amortised over five years to the first reset date. An interest rate swap has been used to manage the fair value risk of the bonds.

The net proceeds of the green bonds and the green capital bonds are notionally allocated to refinance eligible assets consistent with the Green Bond Principles issued by the International Capital Market Association.

Commercial paper

In FY21 a commercial paper programme was established and the first tranche of notes was issued in October 2020. Notes issued to wholesale investors under the programme are short-term money market instruments, unsecured and unsubordinated.

Capital bonds

The FY49 capital bonds have a principal value of $240.0 million and the FY52 green capital bonds have a principal value of $285.0 million. The interest rate on the capital bonds resets every five years. The next interest rate reset is July 2023 for the FY49 bonds and June 2027 for the FY52 bonds.

USPP

During the 2015 financial year the Group issued $150.0 million United States dollar-denominated unsecured notes to United States-based institutional investors. Cross currency interest rate swaps ('CCIRS') have been used to manage foreign exchange and interest rate risks on the notes (refer to note F4 for further information on CCIRS).

While the New Zealand dollar amount required to repay the USPP is fixed as a result of the CCIRS, the USPP is required to be translated to New Zealand dollars at the spot rate at the reporting date. Any revaluation of the USPP as a result of this translation is offset by the change in the fair value of the CCIRS.

Lease liability

On initial recognition the lease liability comprises the present value of the lease payments that are not paid at the commencement date. This includes fixed payments less any lease incentives receivable and variable lease payments that are based on an index or rate. The lease payments are discounted using the incremental borrowing rate, being the rate that the Group would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability (using the effective interest method) and reducing the carrying amount to reflect the lease payments made. The Group remeasures the lease liability (and makes a corresponding adjustment to the related lease asset) whenever the lease term changes, the lease payments change due to changes in an index or rate or a lease contract is modified and the lease modification is not accounted for as a separate lease. Lease payments on short term leases where the lease term is 12 months or less and leases of low value assets are recognised in operating expenses as incurred.

Reconciliation of change in liabilities arising from financing activities

	Note	2022 $ million	2021 $ million
Opening balance		**1,427.8**	1,367.4
Proceeds from borrowings		**510.0**	309.8
Proceeds from lease incentives		**-**	11.1
Repayment of borrowings (excluding leases)		**(424.9)**	(241.9)
Repayment of lease liability		**(7.0)**	(6.6)
Non-cash changes			
Lease liability additions and adjustments	B1	**3.9**	26.1
Change in foreign exchange on USPP		**25.5**	(17.7)
Change in fair value interest rate risk adjustment		**(38.3)**	(21.8)
Amortisation of capitalised issue costs		**(2.6)**	1.8
Change in accrued interest		**1.0**	(0.4)
Other non-cash changes		**(2.1)**	-
Closing balance		**1,493.3**	1,427.8

Revolving credit facilities

	2022 $ million	2021 $ million
Sustainable Financing		
Expiring FY24	**140.0**	-
Expiring FY25	**30.0**	-
Expiring FY26	**30.0**	-
Expiring FY27	**50.0**	-
Other Financing		
Expiring FY22	**-**	70.0
Expiring FY23	**150.0**	325.0
Expiring FY24	**75.0**	50.0
Expiring FY26	**50.0**	-
Total available revolving credit facilities	**525.0**	445.0
Revolving credit drawn down	**20.0**	10.0
Total undrawn revolving credit facilities	**505.0**	435.0

During the year, the Group launched its Sustainable Finance Programme. As part of this programme $200.0 million of existing facilities were converted to be sustainability linked and $50.0 million sustainability linked revolving credit facilities were added. The Sustainable Finance facilities have variable payments that are linked to performance against the Group's sustainability targets. There was also $50.0 million of other financing secured.

The undrawn revolving credit facilities ensure the Group will have sufficient funds to meet its liabilities when due, including the repayment of any commercial paper, under both normal and stressed conditions.

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E5. Borrowings (continued)

Fair value of borrowings held at amortised cost

	2022 Carrying value $ million	2022 Fair value $ million	2021 Carrying value $ million	2021 Fair value $ million
Level one				
Green bonds	**123.6**	**120.5**	-	-
Retail term notes	**-**	**-**	101.0	103.4
Green capital bonds	**280.9**	**283.2**	-	-
Capital bonds	**238.5**	**240.4**	474.7	487.6
Level two				
Term loan facility	**30.0**	**30.1**	30.0	31.3
Wholesale term notes	**322.6**	**314.6**	222.7	239.2
USPP	**238.6**	**241.7**	235.2	241.1

The valuation of the term loan facility and the wholesale term notes is based on estimated discounted cash flow analyses, using applicable market yield curves adjusted for the Group's credit rating. The credit-adjusted market yield curves at balance date used in the valuation ranged from 2.8 per cent to 5.3 per cent (2021: 0.8 per cent to 2.1 per cent).

The valuation of USPP is based on estimated discounted cash flow analyses, using applicable United States market yield curves adjusted for the Group's credit rating. The credit-adjusted market yield at balance date used in the valuation was 3.8 per cent (2021: 1.4 per cent).

The carrying value of all other borrowings approximate their fair values.

Security

All of the Group's borrowings are unsecured. The Group borrows under a negative pledge arrangement, which does not permit the Group to grant any security interest over its assets, unless it is an exception permitted within the negative pledge.

E6. Finance expense

	Note	2022 $ million	2021 $ million
Interest on borrowings (excluding capital bonds and lease liability)		**30.2**	27.3
Interest on capital bonds		**25.7**	25.5
Interest on lease liability		**3.5**	3.6
Total interest on borrowings		**59.4**	56.4
Other interest and finance charges		**1.4**	0.9
Time value of money adjustments on provisions	C4	**4.4**	4.1
Capitalised finance expenses		**(0.8)**	(1.5)
Total		**64.4**	59.9
Weighted average capitalisation rate		**4.2%**	4.5%

Interest on borrowings, bank and facility fees, and transaction costs are recognised in the income statement over the period of the borrowings, using the effective interest rate method, unless such costs relate to funding capital work in progress. Time value of money adjustments on provisions are recognised in the income statement up to the point the provision is used or released.

Finance expense on capital work in progress (qualifying assets) is capitalised during the construction period. The capitalisation rate used to determine the amount of finance expense to be capitalised is based on the weighted average finance expenses incurred by the Group.

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F. Risk management

The Group's activities expose it to a variety of financial risks, including market risk (price risk, interest rate risk and foreign exchange risk), credit risk and liquidity risk. The Board has established policies that provide an overall risk management framework, as well as policies covering specific areas, such as electricity, oil and coal price risk, interest rate risk, foreign exchange risk, credit risk, liquidity risk and the use of derivatives. Compliance with policies is monitored by the middle office function.

The Group uses the following derivatives to hedge its financial risk exposures:

- Electricity swaps and options and electricity power purchase agreements ('PPA');
- Oil price swaps;
- Coal price swaps;
- Forward purchase agreements for emission units;
- Foreign exchange contracts;
- CCIRS;
- Interest rate swaps.

A summary of the financial risks that impact the Group, how they arise and how they are managed is presented in this section:

Market risk

Nature and exposure to the Group	Note	How the risk is managed
Price risk The Group is exposed to movements in the spot price of electricity arising through the sale and purchase of electricity to and from the market, movements in the spot price of light crude oil arising from oil sales, movements in the spot price of coal arising from coal purchases and movements in the spot price of emission units.	F2	The Group aims to hedge price risk on electricity sales and forecast generation volume, oil sales, coal purchases and emission unit purchases under the New Zealand Emissions Trading Scheme (ETS). This is managed with electricity derivative contracts, including but not limited to swaps, futures, options and PPAs. Oil and coal are hedged using over the counter and exchange traded products. Emission units are hedged with forward and spot purchases, as well as direct arrangements with forestry entities. The Trading Limits and Thresholds Standard sets overall levels for hedge positions across electricity, coal and ETS obligations. Electricity hedging focuses on the Group's net exposure to electricity prices over a four to five-year period. Coal hedging manages forecast import price risk over a three-year period. Carbon hedging focuses on managing price risk in the short and medium term. The Treasury Policy requires that oil sales are fixed within certain policy bands over a three-year period.
Interest rate risk The Group is exposed to interest rate risk because Genesis borrows funds at both fixed and floating interest rates. Changes in market interest rates expose the Group to changes in: • Future interest payments on borrowings subject to floating interest rates (cash flow risk); • The fair value of borrowings subject to fixed interest rates (fair value risk).	F3	The Group uses interest rate swaps to manage interest rate risk in line with the Group's Treasury policy. The Treasury policy requires that 50-100 per cent of projected debt is fixed for a period of up to one year. The range decreases as the age profile increases to a maximum of 20 per cent for debt due in 10 to 15 years.
Foreign exchange risk The Group is exposed to foreign currency risk as a result of capital and operational transactions and borrowings denominated in a currency other than the Group's functional currency.	F4	**Capital and operating transactions** The Group uses foreign exchange contracts to manage foreign exchange risk on capital and operational transactions (including maintenance of capital equipment, fuel purchases and oil sales) in accordance with the Group's Treasury policy. Foreign exchange spot, forwards, deposits and options can be used to hedge the value back to NZDs. **Overseas borrowings** The Group uses CCIRS to manage foreign exchange risk on foreign currency borrowings. All interest and principal repayments are hedged. The combination of the foreign-denominated debt and CCIRS results in a net exposure to New Zealand dollar floating interest rates and a fixed New Zealand dollar-denominated principal repayment. The New Zealand dollar floating interest rate risk is managed using the process described in the interest rate risk section above.

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F. Risk management (continued)

Other risks

Nature and exposure to the Group	Note	How the risk is managed
Liquidity risk Liquidity risk is the risk that the Group will not be able to meet its financial obligations as they fall due. The Group's approach to managing liquidity risk is to ensure that it will always have sufficient funds to meet its liabilities when due, under both normal and stressed conditions.	F7	The Group has a policy that requires the debt facilities to be maintained with a minimum headroom amount above the projected peak debt levels over the next 12 months. Liquidity risk is monitored by continuously forecasting cash flows and matching the maturity profiles of financial assets and liabilities. The Group's ability to attract cost-effective funding is largely driven by its credit standing (Standard & Poor's = BBB+). Prudent liquidity risk management implies maintaining sufficient cash and marketable securities, the availability of funding through an adequate amount of committed credit facilities and the spreading of debt maturities.
Credit risk Credit risk is the risk that a counterparty will default on its contractual obligations, resulting in financial loss to the Group. The Group has no significant concentrations of credit risk and the carrying amounts of cash and cash equivalents, receivables and derivative assets in the balance sheet represent the Group's maximum exposure to credit risk at balance date.	C1	**Wholesale electricity sales** The Group purchases wholesale electricity for its retail customer base, therefore the credit risk is limited to the net amount receivable after deducting purchases. Market participants are required to provide financial collateral to the market-clearing agent (NZX Limited), which would be called upon should any market participant default.
		Retail electricity sales, gas, LPG and oil sales The Group minimises its exposure to credit risk by applying credit limits, obtaining collateral where appropriate and applying credit-management practices, such as monitoring the size and nature of exposures and mitigating the risk deemed to be above acceptable levels. The credit risk is mitigated by the Group's large customer base and the diverse range of industries customers operate in.
	BS, F1	**Cash and cash equivalents and derivative contracts** Credit risk is managed by using high-credit quality financial institutions and other organisations. The Group's exposure and the credit ratings of its counterparties are continuously monitored to ensure the risk is spread among approved counterparties.

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F1. Derivatives

	2022 $ million	2021 $ million
Electricity swaps and options and PPAs	**(4.1)**	(136.5)
Oil price swaps	**(11.6)**	(3.2)
Interest rate swaps	**34.3**	(9.6)
CCIRS	**40.6**	35.9
Foreign exchange contracts	**(0.3)**	5.2
Coal price swaps	**-**	8.0
Other derivatives	**2.9**	0.9
Total	**61.8**	(99.3)
Current assets	**122.7**	320.1
Non-current assets	**148.5**	160.5
Current liabilities	**(144.1)**	(404.3)
Non-current liabilities	**(65.3)**	(175.6)
Total	**61.8**	(99.3)

Derivatives

Derivatives are initially recognised at fair value on the date the contract is entered into and subsequently remeasured to fair value. The gain or loss on remeasurement is recognised in the income statement, unless the derivative is designated into an effective hedge relationship as a hedging instrument, in which case the timing of recognition in the income statement depends on the nature of the designated hedge relationship. The Group may designate derivatives as either:

Cash flow hedges where the derivative is used to manage the variability in cash flows relating to recognised liabilities or highly probable forecast transactions.

The effective portion of changes in the fair value of cash flow hedges are recognised in other comprehensive income and accumulate in the cash flow hedge reserve. The ineffective portion of changes in the fair value of cash flow hedges is recognised immediately in the income statement in the change in fair value of financial instruments line.

Amounts accumulated in other comprehensive income are reclassified to the income statement in the period when the hedged item is recognised in the income statement. However, when the forecast transaction that is hedged results in the recognition of a non-financial asset (for example, inventory) or liability, the gains and losses previously deferred in the cash flow hedge reserve are reclassified from the cash flow hedge reserve and included in the initial measurement of the cost of the asset or liability.

Once hedge accounting is discontinued the cumulative gain or loss remains in the cash flow hedge reserve and is reclassified to the income statement either when the transaction occurs or if the forecast transaction is no longer expected to occur, it is reclassified immediately.

Fair value hedges where the derivative is used to manage the variability in the fair value of recognised assets and liabilities.

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recorded in the income statement, together with any changes in the fair value of the hedged asset or liability that are attributable to the hedged risk.

Once hedge accounting is discontinued the fair value adjustments to the carrying amount of the hedged item arising from the hedged risk is amortised to the income statement from that date through to maturity of the hedged item.

Hedge accounting is discontinued when the hedge instrument expires or is sold, terminated, exercised or no longer qualifies for hedge accounting.

The Group's policy is to designate derivatives in hedge relationships on inception when their fair value is zero, applying a hedge ratio of 1:1. The Group determines the existence of an economic relationship between the hedging instrument and the hedged item based on the amount and timing of their respective cash flows, reference rates, pricing dates, maturities, and notional amounts. The Group assesses whether the derivative designated in each hedging relationship is expected to be, and has been effective in, offsetting the changes in cash flows of the hedged item.

Derivatives that do not qualify for hedge accounting

This category includes derivatives that economically hedge financial risks but have not been designated in hedge relationships for accounting purposes. In these cases changes in the fair value are recognised immediately in the income statement within the change in fair value of financial instruments line (refer to note F5).

Certain electricity derivatives, electricity future contracts and PPAs cannot be hedge accounted under NZ IFRS 9. These are principally: swap and option contracts that provide dry year cover for counterparties; electricity futures offered to the market to enable other counterparties to hedge their electricity risks ('market making'); derivatives held for proprietary trading activities where trades are entered into speculatively for the purpose of making profits in their own right ('proprietary trading'); and PPAs with renewable energy suppliers. The variable nature of renewable energy makes it difficult to demonstrate that the PPA is highly effective as required by NZ IFRS 9, despite the fact the PPA is an effective economic hedge.

Forward purchase and forward sale agreements for emission units are entered into for both 'own use' and 'held for trading'. Agreements to purchase emission units for the Group's own use are not recognised in the financial statements until the units are delivered. Forward purchase and forward sale agreements held for trading do not meet the 'own use' exemption and are accounted for as derivatives. These contracts are measured at fair value and any gain or loss on remeasurement is recognised immediately in the income statement.

The effects of the Group's application of hedge accounting in respect of derivatives used to manage financial risks are shown in notes F2 to F5.

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F2. Price risk

Hedge accounted derivatives

	Electricity swaps		Coal price swaps		Oil price swaps	
	2022 $ million	2021 $ million	2022 $ million	2021 $ million	2022 $ million	2021 $ million
Nominal amount at balance date	**718.2**	935.7	**-**	USD 8.6	**USD 29.2**	USD 8.0
Carrying value of asset at balance date	**63.4**	138.0	**-**	1.4	**0.7**	-
Carrying value of liability at balance date	**(125.6)**	(188.6)	**-**	-	**(9.2)**	(3.2)
Recognised in other comprehensive income during the year	**(49.5)**	(220.3)	**(2.2)**	6.3	**(1.7)**	(14.3)
Reclassified to the cost of assets	**-**	-	**-**	(4.9)	**-**	-
Reclassified to the income statement during the year	**37.9**	177.2	**0.8**	-	**(3.6)**	2.4
Hedge ineffectiveness (gain (loss)) during the year	**-**	-	**-**	-	**-**	(0.1)

Electricity swaps are entered into to manage the variability of cash flows from electricity purchases and sales. Oil and coal price swaps are entered into to manage the variability of cash flows from oil sales and coal purchases. Cash flow hedge accounting is applied.

Realised gains and losses reclassified to the income statement during the year on electricity swaps are recognised in electricity revenue and realised gains and losses on oil price swaps are recognised in oil revenue. Realised gains and losses on coal price swaps are recognised in inventory where they are hedge accounted and other gains and losses where hedge accounting is not applied. Electricity revenue includes $26.2 million (2021: $25.7 million) of option fees on electricity swaps and options.

The main source of ineffectiveness for electricity swaps relates to the difference between the market price and the strike price at inception of the contracts. For oil and coal price swaps ineffectiveness arises primarily due to discounts on oil sales and coal purchases (the hedged item) that are not present in the hedging instrument.

Non-hedge accounted derivatives

Carrying value of asset (liability) at balance date	2022 $ million	2021^ $ million
Electricity swaps and options and PPAs	**57.1**	(73.2)
Held for market making and proprietary trading	**1.0**	(12.7)
Coal price swaps	**-**	6.6
Oil price swaps	**(3.1)**	-

The nominal value at balance date of non-hedge accounted electricity swaps and options and PPAs was $1,929.7 million, coal price swaps was nil and oil price swaps was USD8.7 million (2021^: $2,893.4 million, USD7.8 million and nil respectively).

^Certain comparatives have been reclassified to conform to the current year presentation.

F3. Interest rate risk

	Cash flow hedge (receive float, pay fixed)		Fair value hedge (receive fixed, pay float)	
	2022 $ million	2021 $ million	2022 $ million	2021 $ million
Nominal amount at balance date	**525.0**	550.0	**575.0**	240.0
Carrying value of asset at balance date	**42.9**	11.0	**-**	8.8
Carrying value of liability at balance date	**(1.8)**	(29.9)	**(6.8)**	-
Recognised in other comprehensive income during the year	**57.9**	33.4	**N/A**	N/A
Reclassified to the income statement during the year	**2.0**	4.1	**N/A**	N/A
Maturity	**1-9 years**	0-10 years	**1-6 years**	2 years
Weighted average rate	**3.0%**	3.1%	**3.3%**	2.6%

Interest rate swaps are entered into to manage interest rate risk on borrowings.

Realised gains and losses on interest rate swaps designated as cash flow hedges reclassified to the income statement are recognised in finance expenses.

The fair value hedge adjustment is recognised in finance expenses in the income statement.

At balance date the net carrying value and the nominal value of non-hedge accounted interest rate swaps was nil (2021: $0.5 million asset and $45.0 million nominal value).

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F4. Foreign exchange risk

	CCIRS (cash flow and fair value hedge)		Foreign exchange contracts (cash flow hedge)	
	2022 $ million	2021 $ million	2022 $ million	2021 $ million
Nominal amount at balance date	**193.2**	193.2	**22.5**	166.2
Carrying value of asset at balance date	**40.6**	35.9	**2.4**	6.2
Carrying value of liability at balance date	**-**	-	**(2.7)**	(1.0)
Recognised in other comprehensive income during the year	**23.7**	(22.3)	**(12.2)**	6.4
Reclassified to the cost of assets	**-**	-	**(1.9)**	0.5
Reclassified to the income statement during the year	**(22.2)**	21.5	**8.9**	(0.5)

The Group enters into foreign exchange contracts to hedge highly probable forecast transactions denominated in foreign currencies. Cash flow hedge accounting is applied. The amount and maturity of the derivative and forecast transactions are aligned to ensure the hedge relationship remains effective.

The Group uses CCIRS to manage foreign exchange risk on the USPP. All interest and principal repayments are hedged. The combination of the foreign-denominated debt and CCIRS results in a net exposure to New Zealand dollar floating interest rates and a fixed New Zealand dollar-denominated principal repayment.

The principal, basis and margin components of the CCIRS are designated as a cash flow hedge and the benchmark component of the CCIRS is designated as a fair value hedge of the USPP notes. The change in fair value relating to the foreign currency basis spread component of the CCIRS is excluded from the hedge relationship. The change is recognised in other comprehensive income in a separate Cost of Hedging Reserve.

Realised gains and losses on foreign exchange contracts reclassified to the income statement are recognised in operating expenses and oil revenue. Realised gains and losses reclassified to the income statement on CCIRS are recognised in finance expenses.

F5. Impact of derivatives on the income statement and equity

The tables below provide a breakdown of the change in fair value of financial instruments recognised in the income statement and a reconciliation of movements in the cash flow hedge reserve.

Change in fair value of financial instruments	Note	2022 $ million	2021 $ million
CCIRS		**(22.4)**	(13.1)
Interest rate swaps		**(15.6)**	(8.4)
Fair value interest rate risk adjustment on borrowings		**38.3**	21.8
Fair value hedges – gain (loss)		**0.3**	0.3
Cash flow hedges – hedge ineffectiveness – gain (loss)	F2	**-**	(0.1)
Electricity swaps and options and PPAs		**144.0**	(95.4)
Other derivatives		**(5.1)**	8.4
Derivatives not designated as hedges – gain (loss)		**138.9**	(87.0)
Total change in fair value of financial instruments		**139.2**	(86.8)

The change in fair value of 'electricity swaps and options and PPA's' noted above includes a net gain of $13.7 million (2021: $13.5 million net loss) in relation to derivatives held for market making and proprietary gain.

Reconciliation of movements in the cash flow hedge reserve	2022 $ million	2021 $ million
Opening balance	**(50.3)**	(42.7)
Total reclassified from the cash flow hedge reserve to the income statement	**23.8**	204.7
Effective gain (loss) on cash flow hedges recognised directly in the cash flow hedge reserve	**16.0**	(210.8)
Total recognised in other comprehensive income	**39.8**	(6.1)
Total reclassified from the cash flow hedge reserve to the cost of assets	**(1.9)**	(4.4)
Income tax on change in cash flow hedge reserve	**(10.6)**	2.9
Closing balance	**(23.0)**	(50.3)

The amount accumulated in the cost of hedging reserve at 30 June 2022 was $1.3 million (2021: $2.3 million).

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F6. Sensitivity analysis for each type of market risk

The table below represents the effect on the income statement and the cash flow hedge reserve at balance date if various market rates had been higher or lower with all other variables held constant. A positive number in the table below represents an increase in profit or the cash flow hedge reserve.

	Post-tax impact on the income statement		Post-tax impact on cash flow hedge reserve (equity)	
	2022 $ million	2021 $ million	2022 $ million	2021 $ million
Electricity prices				
+10%	**63.0**	13.8	**(12.9)**	(14.1)
-10%	**(55.7)**	(13.6)	**12.9**	14.1
Oil prices				
+10%	**(0.2)**	-	**(3.7)**	(1.1)
-10%	**0.1**	-	**3.7**	1.1
Coal prices				
+10%	**-**	1.3	**-**	1.0
-10%	**-**	(1.3)	**-**	(1.0)
Foreign exchange rates				
+10% (NZD appreciation)	**-**	-	**1.4**	(11.2)
-10% (NZD depreciation)	**-**	-	**(1.7)**	13.7
Interest rates				
+100 bps	**0.8**	(0.1)	**14.2**	19.0
-100 bps	**(0.8)**	0.1	**(15.2)**	(20.5)

F7. Liquidity risk

The following table details the Group's liquidity analysis for its financial liabilities and derivatives. Where the amount payable or receivable is not fixed, the amount disclosed has been determined by reference to the internally generated forward price curves existing at balance date. As the amounts included in the table are contractual undiscounted cash flows, these amounts will not reconcile to the amounts disclosed in the balance sheet.

As at 30 June 2022	Less than 1 year $ million	1 to 2 years $ million	2 to 5 years $ million	More than 5 years $ million	Total contractual cash flows $ million
Trade and other payables	(195.5)	(4.9)	(7.7)	-	(208.1)
Borrowings (excluding lease liability)	(340.4)	(83.6)	(486.3)	(1,473.0)	(2,383.3)
Lease liability	(11.1)	(10.0)	(28.4)	(63.3)	(112.8)
Total non-derivative financial liabilities	**(547.0)**	**(98.5)**	**(522.4)**	**(1,536.3)**	**(2,704.2)**
Inflows	52.2	35.7	273.1	-	361.0
Outflows	(52.6)	(39.7)	(229.9)	-	(322.2)
Gross-settled derivatives	**(0.4)**	**(4.0)**	**43.2**	**-**	**38.8**
Net-settled derivatives	**(16.0)**	**3.0**	**44.8**	**43.6**	**75.4**
Total non-derivative financial liabilities and derivatives	**(563.4)**	**(99.5)**	**(434.4)**	**(1,492.7)**	**(2,590.0)**

As at 30 June 2021	Less than 1 year $ million	1 to 2 years $ million	2 to 5 years $ million	More than 5 years $ million	Total contractual cash flows $ million
Trade and other payables	(310.2)	(4.3)	-	-	(314.5)
Borrowings (excluding lease liability)	(417.1)	(162.5)	(307.4)	(1,130.2)	(2,017.2)
Lease liability	(11.5)	(9.4)	(27.8)	(72.7)	(121.4)
Total non-derivative financial liabilities	(738.8)	(176.2)	(335.2)	(1,202.9)	(2,453.1)
Inflows	13.1	8.8	95.3	147.6	264.8
Outflows	(5.2)	(5.1)	(83.6)	(132.0)	(225.9)
Gross-settled derivatives	7.9	3.7	11.7	15.6	38.9
Net-settled derivatives	(68.6)	(18.7)	15.8	42.9	(28.6)
Total non-derivative financial liabilities and derivatives	(799.5)	(191.2)	(307.7)	(1,144.4)	(2,442.8)

F8. Fair value measurement

Fair value hierarchy

Generation assets disclosed in note B1, emission units held for trading disclosed in note C2 and derivatives disclosed in note F1 are the only assets and liabilities carried at fair value in the balance sheet. While borrowings are initially recognised at fair value, net of transaction costs, they are subsequently measured at amortised cost in the balance sheet. The fair value of borrowings is required to be disclosed (refer to note E5). The nature of the inputs into the fair value calculation determines the level applied in the fair value hierarchy. Each level is outlined below:

Level one – the fair value is determined using unadjusted quoted prices from an active market for identical assets and liabilities. A market is regarded as active if quoted prices are readily and regularly available from an exchange, a dealer, a broker, an industry group, a pricing service or a regulatory agency and those prices represent actual and regularly occurring market transactions on an arm's length basis.

Level two – the fair value is derived from inputs other than quoted prices included within level one that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices). Financial instruments in this level include interest rate swaps, foreign exchange contracts, oil and coal price swaps, CCIRS and electricity derivatives valued using the ASX forward price curve.

Level three – the fair value is derived from inputs that are not based on observable market data. Financial instruments included in this level are electricity derivatives and PPAs valued using the wholesale electricity price path.

The Group's policy is to recognise transfers into and out of fair value hierarchy levels at the date the change in circumstances occurred. Refer to the reconciliation of level three electricity swaps and options and PPAs table for transfers between levels.

All derivatives disclosed in F1 other than electricity swaps and options and PPAs are considered level two. The $4.1 million electricity swap and option and PPAs net liability comprises a $2.2 million asset classified as level two and a $6.3 million liability classified as level three (2021: $7.4 million liability and $129.1 million liability respectively).

Valuation of level two derivatives

The fair values of level two derivatives are determined using discounted cash flow models. The key inputs in the valuation models were:

Item	Valuation input
Interest rate swaps	Forward interest rate price curve
Foreign exchange contracts	Forward foreign exchange rate curves
Oil price swaps	Forward oil price and foreign exchange rate curves
Electricity swaps and options	ASX forward price curve
CCIRS	Forward interest rate price curve and foreign exchange rate curves
Coal price swaps	Forward coal price curve

Valuation of level three derivatives

Valuation process

The team that carries out the valuations reports directly to the Chief Financial Officer. The results and key drivers of changes in the valuations are reviewed at least six monthly for generation assets and monthly for derivatives. The Chief Financial Officer reports key changes in fair value to the Board. Any changes to the valuation methodology are reported to the Audit and Risk Committee.

Valuation of electricity swaps and options and PPAs

The valuation is based on a discounted cash flow model. The key inputs and assumptions are: the callable volumes, strike price and option fees outlined in the agreement, the wholesale electricity price path ('price path'), the probability of the underlying plant construction proceeding on time, 'day one' gains and losses and the discount rate. The options are deemed to be called when the price path is higher than the strike prices after taking into account obligations relating to the specific terms of each contract. No calling is required for the swaps and there are no option fees. The price path is the significant unobservable input in the valuation model. Refer to B1 for information in relation to the method and judgements used to determine the price path.

	2022	2021
Price path	$98 per MWh to $191 per MWh over the period from 1 July 2022 to 28 February 2045.	$81 per MWh to $190 per MWh over the period from 1 July 2021 to 4 March 2041.
Impact of increase/ decrease in price path on fair value	A 10% increase would decrease the liability by $67.5 million. A 10% decrease would increase the liability by $57.4 million.	A 10% increase would increase the liability by $5.9 million. A 10% decrease would decrease the liability by $6.2 million.
Discount rate	2.8% - 8.45%	0.2% - 4.85%

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F8. Fair value measurement (continued)

Reconciliation of level three electricity swaps and options and PPAs	2022 $ million	2021 $ million
Balance as at 1 July	**(129.1)**	4.0
Electricity revenue	**50.6**	47.4
Change in fair value of financial instruments	**134.4**	(90.0)
Total gain (loss) in the income statement	**185.0**	(42.6)
Total gain (loss) recognised in other comprehensive income	**(49.5)**	(220.2)
Settlements	**13.5**	155.4
Sales	**(26.2)**	(25.7)
Balance as at 30 June	**(6.3)**	(129.1)

The change in fair value of financial instruments includes the reversal of previously unrealised net losses and current year unrealised net gains of $136.2 million (2021: $87.4 million loss).

Deferred 'day one' gains (losses)

There is a presumption that when derivative contracts are entered into on an arm's length basis, and no payment is received or paid on day one, the fair value at inception would be nil. The contract price of non-exchange traded electricity derivative contracts and PPAs are agreed on a bilateral basis, the pricing for which may differ from the prevailing derived market price for a variety of reasons. In these circumstances an adjustment is made to bring the initial fair value of the contract to zero at inception. The adjustment is called a 'day one' gain (loss) and is deferred and amortised, based on expected volumes over the term of the contract. During the year $24.4 million of 'day one' gains were deferred in relation to two new PPAs, Kaiwaikawe wind farm and Tauhara geothermal field. The following table details the movements and amounts of deferred 'day one' gains (losses) included in the fair value of level three electricity swaps and options and PPAs:

	2022 $ million	2021 $ million
Balance as at 1 July	**100.7**	118.4
New derivatives	**24.4**	-
Amortisation of existing derivatives	**(21.8)**	(17.7)
Balance as at 30 June	**103.3**	100.7

G. Other

G1. Share-based payments

During the year, the Group operated four share-based payment plans (Long Term Incentive Plan ('LTI'), Performance Share Rights Plan ('PSR'), Talent Retention Plan ('TRP') and Employee Share Scheme ('ESS')) to enable staff to share in the ownership of Genesis.

The cost of the plans is recognised over the period in which the performance and/or service conditions are fulfilled. The total amount expensed is based on the Group's best estimate of the number of equity instruments that will ultimately vest, taking into consideration the likelihood that service conditions will be met, multiplied by the initial fair value of each share.

	Note	2022 $ million	2021 $ million
LTI	G2	**-**	0.2
PSR	G2	**0.4**	0.6
TRP		**0.4**	0.3
ESS		**-**	0.2
Total expense for the year		**0.8**	1.3

G2. Related party transactions

Majority shareholder and entities controlled by, and related to, the majority shareholder

The majority shareholder of Genesis is the Crown. The Group transacts with Crown-controlled and related entities independently for the following goods and services: royalties, emission obligations, scientific consultancy services, electricity transmission, postal services, rail services and energy-related products (including electricity derivatives).

During the year, the Crown received $93.6 million in dividends (2021: $92.1 million) of which $84.5 million was paid in cash (2021: $83.2 million) and $9.1 million was paid in shares (2021: $8.9 million). The Group is also subject to the Emission Trading Scheme (ETS) which requires the Group to acquire and surrender emission units either directly to the Crown or to third parties who ultimately remit the units to the Crown. Refer to notes A3 and C3 for information on the amount expensed and payable in relation to the ETS. There were no other individually significant transactions with the Crown (2021: nil).

The Group has five significant electricity swap and option contracts with Meridian Energy, a Crown-controlled entity. The electricity swap and option contracts profile and period vary between the range of 12.5MW and 150MW, from the period 1 January 2011 to 31 December 2025. Additionally, the Group has two significant power purchase agreements with Mercury NZ, a Crown-controlled entity. The agreements are for variable volumes based on the production of the related site, with the latest expiry date being February 2045.

Approximately 25.7 per cent of the value of electricity derivative assets and approximately 38.2 per cent of the value of electricity derivative liabilities at year end are held with Crown-controlled and related entities (2021: 10.3 per cent and 29.2 per cent respectively). The contracts expire at various times; the latest expiry date is February 2045.

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G2. Related party transactions (continued)

Key management personnel compensation

Key management personnel of the Group consists of the Directors and the Executive Management team.

	Note	2022 $ million	2021 $ million
Short-term benefits		**8.1**	9.2
Post-employment benefits		**0.3**	0.2
Share-based payments (LTI and PSR)	G1	**0.4**	0.8
Total key management personnel compensation		**8.8**	10.2

Included in short-term benefits are directors' fees of $0.9 million (2021: $0.8 million).

LTI

The LTI was wound up in March 2022 after the final tranche of shares vested. Under the LTI plan senior executives purchased shares at market value, funded by interest-free loans from Genesis. The shares were held on trust by the Trustee until the end of the vesting period. Dividends on the shares during the vesting period were deducted from the loan balance. If the shares vested, each executive was entitled to a cash amount which, after deduction for tax, was equal to the outstanding loan balance on day one for the shares that have vested. That cash amount was required to be applied towards repayment of the loan balance and the corresponding shares and dividends on the shares during the vesting period were released to the executive.

Vesting of shares was dependent on continued employment throughout the vesting period and achievement of certain performance targets (a relative TSR hurdle compared against industry peers and an absolute TSR hurdle compared against the NZX and ASX). If the performance targets were not met or if the executive ceased to be employed by the Group other than for qualifying reasons, no shares would vest and the shares were forfeited to the Trustee without compensation. The relevant executive would receive no benefits under the plan unless the Board exercised its discretion to allow some or all of the shares to vest.

	$	Number of options
Balance at 1 July 2020	1,354,861	641,334
Vested - FY18 tranche	(310,039)	(152,319)
Forfeited	(310,031)	(152,315)
Dividends	(51,095)	-
Balance as at 30 June 2021	683,696	336,700
Vested - FY19 tranche	(341,849)	(168,353)
Forfeited	(341,847)	(168,347)
Dividends	-	-
Balance at 30 June 2022	-	-

PSR

The PSR plan commenced in FY20. Under the PSR senior executives are granted performance share rights. Vesting of the rights is dependent on continued employment throughout the vesting period and achievement of certain performance targets (a relative TSR hurdle compared against industry peers and an absolute TSR hurdle compared against the cost of equity). Each performance share right that vests entitles the participant to one ordinary share in Genesis for no consideration and 'dividend equivalents' that would have been earned on the share over the vesting period. No share rights will vest if the performance targets are not met or if the participant ceases to be employed by the Group other than for qualifying reasons, unless the Board exercises its discretion to allow some or all of the shares to vest.

Grant date	Performance period
FY20	1 July 2019 - 30 June 2022
FY21	1 July 2020 - 30 June 2023
FY22	1 July 2021 - 30 June 2024

Other transactions with key management personnel or entities related to them

Key management personnel and their families may purchase gas, electricity and LPG from the Group and may purchase shares in Genesis. During the year, key management personnel also participated in the LTI plan and PSR plan discussed on the previous page and above. The total number of shares held by key management personnel (excluding LTI shares) as at 30 June 2022 was 524,147 (2021: 542,535). During the year, dividends paid to key management personnel and their families was $203,908 (2021: $207,929). No other transactions took place between key management personnel and the Group (2021: nil). As at 30 June 2022 the balance payable to key management personnel was nil (2021: nil).

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G3. Auditor's remuneration

Audit fees comprise $0.1 million for the review of the interim financial statements, $0.6 million for the audit of the annual financial statements and $0.1 million charged in 2022 in respect of the 2021 financial statement audit (2021: $0.1 million and $0.5 million respectively, and an additional $0.1 million charged in 2021 in respect of the 2020 financial statement audit). In addition to the audit, Deloitte provided the following services during the year: provision of non-assurance services for the Corporate Taxpayer Group (of which Genesis is a member), trustee reporting and financial modelling training (2021: provision of non-assurance services for the Corporate Taxpayer Group (of which Genesis is a member) and trustee reporting). Total fees relating to other services was $0.036 million (2021: $0.023 million).

G4. Capital commitments

	2022 $ million	2021 $ million
Less than one year	**11.1**	8.6
One to five years	**11.0**	12.5
Total	**22.1**	21.1

The Group's share of capital commitments in relation to Kupe Joint Venture was $0.7 million, DrylandCarbon One Limited Partnership was $3.0 million and Forest Partners Limited Parternship was nil as at 30 June 2022 (2021: nil, $0.5 million and nil respectively).

G5. Contingent assets and liabilities

The Group had contingent liabilities at 30 June 2022 in respect of:

Land claims, law suits and other claims

Genesis acquired interests in land and leases from Electricity Corporation of New Zealand Limited ('ECNZ') on 1 April 1999. These interests in land and leases may be subject to claims to the Waitangi Tribunal and may be resumed by the Crown. Genesis would expect to negotiate with the new Māori owners for occupancy and usage rights of any sites resumed by the Crown. Certain claims have been brought to, or are pending against, ECNZ and the Crown under the Treaty of Waitangi Act 1975. Some of these claims may affect land and leases purchased from ECNZ. In the event that land is resumed by the Crown, the resumption would be effected by the Crown under the Public Works Act 1981 and compensation would be payable. The Board cannot reasonably estimate the adverse effect (if any) of the claims and cannot provide any assurance that should a claim be raised it would not have a material adverse effect on the Group's business, financial condition or results of operations.

There are no other known material contingent assets or liabilities (2021: nil).

G6. Subsequent events

The following events occurred subsequent to balance date:

- On 18 August 2022 $93.5 million of dividends were declared (refer to note E4);
- On 20 July 2022 the Group fully repaid the $50.0 million wholesale term note;
- In July 2022 the Group restructured its revolving credit facilities which increased the total available facilities by $25.0 million to $550.0 million.

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Independent auditor's report

Te Pūrongo A Te Kaitātari Kaute Motuhake

To The Shareholders Of Genesis Energy Limited

Auditor General

The Auditor-General is the auditor of Genesis Energy Limited and its subsidiaries ('the Group'). The Auditor-General has appointed me, Bryce Henderson, using the staff and resources of Deloitte Limited, 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 50 to 87, that comprise the consolidated balance sheet as at 30 June 2022, the consolidated comprehensive income statement, consolidated statement of changes in equity and consolidated cash flow statement for the year ended on that date, and the notes to the consolidated financial statements that include accounting policies and other explanatory information.

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 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 (including International Independence Standards) (New Zealand)* 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 assurance assignments in the areas of trustee reporting and review of the interim report, and non-assurance services to the Corporate Taxpayer Group and a financial modelling training which are compatible with those independence requirements. These services have not impaired our independence as auditor of the Group.

In addition to these assignments, principals and employees of our firm deal with the Group on normal terms within the ordinary course of trading activities of the Group. Other than the audit and these assignments and trading activities, we have no relationship with, or interests in the Group.

Audit Materiality

We consider materiality primarily in terms of the magnitude of misstatement in the consolidated financial statements of the Group, that in our judgement would make it probable that the economic decisions of a reasonably knowledgeable person would be changed or influenced (the 'quantitative' materiality). In addition, we also assess whether other matters that come to our attention during the audit would in our judgement change or influence the decisions of such a person (the 'qualitative' materiality). We use materiality both in planning the scope of our audit work and in evaluating the results of our work.

We determined the quantitative materiality for the consolidated financial statements as a whole to be $15.0 million.

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.

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Key audit matters	How our audit addressed the key audit matters and results
Valuation of Generation Assets Generation assets are measured at fair value as set out in note B1 of the consolidated financial statements. The carrying amount at 30 June 2022 is $3,531.2 million. The fair value of generation assets is estimated using an internally generated discounted cash flow model. The significant inputs used to assess the fair value of the generation assets are the wholesale electricity price path, generation volumes, and the discount rate. The wholesale electricity price path is estimated by Genesis Energy as described in note B1 of the consolidated financial statements and reflects uncertainty surrounding Tiwai Point smelter and the impact this could have on future prices. The valuation also reflects demand assumptions which include that arising from climate change. The estimate of the wholesale electricity price path is the most significant input in estimating the fair values determined for the generation assets and affects the estimated generation volumes which are also used in the fair value calculation. Changes to the forecast of the wholesale electricity price path could significantly change the estimated fair value of the generation assets. The treatment of the gain on revaluation estimated by Genesis Energy is described in note B1 of the consolidated financial statements. We included the valuation of generation assets as a key audit matter due to the level of judgement required in forecasting the wholesale electricity price path.	Our audit procedures included assessing the key inputs to the model used to estimate the fair value of the generation assets. Our procedures, which included the use of our internal valuation experts, were primarily focused on evaluating the process undertaken by Genesis Energy in forecasting the wholesale electricity price path and challenging whether the forecast was consistent with internal and external data. We assessed the professional competence of the Genesis Energy valuers involved in the forecasting of the electricity price path and valuation of the generation assets. We also compared budgeted performance information from prior periods to actual data to assess the accuracy of the forecasting process. We have evaluated Genesis Energy's methodology in constructing the forward electricity price path including the aggregation of internal and independent third-party data. We also evaluated the assumptions used in forecasting the electricity price path to determine whether they were consistent with assumptions used across the business, including management budgets and valuations of other assets including certain electricity derivatives. We have also considered other key assumptions used within the valuation, as described in note B1 of the consolidated financial statements. We performed sensitivity analysis on the key assumptions applied in determining the fair value of the generation assets and considered the adequacy of the Group's disclosures. We have found the assumptions and resulting valuation to be reasonable.
Valuation of Electricity Derivatives The Group's activities expose it to a number of market risks, including electricity, gas, oil and coal price risk, currency risk and interest rate risk, which are managed using derivative financial instruments. At 30 June 2022 derivative assets were $271.2 million and derivative liabilities were $209.4 million as set out in note F1 of the consolidated financial statements. Many of the Group's derivatives are valued using standard valuation techniques based primarily on observable inputs. However, some electricity swaps, options and Power Purchase Agreements are valued using inputs that are not based on observable market data, such as the wholesale electricity price path forecast which is prepared by Genesis Energy valuers. As explained in the 'Valuation of Generation Assets' section above, the wholesale electricity price path forecast requires significant judgement. Valuations which reflect significant unobservable inputs are considered to be 'level three' valuations as described in note F8 of the consolidated financial statements. At 30 June 2022, the Group had a net $6.3 million liability of electricity derivatives considered to be within level three. We included the valuation of level three electricity derivatives as a key audit matter due to the judgement involved in evaluating the inputs to the valuation models.	We tested the design and operating effectiveness of key controls related to the recording and valuation of the level three electricity derivative transactions. We challenged key assumptions applied by management and agreed underlying data to the contract terms on a sample basis. We have independently recalculated the fair value of a sample of electricity derivatives. Our internal valuation experts have evaluated the appropriateness of the methodology applied in valuation models for the level three electricity derivatives. We also performed audit work on the wholesale electricity price path as explained above under the section entitled 'Valuation of Generation Assets'. We have found the assumptions and resulting valuation to be reasonable.

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Other Information

The Directors are responsible on behalf of the Group for the other information. The other information comprises the information included in the Annual Report, but 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. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

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 shareholders 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.

Bryce Henderson
Deloitte Limited
On behalf of the Auditor-General
Auckland, New Zealand
18 August 2022

Corporate governance

Te Mana Arataki Rangatōpū

Corporate governance information

This section of the Annual Report provides information on Directors' independence, committees, fees and diversity and inclusion policies and other activities.

Genesis' governance framework is guided by the principles and recommendations described in the NZX Corporate Governance Code. Genesis considers it has followed these recommendations in all material respects during FY22 and as at 30 June 2022[1]. Genesis has reported in detail against the NZX Corporate Governance Code in its separately published Corporate Governance Statement, which, together with other detailed information on Genesis' Board of Directors, Executive team and corporate governance policies (including those in the table on this page), practices and processes, can be viewed on the Genesis Governance section on the Genesis website (www.genesisenergy.co.nz/investor/corporate-governance).

Director independence

Details of the current directors are set out on page 45. All of the Directors are currently considered to be independent Directors as none of them are executives of the Company or have any direct or indirect interests or relationships that could reasonably influence, or could reasonably be perceived to influence, in a material way, their decisions in relation to the Company. See the Corporate Governance Statement for more detail on Director independence.

Diversity and Inclusion Policy and gender composition

Genesis' Diversity and Inclusion Policy records the Company's commitment to an inclusive workplace that embraces and promotes diversity through a number of initiatives, including a focus on equal opportunity. Genesis has sought to establish measurable objectives for achieving diversity, including gender diversity, as part of its annual assessment of its diversity objectives for FY22. During the year the Company was awarded the "Rainbow Tick" accreditation.

The Board is comfortable with the Company's FY22 performance with respect to its Diversity and Inclusion Policy and objectives.

In accordance with NZX Listing Rule 3.8.1 (c), as at 30 June 2022:

- Three out of seven Genesis Directors were women (FY21: three out of seven).
- Four out of eight officers[2] were women (FY21: two out of eight).

Board Skillsets

The Board has refreshed Genesis' skills matrix on the following page, which sets out the skills necessary for the Company's success, and assesses the skills held by the Directors against the required skills. The matrix shows a good spread of expertise and secondary skills among Directors.

Corporate governance documentation

- Genesis' Constitution
- Board Charter
- Audit and Risk Committee Charter
- Human Resources and Remuneration Committee Charter
- Nominations Committee Charter
- Corporate Governance Statement
- Code of Conduct
- Diversity and Inclusion Policy
- Trading in Company Securities Policy
- Market Disclosure Policy
- Audit Independence Policy
- Investor Communication Policy
- Supplier Code of Conduct
- Risk Management Statement
- Disclosure of Non GAAP Performance Measures Policy
- Information about Genesis' Ordinary Shares

1 During the year the Company has not complied with Recommendation 3.6 (takeover protocols) of the Code due to the Crown's share ownership in the Company making it practically impossible for a takeover offer to be made. See the Corporate Governance Statement for more detail.

2 The term 'Officer' is defined in the NZX Listing Rules as a person, however designated, who is concerned or takes part in the management of the public issuer's business and reports to the Board or to a person who reports to the Board. At Genesis our Officers are the Chief Executive and the Chief Executive's direct reports.

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Strategic Focus	Director Expertise	Governance Capabilities
Business strategy and leadership experience		A proven record of developing and executing business strategy
Listed company governance experience		Experience in listed company governance and driving and assessing the effectiveness of the executive
Regulated industry knowledge and experience		Electricity sector experience or experience in a similarly regulated industry
Government and stakeholder relationship experience		A proven record of successfully engaging and managing key external stakeholder relationships
Finance / Accounting / Audit Committee experience		Experience in financial accounting, reporting and internal financial controls
Corporate finance / capital markets / transactional experience		Experience in corporate finance related transactions – such as capital raising and/or mergers and acquisitions
Large industry operational (capital) project management experience		Experience within the electricity sector or similar large scale industrial business
Health and safety, risk experience		Deep understanding of excellence in Health & Safety in strategic and operational context and applicable legislative framework
Customer insight, data, marketing and brand experience		Experience in consumer retail and execution of marketing and brand strategies to deliver growth
Technology / innovation and digitalisation experience		Detailed understanding of the role of technology and innovation in delivering a superior customer experience
People / culture / reputation management		Deep understanding of the strategic importance of people, values, behaviours and management style as drivers of organisational culture and reputation

Primary Secondary

Board and committee meetings and attendances

Director[1]	Appointed	Board Meetings[2]	Audit and Risk Committee[3]	Human Resources and Remuneration Committee[3]	Nominations Committee[3]
Total Meetings held		**13**	**4**	**4**	**4**
Barbara Chapman (Chairman)	1 May 2018	**13**	1	-	4
Catherine Drayton	14 Mar 2019	**12**	4	-	-
Doug McKay	24 June 2014	**13**	-	4	3
Tim Miles	21 Nov 2016	**13**	-	3	3
James Moulder	10 Oct 2018	**13**	4	-	-
Maury Leyland Penno[4]	1 August 2016	**8**	2	2	-
Paul Zealand	19 Oct 2016	**12**	-	4	4
Hinerangi Raumati-Tu'ua	7 March 2022	**3**	1	-	-

1. All Directors listed are independent Directors.

2. In addition, Directors participated in a number of stakeholder and investor meetings throughout FY22.

3. The above numbers do not include attendances at Committee meetings by non-member Directors. The Chairman is an ex-officio member of the Audit and Risk Committee and Human Resources and Remuneration Committee and attends all meetings. She attended one meeting of the Audit and Risk Committee as a temporary member prior to the appointment of Hinerangi Raumati-Tua to the Committee.

4. Maury Leyland Penno retired from the Board on 10 December 2021.

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Executive remuneration

This following Remuneration Report for the year ending 30 June 2022 sets out remuneration information for the Chief Executive and the Executive Team.

Genesis' remuneration strategy aims to attract, motivate and retain talented employees at all levels of the Company and seeks to align the interests of its shareholders and employees, whilst driving performance and growth in shareholder value and return.

Employee remuneration is also discussed in the Company's Corporate Governance Statement which can be viewed at www.genesisenergy.co.nz/investor/corporate-governance/governance-documents.

Genesis Energy follows the New Zealand Shareholder Association's guide to assist all investors to understand how remuneration is aligned with value creation for its shareholders. Genesis' remuneration policy for the Executive Team including the Chief Executive is designed to have them remunerated with competitive salaries, a wide range of benefits and use of performance incentives to achieve outstanding performance and alignment with our shareholders' interests. The Human Resources and Remuneration Committee regularly reviews the Company's remuneration policy. For the Executive Team the policy provides the opportunity to achieve, where performance has been outstanding, a total remuneration package in the upper quartile for equivalent market matched roles. Each year the Committee reviews and approves the performance and remuneration appraisals of the Executive, with the Board approving the Chief Executive's remuneration.

Total remuneration for the Executive Team is made up of three elements: fixed remuneration, short-term incentives and long-term incentives.

Fixed remuneration consists of base salary and benefits and is targeted to be in the third quartile of the market. External benchmarking is commissioned by the Human Resources and Remuneration Committee to be carried out independently by PricewaterhouseCoopers.

Short Term incentives (STIs) are 'a pay for performance' component designed to motivate and reward performance in a single financial year. The target value of an STI is set annually as a percentage of the Executive's fixed remuneration. For FY22 the target for the Chief Executive was 50 per cent and for other Executives was between 30 per cent and 45 per cent. The performance measures to achieve the STI are then set across Company KPIs for EBITDAF, Customer, Health and Safety, Sustainability, Strategic objectives and individual KPIs. Within each measure, there are three performance levels, 'threshold', 'on target' and 'outstanding'. On appraisal at the end of each year an Executive will be awarded an STI payment for each objective based on their performance between a range of zero per cent for below threshold performance, to 150 per cent for outstanding performance.

The Long Term incentives (LTI) are also 'a pay for performance' component designed to align rewards for the Executive with shareholder value over a three year period. Only the Executive are eligible to participate in the LTI. Genesis Energy's LTI scheme was reviewed and a new performance share rights plan established in FY20 to ensure it continues to attract, retain and motivate high calibre executive members to drive outstanding outcomes for our customers and our shareholders.

Under the LTI plan, executives are granted a number of share rights determined by dividing the gross value of the grant by the value of one Genesis share at the date of the grant. At vesting, subject to meeting the performance hurdles set at the time of grant, each share right is converted to one ordinary share. LTI payments, if achieved, are made in Genesis shares rather than cash. The executive may also receive additional shares representing the value of dividends paid over the vesting period. The executive is liable for tax on any shares received. Under the LTI plan, grants will continue to be made annually with performance measured over a three-year period. The Board retains some discretion over the final outcome.

In FY22 LTI grants were made to the Executive Team and the value of the grants were set at a percentage of fixed remuneration between a range of 25 per cent to 60 per cent.

CEO Transition

Chief Executive, Marc England, is leaving Genesis, with his leaving date to be 14 October 2022. For this reason, Genesis Energy have not provided the forward-looking pay for performance breakdown for the Chief Executive for FY23.

Total Remuneration earned by, or paid to the CEO, Mr Marc England for FY21 and FY22 is as follows

	Fixed Remuneration			Pay for Performance $			Total Remuneration
Period	**Base Salary**	**Benefits**	**Subtotal**	**STI**	**LTI**	**Subtotal**	
FY22	1,346,170	89,441	1,435,611	889,850	-	889,850	2,325,461
FY21	1,207,708	90,670	1,298,378	775,854	283,182	1,059,036	2,357,414

The Base Salary is inclusive of holiday pay paid as per New Zealand legislation. Benefits are employer contributions towards KiwiSaver on the base salary, short term incentives (STI) and long-term incentives. The FY20 LTI did not meet the absolute or relative TSR metrics at its vesting date of 30 June 2022 and consequently all rights under the FY20 LTI lapsed.

Breakdown of CE pay for performance FY22

	FY22 Weighting Percentage	Performance Measures	Percentage Achieved
STI	Set at 50% of fixed remuneration	60% based on Company shared KPI's of EBITDAF, Customer, Safety & Wellness, Sustainability, and Strategic objectives.	137%
		40% based on Individual KPIs	
LTI	Conditional awards of shares under a Long Term Incentive Plan set at 60% of fixed remuneration	50% weighting relative TSR performance against an industry peer group, 50% weighting absolute TSR against NZX and ASX performance	0%

The above STI payments for FY22 were paid in FY23. As noted in the Total Remuneration Earned table, the FY20 LTI did not meet the absolute or relative TSR metrics at its vesting date of 30 June 2022 and consequently all rights under the FY20 LTI lapsed.

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The following LTI Plan was granted to the CE in FY22, for vesting in FY24 (30 June 2024)

Grant Year	Basis of Award	Face Value of award	Performance Period	Performance Measure
FY22	60% of Fixed Remuneration (Base Salary + Benefits)	$780,000 in the form of 268,907 ordinary shares	July 2021 - June 2024	50% relative TSR measured against the Peer Gen-Tailor Group 50% absolute TSR measured against Genesis Cost of Equity.

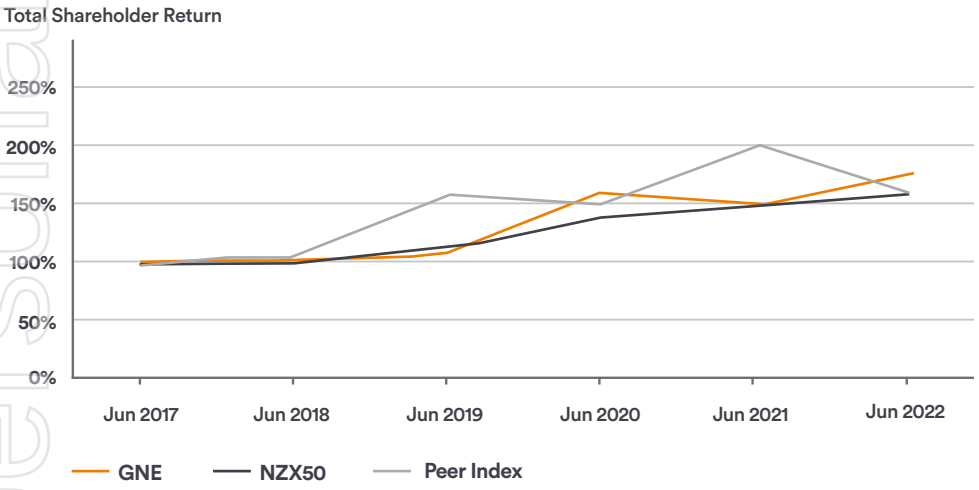
Due to the CEO's resignation, any rights granted in the FY22 year will lapse on his departure.

Five Year summary - Chief Executive Remuneration

	Total Remuneration	Percentage STI against maximum %	Percentage vested LTI against maximum	Span of LTI Performance Period
FY22	$2,325,461	91%	0%	July 2019 to June 2022
FY21	$2,357,414	89%	50%	July 2018 to June 2021
FY20	$2,071,613	57%	50%	July 2017 to June 2020
FY19	$2,351,631	85%	100%	July 2016 to June 2019
FY18	$2,061,265	79%	100%	July 2015 to June 2018

Total remuneration including Salary, Benefits, and STI and LTI earned in the year but paid in the following year.

Five year summary – TSR Performance



Remuneration of employees earning over $100,000 in the year ending 30 June 2022

There were 504 Genesis and subsidiary employees (or former employees) who received remuneration and benefits in excess of $100,000 (not including Directors) in their capacity as employees during the year ended 30 June 2022, as set out below.

Remuneration of employees

Remuneration	Employees	Remuneration	Employees	Remuneration	Employees
$2,440,000 - $2,450,000*	1	$360,000 - $370,000	1	$210,000 - $220,000	10
$930,000 - $940,000	1	$350,000 - $360,000	1	$200,000 - $210,000	11
$880,000 - $890,000	1	$340,000 - $350,000	2	$190,000 - $200,000	14
$740,000 - $750,000	1	$330,000 - $340,000	2	$180,000 - $190,000	14
$720,000 - $730,000	1	$310,000 - $320,000	3	$170,000 - $180,000	29
$630,000 - $640,000	1	$300,000 - $310,000	4	$160,000 - $170,000	46
$620,000 - $630,000	1	$290,000 - $300,000	2	$150,000 - $160,000	44
$500,000 - $510,000	1	$280,000 - $290,000	4	$140,000 - $150,000	44
$440,000 - $450,000	1	$270,000 - $280,000	2	$130,000 - $140,000	58
$420,000 - $430,000	1	$260,000 - $270,000	3	$120,000 - $130,000	52
$400,000 - $410,000	1	$240,000 - $250,000	3	$110,000 - $120,000	69
$390,000 - $400,000	1	$230,000 - $240,000	3	$100,000 - $110,000	65
$380,000 - $390,000	1	$220,000 - $230,000	5		
Total employees earning $100,000+					504
Employees who are included but who are no longer at Genesis Energy as at 30 June 2022					41

Remuneration includes base salary, employer KiwiSaver contributions, vested shares from employee share schemes, short-term performance payments, settlement payments and redundancy payments for all permanent employees received during FY22. Short-term performance payments and the LTI bonus are paid in arrears; therefore the table above includes the STI and LTI earned in FY21.

* The remuneration paid during the year is higher than the remuneration earned on page 93 as it includes the payment of the FY21 STI and LTI. The FY22 STI will be paid in FY23.

Director remuneration

Directors' fees

Directors' remuneration is in the form of Directors' fees for non-executive Directors, approved by shareholders.

The Chairman receives a higher level of fees to reflect the additional time and responsibilities that this position involves but does not receive any fees for committee membership or attendances.

Directors' fees were last approved by shareholders at the Company's 2021 Annual Shareholder Meeting. Shareholders approved an increase in the total annual pool for Directors' remuneration of $132,950, from the $940,000 pool approved at the 2016 Annual Shareholder meeting, to $1,072,950, with the increase taking effect from 1 November 2021. Table 1 sets out how the approved pool has been allocated.

No Director is entitled to any remuneration from the Company other than by way of Directors fees and the reimbursement of reasonable travelling, accommodation and other expenses incurred in performing their duties as Directors.

Table 2 sets out the remuneration paid to Directors during the year to 30 June 2022.

Director remuneration is also discussed in the Company's Corporate Governance Statement which can be viewed at www.genesisenergy.co.nz/investor/corporate-governance/governance-documents.

Directors received no remuneration or other benefits during the period in relation to duties as Directors of a subsidiary.

Details of Directors of subsidiary entities forming part of the Genesis Group are set out in the Statutory Disclosures on page 97.

All Directors received the benefit of an indemnity from Genesis and the benefit of Directors and Officers liability insurance cover.

The cover extends to liabilities to persons (other than the Company and its subsidiaries or related bodies corporate) that arise out of the performance of their duties as Directors, unless the liability is prohibited from being insured against by law or relates to fraudulent conduct.

Remuneration of Company employees, including those acting as Directors of subsidiary companies, is disclosed in the relevant banding on page 94.

Table 1 – Approved Directors' fees – from 1 November 2021

	Position	Fees per annum	Total
Board of Directors	Chairman	200 ,000	200,000
	Member (x7)[1]	100,000	700,000
Audit and Risk Committee	Chairman	26,000	26,000
	Member (x3)[1]	15,650	46,950
Human Resources and Remuneration Committee	Chairman	20,000	20,000
	Member (x3)	10,000	30,000
Nominations Committee	Chairman[2]	-	-
	Member (x3)	5,000	15,000
Pool for additional work or attendances[3]		35,000	35,000
Total approved pool			**$1,072,950**

1. During the year the Board consisted of six Directors plus the Chairman and the Audit and Risk Committee had two members plus its Chairman.

2. The Chairman of the Board is the chairman of the Committee and does not receive any fees for Committee membership.

3. At the 2021 Annual Shareholder Meeting, shareholders approved a pool of $35,000 for additional work by Directors. In FY22, one-off payments of $5,000 were made to each of Catherine Drayton and James Moulder for work performed by them on financing matters.

Table 2 – Directors' fees paid during FY22

Director	Board fees	Audit & Risk Committee	HR & Rem Committee	Nominations Committee	Additional work	Total[1]
Barbara Chapman	193,333.39					193,333.39
Catherine Drayton	96,666.67	25,333.33			5,000.00	127,000.00
Doug McKay	96,666.67		15,833.33	5,000.00		117,500.00
Tim Miles	96,666.67		14,166.67	5,000.00		115,833.33
James Moulder	96,666.67	14,433.33			5,000.00	116,100.00
Hinerangi Raumati-Tu'ua[2]	29,569.89	4,627.69				34,197.58
Paul Zealand	96,666.67		9,166.67	5,000.00		110,833.33
Maury Leyland Penno[3]	41,021.51	5,724.87	3,602.15			50,348.52
Total						**865,146.16**

1. Directors fees exclude GST and reimbursed costs directly associated with carrying out their duties.

2. Hinerangi Raumati-Tu'ua was appointed to the Board on 7 March 2022.

3. Maury Leyland Penno retired from the Board on 10 December 2021.

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Statutory disclosures

Ngā Whakapuakitanga Whakature

Interests register entries

Dir.	Position	Company
Barbara Chapman (Chairman)	Director	Bank of New Zealand Group[1]
	Director	Fletcher Building Limited
	Deputy Chair	The New Zealand Initiative
	Chair	NZME Limited
	Chair	CEO Summit Committee for APEC 2021[2]
	Patron	New Zealand Rainbow Tick Excellence Awards
Catherine Drayton	Chair	Guardians of New Zealand Superannuation
	Chair	Christchurch International Airport Limited
	Director	Southern Cross Medical Care Society
	Director	Southern Cross Healthcare Limited
	Director	Southern Cross Benefits Limited
	Trustee	Southern Cross Health Trust
	Chair	Mint Innovation[1]
	Director	Fronde Systems Group Limited[2]

Dir.	Position	Company
Hinerangi Raumati-Tu'ua	Chair	Tainui Group Holdings Limited[1]
	Chair	Te Pou HerengaPakihi Limited[1]
	Chair	Te Kiwai Maui o Ngaruahine Limited[1]
	Chair	Maruehi Fisheries Limited[1]
	Chair	Ngaruahine Fisheries Limited[1]
	Chair	Turangawaewae Trust Board[1]
	Director	Watercare Services Limited[1]
	Director	Te Puia Tapapa GP Limited[1]
	Director	Te Rere o Kapuni Limited[1]
	Director	Taranaki Iwi Holdings Management Limited[1]
	Director	Taranaki Iwi Fisheries Limited[1]
Maury Leyland Penno	Director	Leaft Foods Limited
	Chair	Signum Holdings Limited
	Director and Shareholder	Pure Food Company Limited
	Director and Shareholder	Stem and Stalk Limited
	Chair and Trustee	The Education Hub
	Trustee	Arapito Trust
	Trustee	Polperro No. 2 Trust
	Chair	Trust Codes Limited
	Chair	180 Codes Limited
	Chair	Matrex Limited
	Chair	Okuora Farms Limited
	Shareholder	Okuora Holdings Limited
	Director	Cloud Computing Continuation Services Limited

Dir.	Position	Company
Doug McKay	Director	Fletcher Building Limited
	Chair	Eden Park Trust Board
	Chair	Bank of New Zealand Group
	Director	IAG New Zealand Limited
	Director	Wymac Consulting Limited
	Director	National Australia Bank
Tim Miles	Director	oOh!media Limited
	Director	Nyriad
	Chair	Gut Cancer Foundation
	Director	Khandallah Trust Limited
	Director	Centurion GSM Limited[1,2]

Dir.	Position	Company
James Moulder	Director	Cybele Capital Limited
	Director	Motupipi Holdings Limited
	Director	Motupipi Offshore Investments
	Director	Lycaon Advisory Limited
	Director	Tasman Environmental Markets Pty Limited
	Director	Tasman Environmental Markets Limited Partnership
	Director	TEM Financial Services Limited
	Director	TEM Asia Pacific Limited[1]
	Director	Climate Positive Pty Limited
	Trustee	Moulder Family Trust
Paul Zealand	Director	Lochard Energy
	Director	Channel Infrastructure Limited (formerly The New Zealand Refining Company Limited)
	Director	Zoenergy Limited
	Chair	Port Nelson Limited

1. Entries added by notices given by Directors during the year ended 30 June 2022

2. Entries removed by notices given by Directors during the year ended 30 June 2022

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Directors of subsidiary companies

As at 30 June 2022:

- The Chief Executive of Genesis, Marc England, and Chief Corporate Affairs Officer of Genesis, Matthew Osborne[1], were Directors of Kupe Venture Limited.
- Matthew Osborne[2], Warwick Williams, Senior Regulatory Advisor, and George McGhie (resident Singapore-based Director and employed by the Genesis captive manager Willis Management (Singapore) Pte Limited) were Directors of Genesis's captive insurance company incorporated in Singapore, Genesis Insurance Pte Limited.
- Matthew Osborne, Chief Corporate Affairs Officer, and Peter Kennedy[3], Chief Digital Officer, were Directors of Frank Energy Limited (formerly known as Energy Online Limited).
- Cowan Finch[4], Senior Manager, Business Development, Peter Kennedy, Chief Digital Officer, Alistair Yates and Mark Yates, minority owners and Stephanie Loveday were Directors of Ecotricity GP Limited.

1. Appointed 29 October 2021, 2. Appointed 22 December 2021, 3. Appointed 1 April 2022, 4. Appointed 1 February 2022.

Disclosures of Directors' interests in share transactions

During FY22, in relation to the Company's Directors, the following disclosures were made in the Interests Register by Directors as to the acquisition of relevant interests in Company shares under section 148 of the Companies Act 1993:

The acquisition of ordinary shares in the Company pursuant to the Company's Dividend Reinvestment Plan:

- Barbara Chapman 300 shares.
- Catherine Drayton 283 shares.

Directors' interests in shares

Directors disclosed the following relevant interests in Genesis shares as at 30 June 2022:

Director	Relevant interest held in shares
Barbara Chapman	11,176
Catherine Drayton	10,555
Doug McKay	19,634
Tim Miles	40,410
James Moulder	15,000
Paul Zealand	Nil
Hinerangi Raumati-Tu'ua	Nil

Use of Company information

No notices have been received by the Board of Genesis under section 145 of the Companies Act 1993 with regard to the use of Company information received by Directors in their capacities as Directors of the Company or its subsidiary companies.

Chief Executive share ownership

The Chief Executive's ownership of shares in Genesis at 30 June 2022 is as follows (excluding shares and performance share rights held under Long Term Incentive Plans and the now terminated Genesis Employee Share Scheme): 238,651 shares.

Donations

In accordance with section 211 (1) (h) of the Companies Act 1993, Genesis records that it made donations of $164,138 during the year ended 30 June 2022. Genesis policy prohibits the making of political donations. Genesis subsidiaries did not make any donations.

Waivers from the NZX

During the year, the Company relied on a waiver from NZX Listing Rule 3.14.1 (c) such that the Company was not required to issue a release through MAP in the form of a Corporate Action Notice prescribed by NZX in relation to the Company's redemption of its capital Bonds which are quoted on the NZX Debt Market under the ticker GNE040 five business days before the record date.

Credit rating

As at the date of this Annual Report Standard & Poor's long-term credit rating for Genesis was BBB+ Stable.

Exercise of NZX disciplinary powers

The NZX did not exercise any of its powers under NZX Listing Rule 9.9.3 in relation to Genesis during FY22.

Appointment of Auditor

Under the Public Audit Act 2001, the Controller and Auditor-General (Auditor-General) is the independent auditor of Genesis, and the Auditor-General appoints the independent auditor and ensures that the Key Audit Partner is changed at least every five years.

Auditor's fees

Deloitte, on behalf of the Auditor-General, has continued to act as auditor for the Company. Audit fees (including half year review fees) and non-audit fees in FY22, are disclosed in note G3 to the Financial Statements on page 87.

Stock exchange listings

Genesis' ordinary shares are listed and quoted on the NZX Main Board (NZSX) and the Australian Securities Exchange (ASX) under the company code 'GNE'. Genesis has three issues of retail bonds listed and quoted on the NZX Debt Market (NZDX) under company codes 'GNE050', 'GNE060' and 'GNE070'. Genesis' listing on the ASX is as a Foreign Exempt Listing. For the purposes of ASX listing rule 1.15.3, Genesis confirms that it continues to comply with NZX Listing Rules.

Shareholding restrictions

The Public Finance Act 1989 includes restrictions on the ownership of certain types of securities issued by each "mixed ownership -model company (including Genesis) and the consequences of breaching those restrictions. Genesis' constitution incorporates these restrictions and mechanisms for monitoring and enforcing them.

A summary of the restrictions on the ownership of shares under the Public Finance Act and the constitution is set out in the separately published document "Information about Genesis Ordinary Shares" which can be viewed at www.genesisenergy.co.nz/investor/corporate-governance/governance-documents.

Genesis has a 'non-standard' (NS) designation on the NZX Main Board due to particular provisions of the company's constitution, including the requirements that regulate the ownership and transfer of Genesis securities.

Twenty largest registered shareholders as at 30 June 22*

Name	Units at 30 June 2022	% of Units
Her Majesty The Queen In Right Of New Zealand Acting By And Through Her Minister Of Finance And Minister For SOE	537,912,786	51.23
Custodial Services Limited	30,480,626	2.90
Forsyth Barr Custodians Limited	25,672,163	2.45
Citibank Nominees (New Zealand) Limited	25,474,051	2.43
HSBC Nominees (New Zealand) Limited A/C State Street	21,252,868	2.02
HSBC Nominees (New Zealand) Limited	20,280,776	1.93
JBWere (NZ) Nominees Limited	18,160,424	1.73
Accident Compensation Corporation	17,018,356	1.62
New Zealand Depository Nominee Limited	13,292,617	1.27
JP Morgan Chase Bank NA NZ Branch-Segregated Clients Acct	13,086,374	1.25
FNZ Custodians Limited	11,165,400	1.06
JP Morgan Nominees Australia Limited	11,076,420	1.05
BNP Paribas Nominees (NZ) Limited	10,391,785	0.99
ANZ Wholesale Australasian Share Fund	8,704,878	0.83
HSBC Custody Nominees (Australia) Limited	3,951,656	0.38
ANZ Custodial Services New Zealand Limited	3,866,128	0.37
Public Trust Class 10 Nominees Limited	3,741,829	0.36
Forsyth Barr Custodians Limited	3,512,322	0.33
Clyde Parker Holland & Rena Holland	3,450,000	0.33
Tea Custodians Limited Client Property Trust Account	3,371,901	0.32
Totals: Top 20 holders of Ordinary Shares	**785,863,360**	**74.85**

* In the above table the shareholding of New Zealand Central Securities Depository Limited (NZSCD) has been allocated to the applicable members of NZSCD.

Substantial security holders

The following information is given pursuant to section 293 of the Financial Markets Conduct Act 2013 (FMCA). According to notice given to the Company pursuant to section 280 (1) (b) of the FMCA, the substantial security holder in the Company and its relevant interests as at the date of the notice are noted below. The total number of voting shares on issue as at 30 June 2022 was 1,049,956,588.

	Date of substantial security notice	Relevant interest in the number of shares date of notice	% of Shares held at date of notice
Her Majesty The Queen In Right Of New Zealand	6 July 2015	**519,723,781**	**51.97**

Genesis Energy Limited (GNE050)

4.65% Bonds 16/07/2048 (Total)

Top Holders As Of 30/06/2022

Composition: G005

Rank	Name	Units	% Units
1	Forsyth Barr Custodians Limited	69,168,000	28.82
2	Custodial Services Limited	55,108,000	22.96
3	JBWere (NZ) Nominees Limited	29,284,000	12.20
4	Hobson Wealth Custodian Limited	14,640,000	6.10
5	FNZ Custodians Limited	8,888,000	3.70
6	Forsyth Barr Custodians Limited	4,936,000	2.06
7	Investment Custodial Services Limited	2,432,000	1.01
8	Bank Of New Zealand - Treasury Support	1,478,000	0.62
9	Forsyth Barr Custodians Limited	936,000	0.39
10	KPS Society Limited	835,000	0.35
11	Best Farm Limited	600,000	0.25
12	BNP Paribas Nominees (NZ) Limited	525,000	0.22
13	Forsyth Barr Custodians Limited	500,000	0.21
14	JML Capital Limited	500,000	0.21
15	Sports Car World Limited	462,000	0.19
16	Andrew George Anson & Joanne Patricia Anson	400,000	0.17
17	Angela Frances Middlemass	400,000	0.17
18	Mei-Chu Ho	400,000	0.17
19	JBWere (NZ) Nominees Limited	325,000	0.14
20	Queen Street Nominees ACF Hobson Wealth	311,000	0.13
Totals: Top 20 holders of 4.65% Bonds 16/07/2048 (Total)		**192,128,000**	**80.05**
Total Remaining Holders Balance		**47,872,000**	**19.95**

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Genesis Energy Limited (GNE060)

4.17% Bonds 17/03/2028 (Total)

Top Holders As Of 30/06/2022

Composition: G006

Rank	Name	Units	% Units
1	Custodial Services Limited	36,904,000	29.52
2	Forsyth Barr Custodians Limited	14,588,000	11.67
3	National Nominees Limited	12,600,000	10.08
4	FNZ Custodians Limited	9,374,000	7.50
5	JBWere (NZ) Nominees Limited	8,681,000	6.94
6	HSBC Nominees (New Zealand) Limited	6,175,000	4.94
7	BNP Paribas Nominees (NZ) Limited	5,850,000	4.68
8	Citibank Nominees (New Zealand) Limited	5,235,000	4.19
9	ANZ Fixed Interest Fund	4,500,000	3.60
10	BNP Paribas Nominees (NZ) Limited	2,950,000	2.36
11	Forsyth Barr Custodians Limited	1,746,000	1.40
12	Investment Custodial Services Limited	1,385,000	1.11
13	Hobson Wealth Custodian Limited	1,127,000	0.90
14	Mt Nominees Limited	1,030,000	0.82
15	University Of Otago Foundation Trust	500,000	0.40
16	Lode Roger Jan Missiaen	450,000	0.36
17	NZPT Custodians (Grosvenor) Limited	450,000	0.36
18	Anthony Eugene Smith & Carolyn Jean Smith & David Kenneth Brown	255,000	0.20
19	Hugh McCracken Ensor	253,000	0.20
20	BGLIR Trustee Limited	205,000	0.16
Totals: Top 20 holders of 4.17% Bonds 17/03/2028 (Total)		**114,258,000**	**91.41**
Total Remaining Holders Balance		**10,742,000**	**8.59**

Genesis Energy Limited (GNE070)

5.66% Bonds 09/06/2052 (Total)

Top Holders As Of 30/06/2022

Composition: G007

Rank	Name	Units	% Units
1	Forsyth Barr Custodians Limited	64,001,000	22.46
2	National Nominees Limited	59,000,000	20.70
3	JBWere (NZ) Nominees Limited	30,870,000	10.83
4	Custodial Services Limited	28,586,000	10.03
5	Hobson Wealth Custodian Limited	17,107,000	6.00
6	Generate Kiwisaver Public Trust Nominees Limited	15,000,000	5.26
7	FNZ Custodians Limited	7,126,000	2.50
8	CML Shares Limited	6,100,000	2.14
9	Citibank Nominees (New Zealand) Limited	6,000,000	2.11
10	Investment Custodial Services Limited	5,810,000	2.04
11	PONZ Capital Limited	3,146,000	1.10
12	Forsyth Barr Custodians Limited	2,836,000	1.00
13	Tea Custodians Limited Client Property Trust Account	2,120,000	0.74
14	Adminis Custodial Nominees Limited	2,074,000	0.73
15	Masfen Securities Limited	1,670,000	0.59
16	Public Trust	1,440,000	0.51
17	Sterling Holdings Limited	1,080,000	0.38
18	ANZ Custodial Services New Zealand Limited	907,000	0.32
19	Pathfinder Caresaver	691,000	0.24
20	Hugh McCracken Ensor	428,000	0.15
Totals: Top 20 holders of 5.66% Bonds 09/06/2052 (Total)		**255,992,000**	**89.82**
Total Remaining Holders Balance		**29,008,000**	**10.18**

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Distribution of ordinary shares and shareholdings as at 30 June 2022

Holding Range	Holder Count	% Holder Count	Holding Quantity	% Holding Quantity
1 to 999	4,750	11.17	2,792,501	0.27
1,000 – 4,999	29,259	68.83	68,699,595	6.54
5,000 – 9,999	3,652	8.59	24,790,332	2.36
10,000 – 49,999	4,263	10.03	82,139,354	7.82
50,000 – 99,999	380	0.89	24,912,265	2.37
100,000 and over	209	0.49	846,622,541	80.64
Totals	42,513	100.00	1,049,956,588	100.00

Debt listings

Genesis Energy's subordinated, unsecured capital bonds are listed on the New Zealand Debt Market Exchange.

Distribution of holders of quoted securities

Investor ranges: 30 June 2022

Security Code: GNE050

Holding Range	Holder Count	% Holder Count	Holding Quantity	% Holding Quantity
5,000 to 9,999	112	7.65	634,000	0.26
10,000 – 49,999	1,045	71.33	21,856,000	9.11
50,000 – 99,999	192	13.10	10,891,000	4.54
100,000 and over	116	7.92	206,619,000	86.09
Totals	1,465	100.00	240,000,000	100.00

Investor ranges: 30 June 2022

Security Code: GNE060

Holding Range	Holder Count	% Holder Count	Holding Quantity	% Holding Quantity
5,000 to 9,999	102	23.45	618,000	0.49
10,000 – 49,999	267	61.38	4,983,000	3.99
50,000 – 99,999	30	6.90	1,888,000	1.51
100,000 and over	36	8.27	117,511,000	94.01
Totals	435	100.00	125,000,000	100.00

Investor ranges: 30 June 2022

Security Code: GNE070

Holding Range	Holder Count	% Holder Count	Holding Quantity	% Holding Quantity
5,000 to 9,999	87	10.33	501,000	0.18
10,000 – 49,999	567	67.34	11,737,000	4.12
50,000 – 99,999	113	13.42	6,625,000	2.32
100,000 and over	75	8.91	266,137,000	93.38
Totals	842	100.00	285,000,000	100.00

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GENESIS ENERGY LIMITED
Annual Report 2022

Office locations

Head/Registered Office
Genesis Energy
Level 6, 155 Fanshawe Street
Wynyard Quarter
Auckland 1010

P: 64 9 580 2094
F: 64 9 580 4894
E: info@genesisenergy.co.nz
investor.relations@genesisenergy.co.nz
board@genesisenergy.co.nz
media@ genesisenergy.co.nz
W: genesisenergy.co.nz
frankenergy.co.nz

Hamilton
94 Bryce Street, Hamilton

Huntly Power Station
Cnr Te Ohaki and Hetherington Roads, Huntly

Tokaanu Power Station
State Highway 47, Tokaanu

Waikaremoana Power Station
Main Road, Tuai RD5, Wairoa 4195

Tekapo Power Station
167 Tekapo Power House Road, Tekapo 7999

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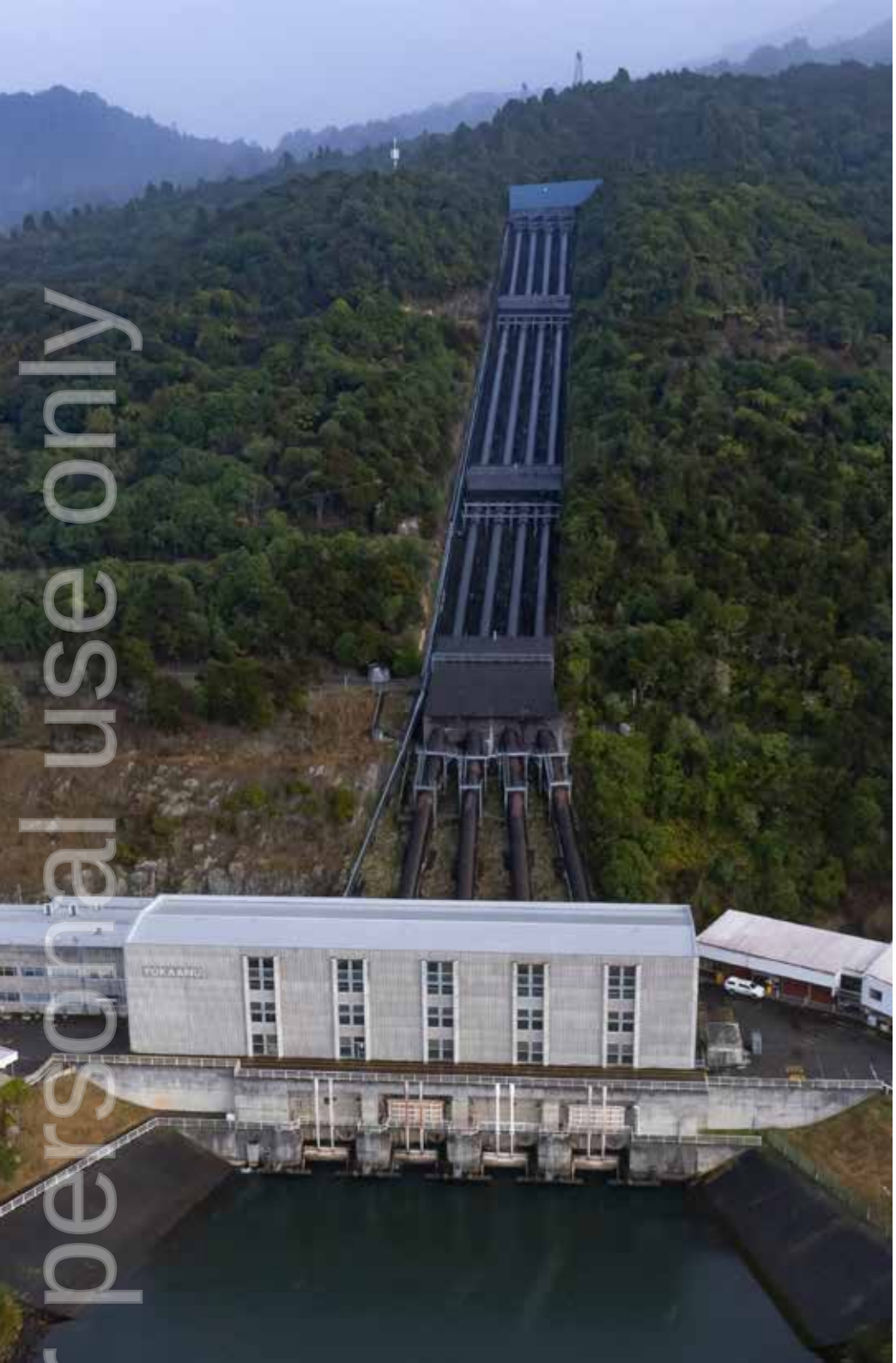
Genesis Energy Limited

FY22 Climate Risk Report

Prepared in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

genesis



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Introduction

Whakaupoko

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Purpose

Empowering New Zealand's sustainable future

Genesis is an energy company that procures electricity from a diverse portfolio of generation assets in New Zealand, including hydropower, wind, and thermal generation, as well as retailing gas and electricity.

We are committed to living our purpose of "empowering New Zealand's sustainable future" in all aspects of our business, from the way we generate and supply energy, care for the environments in which we operate and the way we interact with our customers, our people, iwi and wider communities. It guides our vision of the future and the way we build it.

Genesis has put achieving a sustainable future, including managing climate-related risks, at the heart of the business. Linking our purpose to a sustainable future brings the management of climate-related risks and opportunities into everything we do.

Climate-related risks are central to our business and our strategy

We recognise the impact of climate change and support meaningful, economy-wide planning to reduce emissions and transition New Zealand to a low carbon future. The climate challenge will drive New Zealand's and global decisions on how we live and work for the next 30 years and beyond.

The scale of change will be significant and Genesis will be a key enabler in achieving the successful transition. We are committed to taking action to reduce emissions while balancing climate change considerations, managing increasing energy demand and ensuring our customers have a reliable and cost-effective energy supply.

We understand the importance of our role in New Zealand's transition to a low carbon future. Decarbonising our activities, helping our customers do the same, and the individual actions of our people, will contribute to achieving the country's goal. This means meeting the needs of the present, without compromising future generations' needs.

Embedding sustainability into how we do business

Our purpose is underpinned by ambitious Science Based Targets, with the goal to remove 1.2 million tonnes of carbon by FY25 from a FY20 base, tied to the international benchmark of limiting global warming to 1.5°C. These targets ensure we can measure our progress and hold ourselves accountable. Progress through the current financial year can be tracked through our quarterly reports posted to the NZX and in this report.

Genesis adopts a holistic approach to understanding the impact of our business on people, communities and the environment. We seek to identify social, economic, and environmental risks and benefits as part of our strategic decision-making processes. Through our comprehensive and evolving sustainability strategy, Genesis has made significant progress in the areas that we believe matter the most to, and have the greatest impact on, our stakeholders. We also understand that a 'just transition' is vital and that for the communities connected to our assets, community support with investment in new energy, new industries and new jobs is important. We have embedded further accountability and transparency with our Sustainable Finance Framework.

Our business model

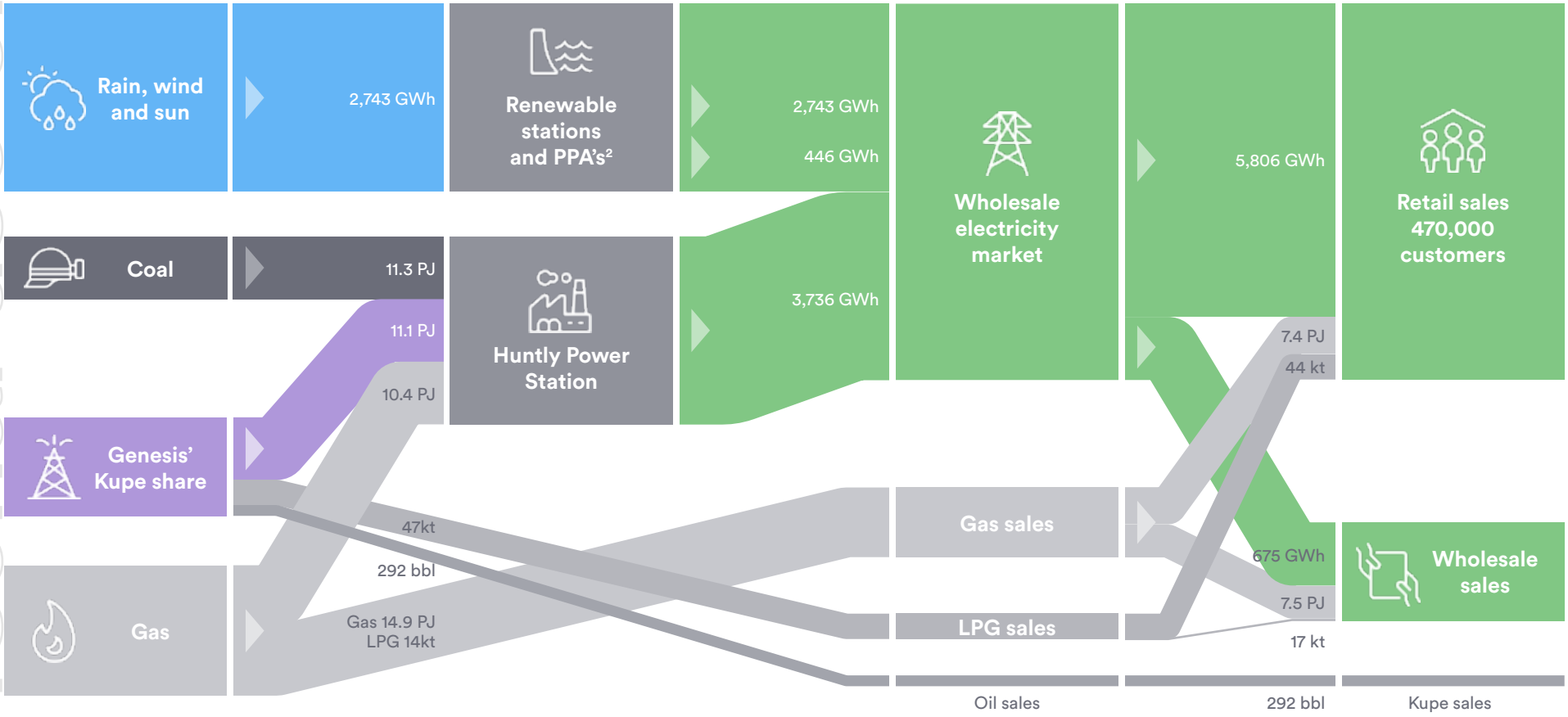
Genesis is a vertically integrated energy company

Genesis operates an integrated energy business spanning the generation and wholesale procurement of energy through to sales of energy to residential, business and wholesale customers, supplying electricity and gas to more than 470,000 customers. Genesis also owns a 46% share of the Kupe oil and gas field.

The geographic spread and diverse range of our generation assets provides vital support to the country's energy sector and includes hydropower, wind, and thermal generation[1]. This means our business is resilient to supply shocks and generates consistent earnings.

Our vertically integrated gas portfolio, from wellhead to our industrial and residential customers, is a vital part of the country's energy system providing flexibility, security and price stability.

We remain focused on evolving our business model away from pure energy supply to energy management. This is being achieved by continuing to develop the digital and virtual channels that customers can use to interact with us alongside a suite of products and services that provide knowledge and insights that our customers can act on, to manage their energy usage and reduce their carbon footprint.



1 Refer to the Appendix for a description of our physical assets.

2 Power purchase agreements

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Governance

He mana whakahaere

TCFD requirement

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

Genesis' Board is responsible for the long-term stewardship of the Company, including climate change risks. Our strategy factors in climate-related risks as an important consideration in long-term value creation. The Board has delegated responsibility for monitoring and compliance with the policy to the Audit and Risk Committee, a subcommittee of the Board.

Board

Genesis Board

Establishes the purpose and overall strategic direction, oversees and approves risk management strategy, policies and risk appetite and monitors progress against climate-related risks and targets. All key climate-related risks and opportunities are approved by the Board as appropriate, when reviewing and guiding strategy and the operations of the Company, including as part of its Risk Management Policy and Framework. In addition to the reporting from the Audit and Risk Committee, the Board receives six-monthly updates on key sustainability trends and issues.

Audit and Risk Committee

Periodically reviews Genesis' Risk Management Policy and Framework to ensure these remain fit for purpose, with appropriate and effective risk management strategies in place. Within the framework is Genesis' Risk Appetite Statement which has a specific section on carbon emissions. This Risk Appetite Statement underpins the overall Risk Management Policy and Framework.

Quarterly review of risk reports from management. This review may include climate-risk developments; and at least annually will include a full review and endorsement of management's climate-related risk assessment. This includes an endorsement of the scenarios used in Genesis' climate-related risk assessments.

Reporting to the Board on the outcomes of Audit and Risk Committee meetings, including discussions concerning risks and making recommendations to the Board.

Executive

Chief Executive and Executive Leadership Team

Overall accountability for actions and commitments to embed climate change into risk management, business strategy and planning, budgeting processes and frameworks.

This includes identifying, considering and monitoring climate-related risks and opportunities and reporting to the Audit and Risk Committee and the Board. Reporting is primarily developed by Genesis' internal experts who are well informed on the matters they address. When appropriate, management engages third-party experts for services such as auditing, specific climate research or strategic management consultants.

Ensures the risks in each business area are identified, understood, managed and monitored and escalated appropriately.

Implements risk mitigation strategies approved by the Audit and Risk Committee and, where applicable, the Board. Reviews quarterly sustainability updates on the Company's progress against its sustainability goals.

Monitors emerging and developing risks. This is primarily performed by Genesis' strategy team and risk team, which both report to the Chief Financial Officer.

Preparation and presentation of quarterly risk reports to the Audit and Risk Committee. These reports include action taken to mitigate risks previously disclosed.

Executive team remuneration includes short-term incentives and long-term incentives. Sustainability objectives are included within these incentives. In FY22 each Executive had a sustainability objectives component, which varied from 18% to 36% of their overall short-term incentive, depending on the Executive's role.

Operations

At an operational level the identification and day-to-day monitoring and management of climate-related risks is dispersed throughout Genesis. Everyone has their part to play, which is emphasised by a strong 'tone at the top' which flows down throughout the wider business operations.

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Risk Management

Whakatūpato Tūraru

TCFD requirement

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

Processes for identifying and assessing climate-related risks

Risk Identification

Genesis is cognisant of the ongoing and developing effects of climate change, along with the associated environmental impacts, and operational, regulatory and financial risks. Climate-related risks are managed through our Risk Management Policy and Framework.

- Climate-related risks are identified and assessed by the risk and strategy teams, who then work with subject matter specialists who identify risks both upstream (from suppliers and supply chains) and downstream (for customers). These processes result in a comprehensive register of risks that are actively managed.
- Risk specialists are tasked with ongoing research and market analysis to monitor Genesis' risk landscape and identify current and emerging risks. This includes staying up-to-date with climate-related research.
- The risk team provides day-to-day guidance to business units on how best to identify or manage risks.
- The risk team monitors emerging risks within the industry, the wider economy, and across international markets, and reports to the Executive and Board. This includes overlaying identified key business risks, strategic risks and climate risks with relevant international reports such as the World Economic Forum's Global Risk Report.
- Additional procedures for climate-related risks are applied, including the recommendations of the TCFD, climate scenario modelling, and analysis. Key experts use climate scenarios, described further on page 18, to identify a wide range of climate-related risks and opportunities. These are then categorised and assessed.

Risk Assessment

Climate-related risk and more specifically climate change, has long been factored into our risk assessments. Genesis recognises that climate-related risks are fundamentally different to the other risks we face, while also being integrated within the wider risk management operation.

- All risks, including climate-related risks, are assessed using the same framework, while also recognising key differences in the underlying characteristics of specific risk categories.
- Genesis assesses the significance of each identified climate-related risk using a risk management matrix. The matrix encapsulates a likelihood and consequence aspect, which allows us to determine the appropriate level of response for each key risk.
- Key risks and risk management tends to be weighted toward the near term to establish prioritisation. This approach is less suited for addressing risks such as climate change, which can occur across decades. One key difference between climate-related risk and other key risks is the 'likelihood' aspect which is difficult to accurately quantify over the long-term periods associated with climate risks.
- This differentiation is recognised in the way we assess climate-related risks specifically. A greater weighting is placed on the 'consequence' aspect of the matrix, than the 'likelihood'. This ensures the correct level of emphasis is placed on mitigating the risks ahead of time.
- This consequence aspect has a large factor when determining the materiality of the risks we face. Due to the magnitude of climate-related risks and their possible effects on our business, these risks are elevated to ensure they receive the appropriate attention even if extremely long-term, or low probability. Appropriate mitigation plans are developed for each risk, for example carbon offsetting or carbon displacement, as part of our overall emissions reduction strategies.
- Climate risk assessments are reviewed and approved by the Executive team and Board and incorporated into corporate risk management systems.

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Process for managing and integrating climate-related risks into our Risk Management Framework

Process of risk management

Risks are managed throughout the business. These processes result in a comprehensive register of risks that are actively managed. Risks that are rated as "extreme" or "high" are reviewed six-monthly by the Audit and Risk Committee and additional strategic and climate risks are reviewed at least annually.

Developing the systems and policies to manage climate-related risk is a highly adaptive, ongoing process. Datasets are leveraged from both historical precedent and flexible forecasting to develop plausible scenario mapping.

These scenarios factor in the environmental impacts and associated operational, regulatory and financial risks to the business. Genesis continues to track and forecast the impacts of the changing climate on our generation assets, and make well-informed decisions based upon that data.

Depending on the characteristics of the specific climate risk identified, an appropriate management response is applied, aligning to other risks of a similar nature. Depending on that nature the approach will be to mitigate, monitor, transfer or avoid (refer to the table below for the general approach in relation to risk management, and pages 8 to 14 for a summary of Genesis's top climate-related risks and opportunities and the management response to each).

Acute physical risks	Chronic physical risks	Transition risks
Acute physical risks refer to those that are event driven, including increased severity of extreme weather events, such as cyclones, hurricanes, or floods. The process of managing acute ('event-driven') physical climate-related risks aligns to other similar event-driven risk. For example, extreme weather events present a physical risk of catastrophic failure of infrastructure and generation assets, similar to seismic or volcanic risks. Management is primarily through mitigation. Although financial risks are transferred through insurance, the primary focus is ensuring the highest level of safety. Assets are proactively managed to ensure the continued resilience of those assets in the face of potential events. Genesis constantly assesses and reviews its assets and management plans, leveraging engineering best practice and evaluating new technologies to identify any opportunities to improve their resilience.	Chronic physical risks refer to longer-term shifts in climate patterns, for example increasing air temperatures, weather patterns, sea level rise, and changes to hydro lake inflows. Chronic physical risks may result in financial risks or opportunities due to the direct and indirect impacts they can have on business operations, assets, markets or supply chains over time. A number of these risks therefore underpin Genesis' overarching generation strategy, and many are susceptible to the effects of climate change. Management for most 'chronic' risks aligns to pre-existing risk management processes, however a small number of 'chronic' risks (gradual long-term shifts) share risk properties with 'acute' event-driven risks, with the only key difference being that this will be gradual rather than sudden.	Transitional climate impacts refer to risks and opportunities resulting from policy, legal, technology and market changes occurring in the transition to a low carbon economy. Depending on the nature, speed and focus of these changes, transition impacts may pose varying levels of financial and reputational risk or opportunity. Many of the transition risks represent an evolution or change in the market. Some are an expected transition, and some are less predictable, such as the speed of technology advancement. In all cases these changes also reflect opportunities for Genesis. The nature of transition risks aligns to other 'strategic risks' and as such climate-related transition risks and opportunities are managed through existing strategic risk management processes. This management includes regular monitoring to proactively identify associated risks and opportunities.

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Strategy
He rautaki

TCFD requirements

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

Climate-related risks and opportunities identified over the short, medium and long-term

An overview of Genesis' highest rated climate-related risks and opportunities are included below. Recognising that the climate scenario is dynamic and unknown to a certain extent, the classification represents Genesis' current assessment of the risk landscape. The impact rating corresponds to a defined Genesis risk management matrix. The risks below are discussed in more detail on pages 9-14.

	Transition risks			Physical risks		
	1. Regulation	2. Market	3. Technology	4. Chronic	5. Chronic	6. Acute
Event	Regulatory changes impacting thermal generation or sale of fuel	Consumer and investor preference, and stakeholder perception, impacting our operating landscape	Technological developments	Environmental and physical changes impacting thermal generation	Long-term climate changes that impact hydro generation	Acute climate events causing damage to critical infrastructure and assets
Risk/opportunity	Risk & some opportunity	Risk & some opportunity	Opportunity & some risk	Risk	Risk & opportunity	Risk
Timeframe	Short-term (1-10 years)	Short to Medium-term (1-20 years)	Short to Medium-term (1-20 years)	Short-term (1-10 years)	Long-term (gradual increase in likelihood over next 20-30 years)	Long-term (gradual increase in likelihood over next 20-30 years)
Impact rating	Moderate	Moderate – High	High	Moderate	High	High

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1 Climate-related risks and opportunities identified over the short, medium and long-term

Regulatory changes impacting thermal generation or sale of fuel

Genesis' emissions profile gives rise to the risk of Government intervention in the market potentially restricting or limiting our operation. Unanticipated changes in the market could have an adverse impact on the value of thermal generation assets or restrict the ability to enter into long-term investments and agreements increasing the risk of "stranded assets", long-term fuel purchase commitments becoming unprofitable and an over-hedged carbon position.

The asset values at risk are thermal generation and Genesis' investment in Kupe. Thermal generation assets are carried at 'fair value' calculated using discounted cash flows over an 8-to-10 year period. As a result, the financial impact reduces year on year. The carrying value as at 30 June 2022 of the Rankine Units is $61 million, Unit 5 is $645 million and Kupe oil and gas assets is $187 million net of rehabilitation obligations.

Risk / opportunity: Risk & some opportunity **Risk type:** Transitional **Impact rating:** Moderate **Timeframe:** Short-term (1-10 years)

Risk Impacts	Opportunities	Rating Methodology	Mitigation Considerations / Response
• Legislative or regulatory activity that restricts importing or use of fuels for thermal generation (gas and coal) and/or sale of fuel (gas and LPG). • Regulatory intervention resulting in carbon price increases that increase the cost of thermal generation and in turn wholesale prices. • Heightened environmental focus and restrictions when renewing operating consents for generation assets. • Legislation creating short-term uncertainty and result in increased or volatile prices.	Many of these risks would be economy-wide, impacting emissions-intensive businesses. Regulatory changes that drive electrification, increase demand in our core market and create opportunities to partner with companies as they transition to electrification. An alternative sustainable use for the assets, such as switching to biomass at Huntly Power Station, may positively impact asset valuations and align with our commitment to reduce thermal generation.	The 'Moderate' risk rating and 'short-term' timeframe is primarily driven by thermal generation being only part of our overall generation fleet. This is expected to reduce over time as we transition our business to a low carbon future through our Future-gen strategy. Genesis has already committed to a 1.5°C Science Based Target. The financial impact on asset values decreases year on year as they are depreciated, and given the discounted cash flow valuation is based on a finite period of 8-to-10 years.	• Genesis actively engages with industry and regulators to align on effective regulation, and has opportunities to influence regulatory outcomes through public consultation processes. • Renewable generation would not be impacted by this risk, and we could benefit from increased market prices or volatility if the risk transpires. • A biomass trial is planned to provide a transition path for Huntly, which could extend the asset life of the Rankine Units by replacing coal with a more sustainable fuel source. • Genesis hedges its exposure to carbon price increases primarily through forward contracts and its forestry investments.

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2 Climate-related risks and opportunities identified over the short, medium and long-term

Consumer and investor preference, and stakeholder perception, impacting our operating landscape

Risks in this area reflect potential shifts in investor, customer, iwi and stakeholder sentiment around carbon emissions which could create brand and reputation risks with consumers and other stakeholders. Particularly brand and reputation risks that lead to a perceived loss of "social licence to operate". If capitalised upon, the opportunities could outweigh the risks.

Risk / opportunity: Risk & some opportunity **Risk type:** Transitional **Impact rating:** Moderate to High **Timeframe:** Short to Medium-term (1-20 years)

Risk Impacts	Opportunities	Rating Methodology	Mitigation Considerations / Response
• Increased consumer awareness of carbon-emitting businesses, and negative sentiment for non-renewable energy reducing retail demand and resulting in customers migrating to other retailers. • Shifting investor preference reducing access to funding options and restricting access to capital. • Investors blacklisting carbon-emitting businesses in their activities. • Reduced access to insurance if insurers reduce their exposure to carbon-emitting businesses. • Breakdown of relationships with mana whenua and others such as iwi, government agencies, and community groups could hinder our strategy and future opportunities. • Increasing "ESG drag" negatively impacting our share price.	• An opportunity for Genesis to engage with all stakeholders, to reinforce our commitment to emissions reductions across our assets. • Increasing consumer awareness of carbon footprints is an opportunity to engage with customers, and build their engagement with their energy. The Genesis Energy IQ platform and EcoTracker already enable customers to track electricity use and make informed choices that reduce peak demand. • Increased emissions awareness from investors also increases interest from potential partners to develop renewable energy solutions, which is a key part of our Future-gen strategy. • ESG drag is already factored into our share price, so emissions reductions could increase access to potential investors.	Given the significant potential consequences, a moderate-high risk rating and short-to-medium-term timeframe are applied to these risks. However, there is unpredictability in the level that stakeholders will engage with the transition to a low carbon economy, and the resulting actions taken. This risk decreases as Genesis' emission profile decreases and in particular as we grow renewables replacing baseload thermal generation and if we are able to transition the Huntly Power Station to renewable fuels.	• Genesis has the ability to adapt to market dynamics and customer expectations through our efforts to build the agility of our retail business, improve our capability to expand into new markets, and evolve business models. • A transition to a low carbon future is incorporated into our strategy which includes transitioning our generation business to renewables, and reinventing how customers engage with energy. • The introduction of our Science Based Target supported by the delivery of the Future-gen strategy, provides mitigation with a clear target. Failure to meet the target also represents a risk.

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Climate-related risks and opportunities identified over the short, medium and long-term

Technological developments

Developments in technology could change demand or the market. Risks in this area reflect potential market shifts, many of which would also create opportunities. This could require a response in the form of our strategy, business structure or operations, and the success of this response would determine the impact level. If capitalised on, the opportunities would outweigh the risks.

Risks at a macro level could be summarised as management making unsuccessful investments or strategic decisions in the transition to a lower emissions company and country, thereby not seizing the opportunities.

Risk / opportunity: Opportunity & some risk **Risk type:** Transitional **Impact rating:** High **Timeframe:** Short to Medium-term (1-20 years)

Risk Impacts	Opportunities	Rating Methodology	Mitigation Considerations / Response
• Economically balancing supply and demand in the market as we transition. The efficiency of renewables increases over time, but development costs are subject to global inflation and logistics challenges. Renewables will assist in replacing baseload thermal generation, but uncertainty could challenge efforts to transition our generation portfolio. • Increasing electricity demand outpacing renewable build, risking security of supply and ability to meet emissions commitments. If renewable investment outstrips demand, this may decrease wholesale prices and revenues due to over-supply. Balance is therefore required between: - the commitment to remove baseload thermal, - when the additional renewables required in the market will be active, and - how much demand will increase from the added electrification (e.g. EV uptake etc). • Increased demand for key minerals used in the manufacture of renewable technologies, resulting in supply chain constraints.	• Efficiencies increasing and costs decreasing for renewable technologies (i.e. the cost of solar panels, next generation wind turbines, etc) aids the replacement of baseload thermal generation in a profitable way, supporting efforts to grow the renewable portion of our portfolio. • Electric vehicle uptake accelerating significantly, increasing demand and load on the grid, and requiring additional generation capacity and leading to increased retail revenue. • Increased consumer engagement and use of technology, such as EcoTracker to plan their energy consumption around off-peak times. • Grid-scale and customer battery power storage, alleviating New Zealand's seasonal storage challenges and helping Genesis meet its emissions commitments.	The short-to-medium-term timeframe applied to these risks, considers the key transition period for New Zealand. The 'high' impact rating factors in the level of disruption possible, however there is also unpredictability, such as the speed of technology advancement and adoption. This impact could also be positive - the extent to which this is a risk, or opportunity, depends on Genesis' ability to learn, adapt and capitalise on change.	A key aspect of Genesis' strategy involves capitalising on this transition with a focus on this changing landscape. We are actively pursuing new technologies that could contribute to a more renewable future. An example is our 20 year off-take agreement for the Waipipi wind farm in Taranaki which is being followed up by a number of additional similar power purchase agreements as part of our efforts to grow the renewable share of our portfolio. We are also continuing to build the capabilities for agility and efficiency into our retail business to enable it to adopt new technologies and services as they become ready for market adoption.

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4 Climate-related risks and opportunities identified over the short, medium and long-term

Environmental and physical changes impacting thermal generation

The primary risk is reduced short-term availability of thermal generation assets due to weather or climate-related events. Risks predominantly relate to the Huntly Power Station's operating consents (such as river heating) or physical impacts to production at Kupe.

Risk / opportunity: Risk **Risk type:** Physical **Impact rating:** Moderate **Timeframe:** Short-term (1-10 years)

Risk Impacts	Opportunities	Rating Methodology	Mitigation Considerations / Response
• Increased constraints on generation from the Rankine Units due to warmer Waikato River temperatures through atmospheric heating or reduced river flow due to drought or upstream water abstraction. • Reduced Unit 5 output due to higher ambient air temperatures for the inlet and cooling water cycle. • Gas supply restrictions resulting from storms and strong sea currents restricting Kupe platform access that could lead to supply disruptions and reduced Kupe revenues. These constraints could result in reduced wholesale revenues and increased costs because Genesis may be relying on the wholesale market to meet retail demand, being 'short' when prices are likely high. Higher wholesale prices are likely at that time as removing Huntly capacity reduces market reserve capacity and security of supply. The cause of the constraint could also impact hydro (e.g. drought).	This is predominantly a risk. As disclosed within the regulatory change risk category, Genesis thermal assets are valued using discounted cash flows over a short timeframe (8-to-10 year period). Any use for the assets beyond the short-term would create value not currently recognised.	Major disruptions to gas supply due to storms would likely be short-term, as demonstrated by similar past incidents, where a stockpile of alternative fuel at Huntly has mitigated potential impacts. For a larger impact, multiple events would have to coincide. The low probability of this occurring significantly reduces the likelihood of the risk.	• If the challenge persisted a mitigant could be adding additional cooling equipment at Huntly to extend asset life or increase operating capacity. This capital investment is dependent on favourable economics. • Kupe remains an important asset supporting the transition. Disruption to Kupe pipelines due to weather events may mean revenue is reduced for a period, however the reserves remain, so it would likely just be a deferral of value between financial years. • Planned thermal reduction as we grow the renewable portion of the portfolio will reduce the exposure to river heating.

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5 Climate-related risks and opportunities identified over the short, medium and long-term

Long-term climate changes that impact hydro generation

The potential of long-term gradual effects of climate change on weather and rainfall patterns impacts market conditions through decreasing or increasing inflows, and the amount stored in our hydro catchments.

This could see a shift in energy usage in New Zealand. Increasing summer temperatures could see an increase in cooling demand, while warmer winters could reduce heating load, which would help to smooth the seasonal supply and demand imbalance.

Risk / opportunity: Risk & opportunity **Risk type:** Physical **Impact rating:** High **Timeframe:** Long-term (over 20-30 years)

Risk Impacts	Opportunities	Rating Methodology	Mitigation Considerations / Response
• Altered catchment inflows due to warmer temperatures, less snowpack and more irregular and intense rainfall. • Less water being available for generation. Water may be required for other uses, such as agricultural irrigation, resulting in regulation to restrict the amount of water flowing into our catchments. • Increased temperature could reduce generation capacity of current assets. For example, weed proliferation due to elevated water temperatures, which then constrains hydrological generation sites. These examples could result in either a decrease or increase in wholesale revenue.	• Although there is a risk of decreased inflows into our hydro catchments, this is unpredictable and climate changes could also result in increased inflows to our catchments, or inflows better aligned to seasonal energy demand. • Increased hydrology volatility could drive demand for alternative generation sources, creating development opportunities. • Models forecast New Zealand's climate risk as being some of the lowest in the world. Increased international migration driven by climate change could increase immigration to New Zealand, driving electricity demand and economic growth.	The risks are concentrated around the change in generation potential and availability at each of our hydro catchments. The estimated useful lives of our hydro assets are up to 85 years, therefore climate-related risks or uncertainty have the potential to be significant to our business, which is reflected in our 'high' impact rating.	As our three hydro catchments are geographically spread, Genesis has some flexibility and risk mitigation: • Climate change projections continue to change. Currently forecasts for Waikaremoana suggest drier conditions at all times of the year, while rainfall may vary in the Tongariro region from season to season. Rainfall events in the Tekapo catchment are expected to increase over the coming decades. Warmer average temperatures forecast for the Southern Alps may reduce snowpack, reducing inflows from melt during summer, while winter inflows would increase as precipitation would fall as rain instead of snow. • Genesis continues to track and forecast the impacts of climate change on our generation assets, and where necessary makes generation decisions based on these impacts, continually maintaining a renewable generation pipeline through Future-gen.

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6 Climate-related risks and opportunities identified over the short, medium and long-term

Acute climate events causing damage to critical infrastructure and assets

Extreme climate-related weather events represent a risk of damage to generation assets or other infrastructure. While our assets are well placed to manage events much larger than the current historical highs, in the long-term the extremity of events could become unpredictable and exceed current maximums.

Risk / opportunity: Risk **Risk type:** Physical **Impact rating:** High **Timeframe:** Long-term (over 20-30 years)

Risk Impacts	Opportunities	Rating Methodology	Mitigation Considerations / Response
• Loss of civil integrity of generation and ancillary infrastructure (e.g. dams, spillways, storage ponds) due to significant rainfall or flood events and increased probable maximum flood volumes. • Dry days combined with extreme rain increases the risk of landslides in many areas. These could disrupt transport and communication, restricting access to generation assets such as gas pipelines or transmission lines. • Increased wind speed or an extreme wind event could damage transmission lines or wind turbines. • Prolonged drought leading to fires affecting transmission lines or other generation infrastructure. Increasing costs through repairs and maintenance or capital work. These risks are not currently rated as "high", however, are included as this category as "long-term" as they could increase as Genesis' generation mix evolves.	N/A	Long-term risk assessments are informed by current literature. We are aware of the unpredictability presented, and these risks are actively managed to reduce residual risk to the lowest level possible. This unpredictability is a key factor in the high rating associated with long-term climate predictions. Although categorised as long-term, it would not be responsible to delay mitigation decisions due to the unpredictability of such events.	• Continually assess for structural or infrastructure improvements to reduce these risks to the minimum feasible level and maintain the safety of our dams consistent with best practice on an ongoing basis and as technologies advance. • The long-term nature of these risks also aids with mitigation. Genesis' most robust assets (hydro dams) are also Genesis' assets with the longest asset lives. Forestry investments, which are susceptible to bushfires, are more exposed but are a lower risk as they are short-term assets. • The diversity and geographical spread of our generation assets mitigates the loss of capacity at individual sites. The risk will reduce further as we grow the renewable share of our portfolio.

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How our strategy addresses the impact of climate-related risks and opportunities

Actively enabling the energy transition

Transitioning our generation portfolio

Genesis' Future-gen strategy identifies renewable opportunities to transition away from baseload thermal generation at our Huntly Power Station, while seeking to ensure that reliable and affordable electricity enables other sectors to decarbonise through electrification.

Our Future-gen strategy aims to reduce emissions through to 2030, on a pathway consistent with limiting climate change to 1.5°C.

Our Future-gen strategy has 3 areas of focus

1. Growing renewables

- Contract for new renewable generation
- Partner to build a pipeline of solar options

2. Creating value from flexibility and reliability

- Contract for fuel flexibility
- DrylandCarbon and Forest Partners partnerships
- Sell contracts that support market reliability (swaptions)

3. Transitioning Huntly Power Station

- Trial biofuels as a fuel option for Huntly
- Plan for emerging technologies (batteries)

1. Growing renewables

The economics of renewable baseload electricity generation have now reached the tipping point where it has become cost-effective to build geothermal, wind and solar which economically displaces baseload thermal volume.

We are aiming to secure 2,650 GWh a year of renewable electricity generation by 2030, with 1,650 GWh of that by 2025. The first step was realised when the Waipipi wind farm in South Taranaki commenced operations in March 2021. Waipipi generates approximately 450 GWh of zero emissions electricity per annum.

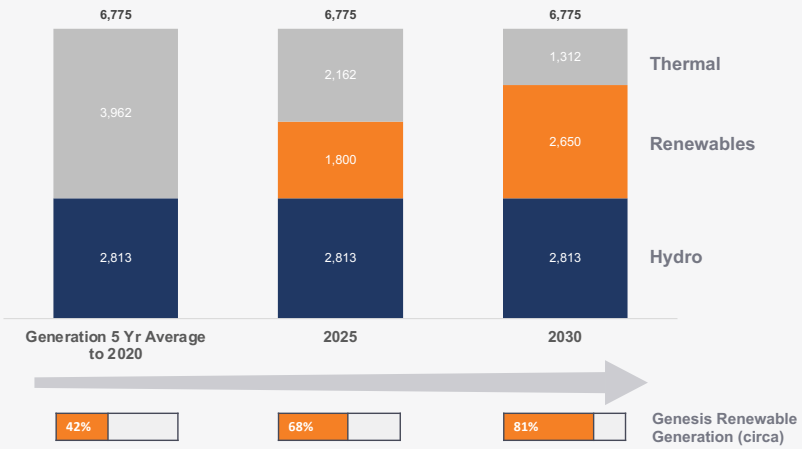
In addition to Waipipi we have signed power purchase agreements for all the electricity from a new wind farm to be built at Kaiwaikawe in Northland (expected to produce approximately 230 GWh per annum) and approximately 520 GWh of the electricity generated from Contact Energy's geothermal plant being built near Taupo.

Further renewable opportunities in wind, solar and geothermal are being assessed.

We are progressing grid-scale solar development in New Zealand and have confirmed FRV Australia as a joint venture partner. FRV Australia is a leading developer of utility-scale solar farms and will bring its expertise to work with Genesis in delivering up to 500MW of solar capacity over the next five years. The joint venture has been investigating potential sites and working arrangements in New Zealand. Genesis will own 60% of the partnership and will provide offtake agreements for the projects. Solar is uniquely suited to Genesis' flexible generation portfolio and will support generation during Huntly river heating periods and as we transition the Huntly Power Station towards a decarbonised future.

Future-gen strategy will displace baseload thermal

Portfolio changes assuming flat demand



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How our strategy addresses the impact of climate-related risks and opportunities

2. Creating value from flexibility and reliability

Flexible generation is essential to manage and provide back-up to the growing share of variable renewable energy. Genesis continues to maximise the flexibility and back-up value that thermal generation at Huntly Power Station provides to the market.

Currently, there are limited commercially feasible zero-carbon options to manage the challenges posed by seasonal demand variability and hydro variability (dry-year risk) in New Zealand. The wholesale electricity market will become increasingly tested as the country becomes more reliant on renewable generation. The pressure on the wholesale market can be further increased by seasonal and intra-day weather conditions that could intensify with climate change.

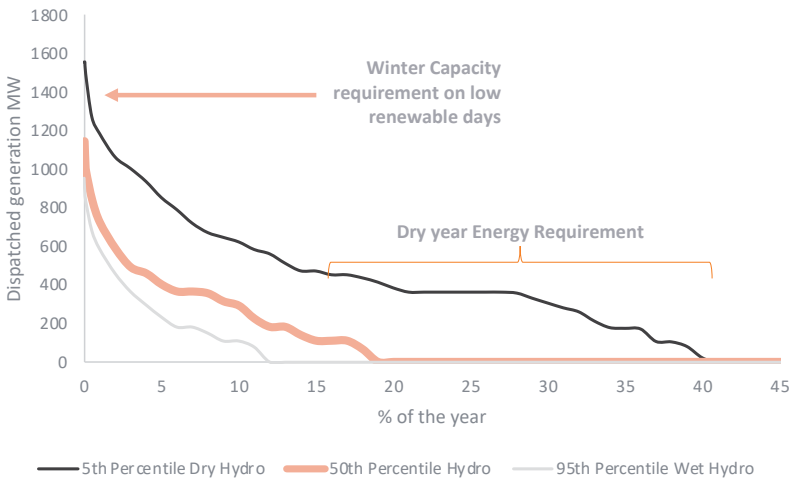
The ongoing gas supply issue is anticipated to remain for some time. Coal will need to be used to fill the shortfall from time to time. The diversity of our generation assets and our position at the intersection of the electricity and gas markets, positions Genesis well to coordinate energy deals and fuel supply to help manage security of supply.

3. Transitioning Huntly Power Station

Emissions from Huntly Power Station will decrease sharply through this decade. While the future is focused on renewable generation, the country continues the search for clean storage alternatives to offset dry-year risk. New Zealand faces the challenge of needing about 7,000 GWh of energy storage to meet seasonal shifts in demand. Existing hydro lakes provide about 4,000 GWh of energy storage. Huntly fills the gap of 3,000 GWh. This seasonal risk is unique to New Zealand and clean thermal fuel solutions that can provide generation on demand are currently uneconomic.

We believe that using renewable biomass at Huntly could be a viable alternative to the Government's proposed hydro generation at Lake Onslow.

A highly renewable grid draws on backup generation to cover infrequent peak capacity needs and dry-year firming



- More than 750MW of peaking capacity is required in less than 1% of hours in typical hydrology (50th percentile) to maintain security of supply.
- 1,650GWh of energy storage is drawn on 40% of the time in dry-years (5th percentile) compared with 700GWh in normal years (50th percentile).

Kupe oil and gas platform, providing fuel through the transition

Kupe remains an important asset in New Zealand's energy transition. While production is anticipated to reduce in line with our Science Based Targets as Kupe approaches end of life in the 2030s, a secure supply of gas is currently required to support the energy needs of New Zealand businesses and homes. We are mindful of balancing our decarbonisation efforts with the need to ensure our country has affordable and reliable energy.

Forestry partnerships

Genesis is involved in two forestry partnerships that help remove carbon from the atmosphere and provide emission units that enable Genesis to meet its obligations under the New Zealand Emissions Trading Scheme (ETS). These units help manage the future costs of thermal generation or can be sold to other emitters.

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How our strategy addresses the impact of climate-related risks and opportunities

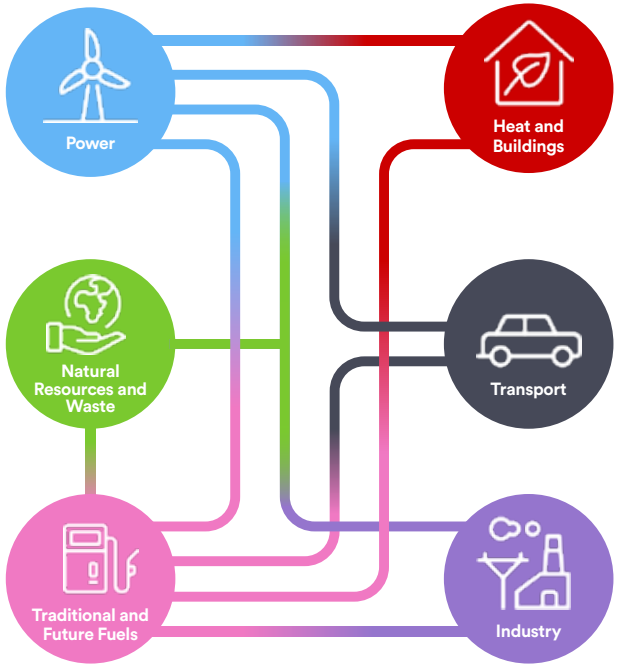
Engaging with industry and regulators to align on an effective transition

Genesis sits at the intersection of supply and demand for several energy sources as well as being the generator of last resort. This places us in a unique position to see the interdependencies, opportunities and risks that lie ahead for the country, our customers and Genesis. It helps us to understand the transition from non-renewable fuels that will enable New Zealand to meet its Nationally Determined Contribution (NDC) to the Paris Agreement, and its first three emissions budgets, without creating negative economic consequences.

With one of the most renewable electricity systems in the OECD, New Zealand has an opportunity to lead the world in electrification.

However, this transition is subject to its own climate-related risks. For example, poor regulatory or policy settings could have the opposite effect and disincentivise electrification through a higher-cost and less reliable electricity system.

Genesis works with regulators and industry groups to support the sector to align on the direction and effective regulations that will help the country move quickly and safely towards a sustainable future. Refer to the FY22 Annual report: Building a Sustainable Business for a summary of submissions we have made in FY22.



Genesis' retail business Together, inspiring millions of sustainable choices

While New Zealand's net zero goal points towards a world without fossil fuel in homes and businesses, we recognise the importance of these fuels to our customers which have been and currently remain the right choice for many. Significant improvements to technologies and their costs are required before it will be practical for many New Zealanders to transition away from gas and LPG to renewable options.

We see this transition as an opportunity, with electricity and possibly other low carbon fuels, as alternatives to existing fossil fuel use in homes and businesses.

Helping customers engage with and manage their energy

We have made sustainability a focus for our brand and customer propositions, to share our commitment to empowering New Zealand's sustainable future with our customers.

Empowering New Zealand's sustainable future includes providing tools and insights to help customers understand and make informed decisions to reduce their carbon footprint. We do this through Energy IQ and the Climate Change Hub (refer to our FY22 Annual Report: Navigating the Transition for more information).

Reducing transport emissions is a focus for the country, and we have developed some unique offerings for electric vehicle owners. More than 1,000 customers have taken up our EV Plan over recent months, and we have developed a portal on our Energy IQ platform where they can access data on their usage and find the most cost-effective and emissions-friendly times to charge. Among those on the plan so far, we have seen 7% moving their household usage from day to night.

Helping our customers reduce emissions

Genesis continues to investigate emerging technology options that can help customers transition to lower carbon options. Through this effort, Genesis is positioning itself to identify early opportunities which might be ready to scale into propositions that are appealing to a broad customer base in the near term.

To support our business customers, we have:

- Delivered energy management and decarbonisation products and services to 42 commercial and industrial companies in FY22, with the objective of improving energy efficiency and decarbonising their operations.
- Provided free decarbonisation workshops for Government agencies.
- Launched a new digital platform for our large industrial and commercial customers to measure energy consumption, costs and emissions from electricity usage. We can then work with them to help them achieve the actions they want to take to reduce emissions.

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Scenarios used to inform our financial planning and test the resilience of our strategy

Climate change scenario mapping

Genesis stress tests its climate change strategy against a number of scenarios, these include (but are not limited to) four scenarios specifically modelled to align to identified climate-related risks. These scenarios inform our comprehensive climate-related risk assessment while being integrated with other strategic processes.

The first two scenarios involve global efforts to heavily reduce emissions and limit global temperature increase to below 2°C. These two scenarios differ in their methods needed to reach this target. The first scenario is driven primarily by Government legislation. The second is energy sector transformation through the private sector, such as innovative technological advances and change in consumer choices. Both have the potential to succeed in being the main driving force in keeping climate change within the 2°C goal of the Paris Agreement.

The third scenario defined, is where greenhouse gas concentrations continue unabated (the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathway (RCP) 8.5) and includes greater climate change and associated physical impacts.

The fourth scenario defines a scenario based on a 1.5°C transition consistent with the aim of our Science Based Targets. This scenario also factors in Climate Change Commission recommendations.

These scenarios were selected to provide integrated scenarios with a mix of factors but also allowed relevant and appropriate stress tests against extremes from both a transitional and physical risk or opportunity perspective.

Specifics of the scenarios were created from published climate-risk related models, including work published by the National Institute of Water and Atmospheric Research (NIWA) and the Ministry for the Environment for physical risks. This is supported by long-term scenarios modelling the supply and demand balance in the New Zealand electricity system by internal subject matter experts.

The scenarios used to test the robustness of our strategy have differing timescales applied. For each of the four climate-specific scenarios, the timeframes applied are:

- Short-term: one to 10 years
- Medium-term: 10 to 20 years
- Long-term: 20+ years

In all scenarios modelled, Genesis' strategy proved resilient. A key factor supporting this resilience is that with many risks, a corresponding opportunity is often created. Genesis' strategy seeks to identify opportunities, while also providing a level of risk mitigation. An example of this would be the entrance of new types of renewables into the local market. While this is needed to reduce the reliance on thermal generation, and potentially diversify away from hydro-dominated renewables, a financial risk of displacement for Genesis' thermal assets is created. However, this also places Genesis in a strong position to make informed and structured long-term investment in these renewables.

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Metrics & Targets

Ngā Whāinga

TCFD requirements

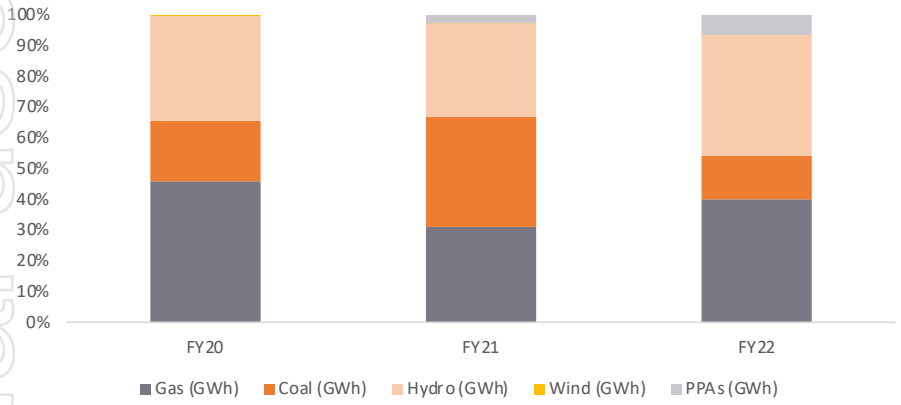
- Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.
- Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
- Describe the targets used by the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

Where does our revenue come from?

The majority of Genesis' external revenue (over 80%) comes from the sale of electricity. Of the total electricity sold in FY22, 45% comes from generation of electricity (wholesale revenue) and 55% from the resale of electricity to end users (retail revenue).

Wholesale electricity revenue is currently made up of generation from gas, coal, hydro and wind.

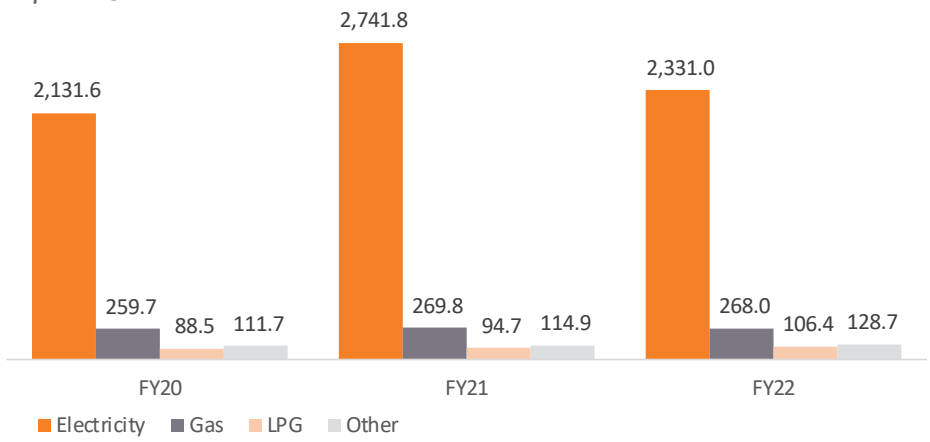
Wholesale Generation in GWh



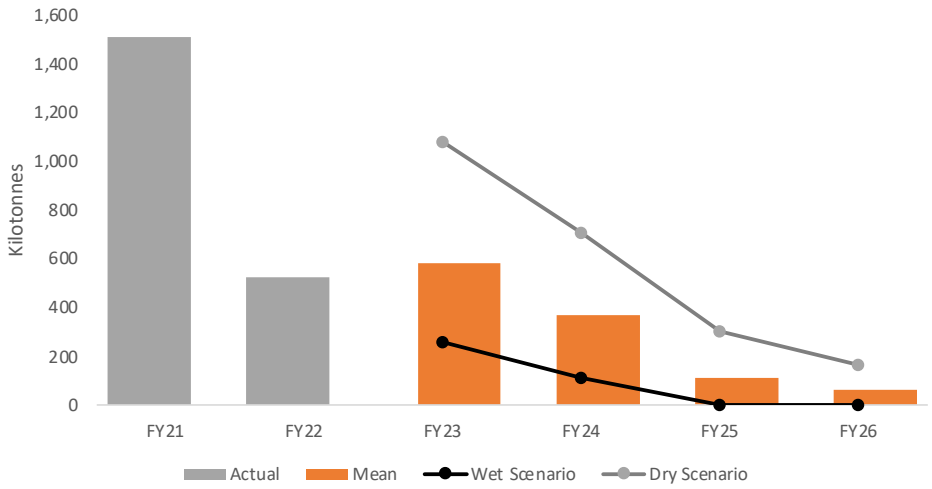
As noted in the strategy section, Genesis is committed to enabling a low carbon future and has a plan to transition its thermal generation assets away from baseload operations through its Future-gen strategy. Coal generation is expected to rapidly decline as a result from FY21 levels.

External Revenue by Product

$ Million



Coal Consumption Forecast



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Scope 1, 2 and 3 greenhouse gas emissions

What are our GHG emissions and what are we doing about it?

Genesis measures its absolute GHG emissions using the GHG Protocol and is committed to taking action to reduce emissions. Total scope 1 and 2 GHG emissions for the year ended 30 June 2022 was 2,223,343 tCO_2e. This is 44% less than FY21. The decrease is mainly driven by the decrease in thermal generation (32% lower than FY21) and a decrease in the volume of coal burnt (67% lower than FY21).

Scope	Category	FY20 tCO_2e	FY21 tCO_2e	FY22 tCO_2e
Direct emissions (Scope 1)	Attributable to customers	2,539,863	3,132,879	1,934,978
	Attributable to supply contracts (swaptions)	149,491	805,398	286,398
	Stationary combustion attributable to thermal generation	**2,689,354**	**3,938,277**	**2,221,376**
	Mobile combustion	579	1,624	1,733
	Fugitive emissions	80	162	17
	Total scope 1	**2,690,013**	**3,940,063**	**2,223,126**
Indirect emissions (Scope 2)	Electricity consumption	240	262	217
	Total scope 2	**240**	**262**	**217**
Indirect emissions (Scope 3)	Purchased goods and services ^	15,348	14,898	15,492
	Fuel and energy related activities (upstream emissions) ^	412,475	438,837	410,177
	Waste generated in operations	19	26	21
	Business travel	1,975	215	146
	Use of sold products	1,366,852	1,269,957	994,686
	Investments ^	8,080	8,547	7,184
	Total scope 3 ^	**1,804,749**	**1,732,480**	**1,427,706**
	Total scope 1, 2 & 3 ^	**4,495,002**	**5,672,805**	**3,651,049**

^ FY22 is the first year that purchased goods and services, fuel and energy related activities and investments have been disclosed. FY20 and FY21 have been restated to include these categories to enable comparability between reporting periods.

EY have provided an unqualified limited assurance opinion on the GHG inventory. Refer to our FY22 Greenhouse Gas Inventory Report for a copy of EY's report and for further information on our GHG emissions and the basis of preparation.

The carbon intensity of our generation is expected to reduce over time as a result of the Future-gen strategy and our Science Based Targets.

Key performance indicator	FY20	FY21	FY22
Total thermal generation (GWh)	4,461	5,501	3,736
Thermal generation carbon intensity (tCO_2e / GWh of thermal generation)	603	716	595
Total generation (GWh)	6,805	8,027	6,481
Total generation carbon intensity (tCO_2e / GWh of total generation)	395	491	342

Genesis also plays an important part in helping customers transition to a low carbon future. Currently for every dollar Genesis earns in revenue, approximately 0.74 kg of CO_2e is produced. This is expected to decrease as customers and generation transition to more renewable sources.

Key performance indicator	FY20	FY21	FY22
Total retail revenue ($m)	1,558	1,575	1,565
$ktCO_2e$ *	1,182	1,175	1,158
Carbon intensity of retail revenue (Kg of CO_2e / $ retail revenue)	0.76	0.75	0.74

* Emissions from electricity purchases is based on factors published by the Ministry for the Environment

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Science Based Targets

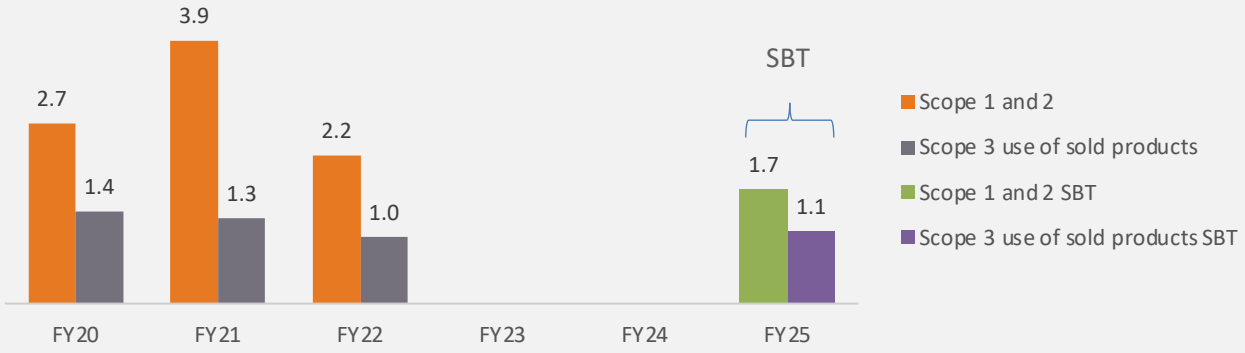
How are we tracking against our Science Based Targets?

We have set ambitious emissions reduction targets aligned with limiting global warming to 1.5°C above pre-industrial levels to support New Zealand's commitments under the Paris Agreement. The targets have been verified by the internationally recognised Science Based Targets initiative. We have committed to reducing absolute scope 1 and 2 GHG emissions by 36% by FY25 from a FY20 base year and to reduce absolute scope 3 emissions from use of sold products by 21% by FY25 from a FY20 base year. That is a commitment to reduce more than 1.2 million tonnes of carbon dioxide equivalent (tCO_2e) by FY25.

Scope 1 and 2 emissions in FY22 were 17% lower than FY20 (base year) which equates to a reduction of 466,910 tonnes of CO_2e. Scope 3 emissions from use of sold products was 27% lower than FY20 (base year) which equates to a reduction of 372,166 tonnes of CO_2e.

Performance compared to Science Based Targets (SBT)

MtCO2e



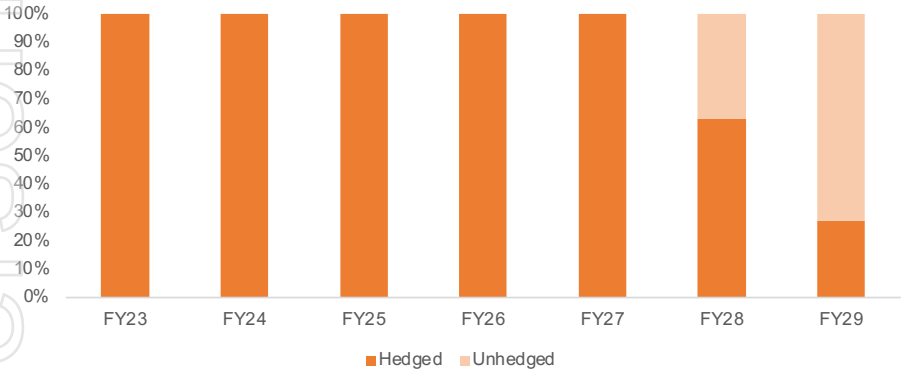
Cost of carbon

How protected is Genesis from the rising cost of carbon?

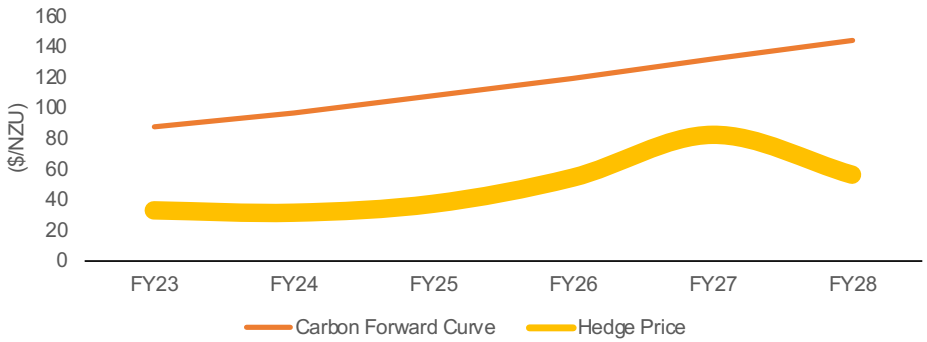
Despite rising carbon costs, Genesis remains hedged through to FY27 with a supply of units well below the current market price. Genesis has made further investment in long-term carbon abatement during the year, investing in Forest Partners. Our investment in DrylandCarbon and Forest Partners provides Genesis with a long-term supply of units over the next three decades.

Genesis is cognisant of the risks of a rising carbon price. The internal cost of carbon used for investment decisions is based on the forecasted spot price at the time the decision is being made.

Carbon Hedge Position



Carbon Hedge Prices



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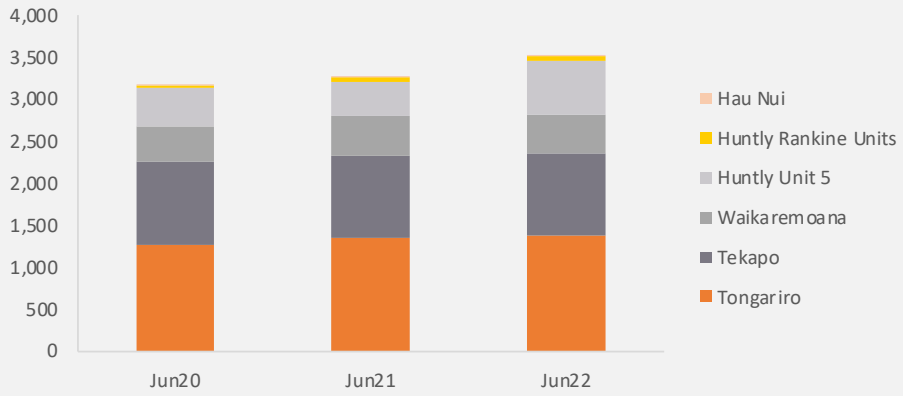
Generation asset values

How does the transition impact our generation asset values?

Generation assets are carried at fair value on our balance sheet. Fair value is based on a discounted cash flow model prepared by management. Refer to our FY22 Annual Report, note B1 in the consolidated financial statements for more information. As noted in the graph, thermal assets make up a small portion of the total value of generation assets due to the fact the discounted cash flow model for these assets assumes a solution for New Zealand's dry-year risk has been found and implemented by the market within the next 8-to-10 years. These assets could be worth more if thermal generation is required to support the market after this time.

Generation Assets Fair Value by Scheme

$ Millions



Capital committed to climate-related initiatives

How much capital are we committing to climate-related initiatives?

Genesis is committed through its Future-gen strategy to transition away from baseload thermal generation.

We are aiming to secure 2,650 GWh of renewable generation through a combination of power purchase agreements and investment in up to 500 MW (approximately 740 GWh) of grid scale solar in New Zealand through our joint venture with FRV Australia. The solar joint venture expects to make public its first projects in FY23. To date, we have signed three power purchase agreements for 1,200 GWh of new renewable generation.

Increased efficiency to reduce our carbon footprint is embedded in all our capital decisions.

Long-term investment to improve the reliability and efficiency of generation assets undertaken during the year includes:

- $2.9 million invested in the Tekapo B runner upgrade project. The overhaul of both turbine runners has resulted in 2.5% improved efficiency for the 800 GWh station which equates to 25,229,000 KWh per annum. This is enough to power 3,153 homes at 8,000 KWh per year.
- $1.8 million invested in replacing the Wairehu canal screen cleaner. The project involved converting a 30 tonne excavator from diesel to electric. This will reduce the amount of diesel burnt by 5,700 litres per annum which will remove 15 tonnes of CO_2 per year. It will also remove the risk of spills and waterway contamination.
- $0.6 million invested to date on the overhaul of the Piripaua power station turbines. The investment is expected to increase efficiency by 3.3% for the 42 MW station which equates to more than 4,204,800 KWh per year. This is enough to power 525 homes at 8,000 KWh per year.
- $5.8 million invested in the Tuai generator replacement (one of three being replaced over a three-year period). The replacement of all three generators is expected to be completed in FY24 and has the potential to enable up to 6 MW of additional capacity for the Tuai Power Station.

We are also working on incorporating embodied carbon assessments into capital projects. This involves measuring the carbon footprint of a project so that we understand the unavoidable emissions of the project, and can weigh up the impact different options have, so that we can make more informed decisions about what materials we purchase. This will help us identify how we can minimise the carbon footprint of our projects.

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Appendix

Description of physical assets

Kupe

Genesis, through its wholly owned subsidiary, has a 46% interest in the Kupe Joint Venture, which owns the Kupe oil and gas field situated off the south Taranaki coast.

Kupe's assets comprise three wellheads, an unmanned offshore platform, a 30 km pipeline and subsea utilities umbilical cable to an onshore production station near Hawera, oil storage facilities at New Plymouth, and an onshore gas pipeline.

Reflecting its interest in the JV, Genesis receives 46% of the natural gas produced. It has also entered long-term contracts with the other JV partners to purchase the remainder of the current natural gas produced and has rights in respect of all future production from the field.

LPG is a secondary product of the field. Genesis also receives 46% of the LPG produced.

LPG depots and networks

Genesis owns and operates a network of LPG distribution hubs across New Zealand and two reticulated LPG networks (Piped LPG) in the South Island: Dunedin and the Faringdon development.

Huntly Power Station

Huntly (Raahui Pookeka) is on the banks of the Waikato River and is close to both Auckland and Hamilton. Several types of thermal generation operate at the site.

Rankine Units
Three Rankine cycle units are the original plant, built to be able to operate on either natural gas or coal. Each unit has a nominal capacity of 250 MW.

Water cooling for the units from the Waikato River is limited at higher river temperatures, however cooling towers enable one of the Rankine Units to operate even when river temperatures are approaching limits.

Unit 5
This Combined Cycle Gas Turbine (CCGT) is the most efficient gas generator in New Zealand and has a capacity of up to 403 MW.

Unit 6
This is a 50.8 MW open cycle gas turbine, which can burn 100% gas or diesel to generate electricity.

Waikaremoana Hydro scheme

The Waikaremoana Power Scheme is a hydro-electric power development in northern Hawke's Bay and consists of three power stations fed from the Lake Waikaremoana. The scheme is located between Te Urewera and Wairoa, along the upper 7 km of the Waikaretaheke River. The 138 MW hydro scheme comprises three power stations – Kaitawa (36 MW), Tuai (60 MW) and Piripaua (42 MW).

Tongariro Hydro scheme

The Tongariro Power Scheme comprises three hydro power stations – Rangipo (120 MW, underground), Tokaanu (240 MW) and Mangaio (1.8 MW) and has a catchment area of more than 2,600 km^2 in the North Island's central volcanic plateau.

Tekapo Hydro scheme

The Tekapo Power Scheme is at the head of the Waitaki Valley in the Mackenzie District of the South Island. It has been owned and operated by Genesis since June 2011, and has a generation capacity of 190 MW and uses water from the glacial-fed Lake Tekapo/Takapō to generate electricity through two power stations – Tekapo A and Tekapo B. Tekapo B sits in the bed of Lake Pūkaki.

Hau Nui Wind farm

Hau Nui Wind Farm is in the hills south of Martinborough in the Wairarapa. Its 15 turbines have a combined capacity of 8.65 MW.

Power Purchase Agreements

Waipipi
Genesis has a 20-year electricity offtake agreement for the energy from Waipipi's 31 wind-turbines. The site generates 133.3 MW and produces approximately 450 GWh per year.

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Genesis Energy Limited

FY22 Greenhouse Gas Inventory Report

genesis

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Purpose of document

This document provides an inventory of Genesis' scope 1, 2, and 3 greenhouse gas emissions[1]. It has been prepared in accordance with the Greenhouse Gas Protocol: *A Corporate Accounting and Reporting Standard (2004),* which is an internationally recognised framework for carbon reporting. Using a recognised and widely adopted framework ensures transparency, robustness and consistency in approach across the energy sector.

Prepared by: Aileen Garnett, Senior Manager – Financial Control

Reviewed by: Jacki Farman, General Manager Financial Control and Risk

Signed off by: James Spence, Chief Financial Officer

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Introduction

This report is the annual greenhouse gas (GHG) inventory report for Genesis Energy Limited (Genesis) and its subsidiaries for the financial year ended 30 June 2022. The Board of Directors and the Chief Financial Officer are ultimately responsible for the report which has been prepared by the finance and sustainability teams.

This report has been prepared in accordance with the requirements of the Greenhouse Gas Protocol: *A Corporate Accounting and Reporting Standard (2004)* (GHG Protocol). For information about our climate related risks and how we manage, mitigate and minimise them refer to our **FY22 Climate Risk Report**.

Description of Genesis

Genesis is an energy generator and retailer supplying electricity, gas, LPG and energy services to more than 470,000 customers in New Zealand through two retail brands (Genesis and Frank*Energy). We operate a range of renewable and thermal generation sites across the country[2]. Further information on our generation sites can be found on our **website**. The geographic spread and diverse range of our generation assets provides vital support to the backbone of the country's energy sector. Genesis sits at the intersection of supply and demand for several energy sources as well as being the generator of last resort when renewable sources are unable to meet demand.

Genesis, through its wholly-owned subsidiary, Kupe Venture Limited, has a 46% interest in the Kupe Joint Venture, which owns the Kupe oil and gas field situated off the south Taranaki coast. Genesis purchases all the natural gas and 46% of the LPG produced from Kupe Joint Venture. The gas and LPG are sold to retail and wholesale customers and is used to generate electricity at the Huntly Power Station. Our vertically integrated gas portfolio, from wellhead to our industrial and residential customers is a vital part of the country's energy system providing flexibility, security, and price stability.

Genesis' purpose is 'Empowering New Zealand's sustainable future'. We act on this in three ways – enabling a low carbon future for all New Zealanders, leading a sustainable business and playing our part as individuals.

Genesis is a mixed ownership model company, listed on the New Zealand Stock Exchange and the Australian Securities Exchange and is majority owned by the Crown (51%). Genesis has approximately 1,204 full time equivalent employees. Revenue for the year ended 30 June 2022 was $2,834.1 million. For further information about Genesis, refer to our **FY22 Annual Report**.

Statement of intent

This report forms part of Genesis' commitment to providing transparency around how we operate, measure and manage our emissions.

A large portion of our emissions comes from our thermal generation, which is the generator of last resort when renewable sources are unable to meet demand.

We are committed to taking action to reduce emissions and balancing climate change considerations, managing increasing energy demand and ensuring our customers have a reliable and cost-effective energy supply.

We have set ambitious emissions reduction targets aligned with limiting global warming to 1.5°C above pre-industrial levels to support the country's commitment under the Paris Agreement. We are the first generator-retailer in New Zealand to have targets verified by the internationally recognised Science Based Targets initiative (SBTi). We have committed to reducing absolute scope 1 and 2 emissions by 36% by FY25 from a FY20 base year and to reduce absolute scope 3 emissions from use of sold products by 21% by FY25 from a FY20 base year. That is a commitment to reduce more than 1.2 million tonnes of carbon dioxide equivalent (tCO2e) by FY25. Our Future-gen strategy is how we will deliver on our scope 1 and 2 target. Refer to our **FY22 Climate Risk Report** for more information on our Future-gen strategy.

1 Throughout this document 'emissions' means greenhouse gas emissions
2 Huntly Power Station, Tongariro, Waikaremoana and Tekapo Power Schemes and Hau Nui Windfarm.

Organisational boundaries

Organisational boundaries determine the parameters for GHG reporting and ensure consistency when determining which factors to include. Genesis' boundaries have been set in accordance with the methodology outlined in the GHG Protocol.

The GHG Protocol allows two distinct approaches to consolidate GHG emissions: the equity share approach or the control approach (control can be defined in either financial or operational terms).

Genesis has applied the **operational control consolidation approach**, which ensures we focus on those emission sources that we have control over and therefore the ability to manage. Operational control is defined in the GHG Protocol as having the full authority to introduce and implement operating policies at the operation under consideration. Under the operational control approach, an entity accounts for 100% of emissions from operations over which it or one of its subsidiaries has operational control.

The organisation boundary includes Genesis and all its subsidiaries (refer to our FY22 Annual Report for a list of subsidiaries).

Business units excluded

All of Genesis' joint ventures, joint operations and associates are excluded from scope 1 and 2 emissions on the basis that Genesis does not have operational control of these entities. Refer to our FY22 Annual Report for a list of entities.

Kupe Venture Limited sells its 46% share of gas and LPG produced from Kupe Joint Venture to Genesis. These products are either used in the generation of electricity or sold to customers, as a result these products are included in either scope 1 or scope 3 depending on how they were used. The sale of oil produced by the Kupe Joint Venture is managed by the Operator, Beach Energy, and as a result has not been included in scope 3 emissions on the basis that Genesis does not have operational control.

Operational boundaries

The emission sources included in this inventory were identified with reference to the methodology outlined in the GHG protocol.

Scope 1 – Direct GHG emissions

Scope 1 includes GHG emissions from sources that are owned or controlled by Genesis. This includes electricity generation, fuel used in vehicles owned or leased by Genesis and any fugitive emissions released.

Scope 2 – Indirect electricity GHG emissions

Scope 2 includes emissions from purchased electricity consumed by Genesis and therefore brought into our organisational boundary. It includes electricity that is consumed at LPG branches and depots, corporate offices and office buildings at generation sites where the electricity is drawn from the grid. It excludes electricity consumed at generation sites where the electricity was not drawn from the grid.

Scope 2 emissions have been calculated using location-based emissions factors as market-based emissions factors are not available in New Zealand.

Scope 3 – Other indirect GHG emissions

Scope 3 emissions are a consequence of Genesis' activities but occur from sources not owned or controlled by us. Reporting on these emissions is optional under the GHG Protocol.

The Corporate Value Chain (Scope 3) Accounting and Reporting Standard (a supplement to the GHG Protocol) categorises scope 3 emissions into 15 distinct categories. Genesis has determined which scope 3 categories are relevant using the following criteria:

(a) relevance to our operations;

(b) a significant contributor to overall GHG emissions;

(c) availability of data; and

(d) able to be influenced/reduced.

Table 1 details which categories have been included and the boundary applied and **Table 2** details which categories have been excluded and why.

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Table 1: Scope 3 inclusions

Category	Boundary applied
Purchased goods and services	Goods and services purchased in the financial year and that are not disclosed in another category noted below.
Fuel and energy related activities	This category includes upstream emissions on fuels purchased for use in the generation of electricity as well as fuels sold to customers. Upstream emissions on coal and LPG is based on when the fuel is purchased rather than when it is burnt or sold to customers. Coal purchases in transit at year end are recognised as purchases in the financial year the coal is recorded on the coal stockpile.
Waste generated in operations	We are only able to measure our waste for Auckland, Hamilton, and Christchurch corporate offices. Other sites do not currently measure waste in a manner that enables a meaningful emission calculation.
Business travel	Air travel, accommodation and taxi services used during the financial year.
Use of sold product	Gas and LPG sold to customers during the financial year.
Investments	This category only includes an allocation of emissions relating to Kupe Venture Limited's 46% share of oil production as all of Kupe Venture Limited's 46% share of gas and LPG produced by Kupe Joint Venture is either used in the generation of electricity or sold to customers and therefore has been included in the fuel and energy related activities category. Emissions from associates and other joint ventures have been excluded as they are not considered material.

Table 2: Scope 3 exclusions

Category	Justification for excluding
Capital goods	Based on initial screening, this category is not considered material, further work will be undertaken to verify the initial screening results with the aim of reporting this category in the future.
Upstream transportation and distribution	Emissions on transportation are included in scope 3 fuel and energy related activities or scope 1.
Employee commuting	Based on initial screening, this category is not considered material. We are working to include the new guidance issued in May 2022 by the Ministry for the Environment in relation to measuring emissions associated with employees working from home. The aim is to report this category in FY23 once the work has been completed.
Upstream leased assets	Emissions from upstream leased assets are included in scope 1 and 2.
Downstream transportation and distribution	There is no transportation or distribution of products after the point of sale.
Processing of sold products	Genesis does not sell intermediate products therefore there is no processing of sold products.
End of life treatment of sold products	Sold products are consumed by customers therefore there are no end-of-life emissions to account for.
Downstream leased assets	Emissions from downstream leased vehicles are included in the fuels and energy related activities category and emissions associated with leased LPG bottles and tanks are included in use of products sold category.
Franchises	Genesis does not have anything that falls within this category.

Base year

The base year is 1 July 2019 to 30 June 2020 (FY20) to be consistent with the base year used for our Science Based Targets. Total scope 1 and 2 emissions for FY20 were 2,690,253 tCO_2e and scope 3 were 1,804,749 tCO_2e.

Methodology and emissions sources

Data was collected from different parts of the business including Genesis Wholesale Operations and external suppliers, and analysed by the finance and sustainability teams. All material emissions calculations are prepared by our financial reporting system using the Ministry for the Environment's 2022 Greenhouse Gas Reporting factors included in their *Measuring emissions: A guide for organisations: 2022 detailed guide* with the exception of scope 3 purchased goods and services which uses the Department for Environment Food and Rural Affairs lifecycle emission factors and scope 3 fuel and energy related activities that uses Agrilink NZ lifecycle emission factors. Our data sources and assessment of their reliability are shown in **Table 3**.

Table 3: Summary of emissions source inclusions

	Category	GHG emissions source	Data source	Reliability of data
Scope 1	Stationary combustion	Fuel used for electricity generation (includes gas, coal, LPG and diesel)	Fuel records used for financial and Emissions Trading Scheme (ETS) reporting	Data quality is good. Reliable due to use of financial records.
	Mobile combustion	Fuel used in plant vehicles and distance travelled for all other vehicles (owned and leased vehicles)	Fuel or kilometre usage from financial records and/or fleet manager	Data quality is good. Does not account for information withheld resulting from human error if employees forget to add in a claim. Estimations are necessary where information is missing.
	Fugitive emissions	Fugitive emissions of Sulphur Hexafluoride (SF_6)	Maintenance reporting system	Calculated at sites where reliable information available. Fugitive emissions excludes any potential emissions from Genesis' LPG business based on immateriality of the emissions from this source.
Scope 2	Electricity	Electricity consumed at LPG branches and depots, corporate offices and office buildings at generation sites where the electricity is drawn from the grid	Records from billing system	ICP points were used to measure consumption at various sites. Where auxiliary power is consumed it is excluded as it has not yet gone to the grid.
Scope 3	Purchased goods and services	Extraction, production, and transportation of goods and services acquired but not included in the other categories noted below	Purchased goods and services from financial records	Data quality is good. Susceptible to accounting treatment.
	Fuel and energy related activities	Extraction, production, and transportation of fuel and energy acquired and consumed in the generation of electricity or sold to customers	Fuel records used for financial and ETS reporting	Data quality is good. Reliable due to use of financial records.
	Waste generated in operations	Disposal and treatment of waste	Waste data as measured by our waste company	Data quality is good. Reliant on accuracy of waste company.
	Business travel	Employees travelling nationally and internationally for business purposes	Air travel, hotel stays, and rental cars from our corporate travel manager	Data quality is good. Reliant on accuracy of travel manager record system.
	Use of sold products	Usage of LPG and gas sold to customers	LPG and gas sales data from financial records	Data quality is good.
	Investments	Scope 1 and 2 information for Kupe Joint Venture	Information submitted under ETS requirements and electricity consumption from financial records	Data quality is good. Reliable due to use of financial records.

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Greenhouse gas inventory summary

Total scope 1 and 2 GHG emissions for the year ended 30 June 2022 was 2,223,343 tCO_2e. This is 44% less than FY21. The decrease is mainly driven by the decrease in thermal generation (32% lower than FY21) and a decrease in the volume of coal burnt (67% lower than FY21).

Table 4: GHG inventory summary

Scope	Category	FY20 tCO_2e	FY21 tCO_2e	FY22 tCO_2e
Direct emissions (Scope 1)	Attributable to customers	2,539,863	3,132,879	1,934,978
	Attributable to supply contracts (swaptions)	149,491	805,398	286,398
	Stationary combustion attributable to thermal generation	**2,689,354**	**3,938,277**	**2,221,376**
	Mobile combustion	579	1,624	1,733
	Fugitive emissions	80	162	17
	Total scope 1	**2,690,013**	**3,940,063**	**2,223,126**
Indirect emissions (Scope 2)	Electricity consumption	240	262	217
	Total scope 2	**240**	**262**	**217**
	Total scope 1 & 2	**2,690,253**	**3,940,325**	**2,223,343**
Indirect emissions (Scope 3)	Purchased goods and services ^	15,348	14,898	15,492
	Fuel and energy related activities (upstream emissions) ^			
	- Related to thermal generation	239,840	279,781	286,017
	- Related to sold products	172,611	159,031	124,140
	- Transmission and distribution losses on electricity purchases	24	25	20
	Waste generated in operations	19	26	21
	Business travel	1,975	215	146
	Use of sold products			
	- LPG Retail	121,802	128,665	130,372
	- LPG Wholesale	52,820	46,838	51,773
	- Gas Retail	429,893	441,033	406,308
	- Gas Wholesale	762,337	653,421	406,233
	Investments ^	8,080	8,547	7,184
	Total scope 3 ^	**1,804,749**	**1,732,480**	**1,427,706**
	Total scope 1, 2 & 3 ^	**4,495,002**	**5,672,805**	**3,651,049**

Table 5: GHG emissions by gas component

Component gas	Scope 1 tCO_2e	Scope 2 tCO_2e	Scope 3 tCO_2e	Total tCO_2e
CO_2	2,214,453	217	992,294	3,206,964
CH_4	3,202	-	2,069	5,271
N_2O	5,454	-	490	5,944
SF_6	17	-	-	17
Unknown*	-	-	432,853	432,853
Total tCO_2e	**2,223,126**	**217**	**1,427,706**	**3,651,049**

* The breakdown by gas component is not published for cradle to gate lifecycle emission factors and therefore this information is unable to be disclosed by gas component for some scope 3 emissions.

Table 6: Key performance indicators (KPI)

KPI	FY20	FY21	FY22
Total thermal generation (GWh)	4,461	5,501	3,736
Thermal generation carbon intensity (tCO_2e/GWh of thermal generation)	603	716	595
Total generation (GWh)	6,805	8,027	6,481
Total generation carbon intensity (tCO_2e/GWh of total generation)	395	491	342

Assurance

EY have provided an unqualified limited assurance opinion on the GHG inventory for the year ended 30 June 2022.

^ FY22 is the first year that purchased goods and services, fuel and energy related activities and investments have been disclosed. FY20 and FY21 have been restated to include these categories to enable comparability between reporting periods.

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GHG emissions reductions and offsets

Science Based Targets

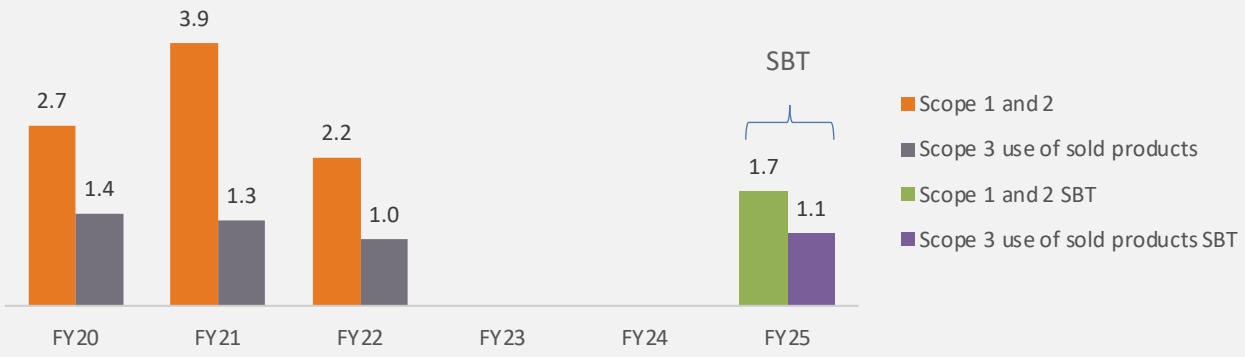
We have committed to reduce absolute:

1. Scope 1 and 2 GHG emissions by 36% by FY25 from a FY20 base year. This equates to approximately 968,000 tonnes of CO_2e.
2. Scope 3 emissions from use of sold products by 21% by FY25 from a FY20 base year. This equates to approximately 287,000 tonnes of CO_2e. The scope 3 Science Based Target specifically relates to use of sold products and therefore does not include the following scope 3 categories: purchased goods and services, fuel and energy related activities, waste generated in operations, business travel and investments.

Scope 1 and 2 emissions in FY22 were 17% lower than FY20 (base year) which equates to a reduction of 466,910 tonnes of CO_2e. Scope 3 emissions from use of sold products was 27% lower than FY20 (base year) which equates to a reduction of 372,166 tonnes of CO_2e.

Performance compared to Science Based Targets (SBT)

MtCO2e



Reducing and offsetting workforce emissions

Our Workforce Emissions include emissions from business travel, office waste, electricity consumption and employee commuting. Our Auckland and Hamilton corporate offices are Green Star rated and we have a number of other initiatives to reduce our Workforce Emissions, including encouraging more sustainable commuting by subsidising public transport in our Auckland offices, using the Zilch car share scheme for our corporate fleet, piloting a fully electric Fuso eCanter truck in our commercial fleet. For more detail, refer to our FY22 Annual Report.

We are offsetting 692 tCO_2e FY22 Workforce Emissions as these are currently the scope 3 emissions we can most accurately measure and put initiatives in place to reduce.

Forestry partnerships offset emissions and manage price risk

Genesis is involved in two forestry partnerships[3] that help remove carbon from the atmosphere and provide emission units that enable Genesis to meet its obligations under the ETS. These units help manage the future costs of thermal generation or can be sold to other emitters.

3 DrylandCarbon One Limited Partnership and Forest Partners Limited Partnership

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Independent Limited Assurance Statement to the Management and Directors of Genesis Energy Limited

Building a better working world

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Assurance Conclusion

Ernst & Young ('EY', 'we') was engaged by Genesis Energy Limited ("Genesis") to undertake limited assurance over Genesis' voluntary greenhouse gas emissions inventory ("GHG inventory") disclosures (including scope 1, scope 2 and certain scope 3 emissions from purchased goods and services, fuel and energy related activities, business travel, office waste, use of sold products, and investments) for the year ended 30 June 2022. Based on our limited assurance procedures, nothing came to our attention that caused us to believe that Genesis' GHG inventory for the year ended 30 June 2022 disclosed in the Genesis FY22 Greenhouse Gas Inventory Report, has not been prepared and presented fairly, in all material respects, in accordance with the Criteria defined below.

What our review covered

The subject matter and criteria covered by our assurance procedures are detailed in the table below.

Subject Matter	Criteria
Genesis' total greenhouse gas emissions inventory (including scope 1, scope 2 and certain scope 3 emissions from purchased goods and services, fuel and energy related activities, business travel, office waste, use of sold products, and investments) for the year ended 30 June 2022, disclosed in Genesis' FY22 Greenhouse Gas Inventory Report.	Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard New Zealand Ministry for the Environment's guidance for voluntary corporate greenhouse gas reporting 2022 UK Department for Environment, Food & Rural Affairs - Indirect emissions from the supply chain 2007-2011 AgriLink's New Zealand fuel and electricity total primary energy and life cycle greenhouse gas emission factors 2021

Reviewed GHG inventory

Total scope 1, 2, and 3 emissions (tCO_2-e)	3,651,049

Key responsibilities

EY's responsibility and independence

Our responsibility was to express a conclusion on Genesis' voluntary GHG inventory disclosure for the year ended 30 June 2022 based on our review. We have complied with the relevant ethical requirements relating to assurance engagements, which include independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality, and professional behaviour.

In accordance with the Professional and Ethical Standard 3 (Amended), Ernst & Young Limited maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Genesis' responsibility

Genesis management ("management") was responsible for selecting the Criteria and preparing and fairly presenting the GHG inventory for the year ended 30 June 2022 in accordance with that Criteria. This responsibility includes establishing and maintaining internal controls, adequate records and making estimates that are reasonable in the circumstances.

Our approach to conducting the engagement

We conducted this review in accordance with the International Standard on Assurance Engagements ISAE (NZ) 3000: Assurance Engagements Other than Audits or Reviews of Historical Financial Information and ISAE (NZ) 3410 Assurance Engagements on Greenhouse Gas Statements and the terms of reference for this engagement as agreed with Genesis on 28 February 2022.

Summary of procedures performed

A limited assurance engagement consists of making enquiries and applying analytical, appropriate testing, and other evidence-gathering procedures.

Our procedures included, but were not limited to:

- Conducting interviews with personnel to understand the business and reporting process
- Checking that the flow of information from site metering or monitoring through to calculation spreadsheets is accurate
- Identifying and testing assumptions supporting the calculations
- Comparing year-on-year activities-based greenhouse gas and energy data, where possible
- Checking organisational and operational boundaries to test completeness of greenhouse gas emissions sources
- Tests of calculation and aggregation
- Checking that emissions factors and methodologies have been correctly applied as per the criteria
- Reviewing the appropriateness of the presentation of disclosures.

We believe that the evidence obtained is sufficient and appropriate to provide a basis for our limited assurance conclusions.

Independent Limited Assurance Statement to the Management and Directors of Genesis Energy Limited

Building a better working world

Limited Assurance

Procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

While we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems.

Use of our Assurance Statement

We disclaim any assumption of responsibility for any reliance on this assurance report to any persons other than Management and the Directors of Genesis or for any purpose other than that for which it was prepared.

Other matters

New Zealand Ministry for the Environment's guidance for voluntary corporate greenhouse gas reporting 2022 does not provide emission factors to calculate scope 3 emissions from fuel and energy related activities. To calculate this, Genesis has undertaken detailed analysis of different published emission factors.

Genesis has chosen to apply AgriLink's New Zealand fuel and electricity total primary energy and life cycle greenhouse gas-emission factors 2021[1]. Our conclusion is not modified in respect to this matter.

Pip Best
Partner –Sustainability Services
Ernst & Young Limited
New Zealand
4 August 2022

[1] AgriLink New Zealand, 2021

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