

# TE PUNA HIHIKO

**Sustainability Report**

**2025/26**





## Te Puna Hihiko – The Energy Source



# Find your way around

## He anga whakataki

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# Meet the locals

## Tūtaki mai ki te hau kāinga

Top Energy is the Consumer Trust-owned electricity lines company and power generator in the Far North. We are part of the community with a big role to play in the sustainability journey of Te Hiku o te Ika (The Far North) and Aotearoa.

We are owned by the Top Energy Consumer Trust on behalf of our 34,500 Far North electricity account holders connected to the Top Energy network.

Our subsidiary, Ngāwhā Generation, produces 57MW of geothermal power which meets 125% of the Far North's electricity needs. Our commitment is to supply renewable, low emission energy to our community now and for future generations.

We sponsor incredible causes, such as the Northland Rescue Helicopter, Healthy Homes Tai Tokerau, Watersafe and the Coastguard to name a few.

We are one of the largest employers in the Far North, with nearly 200 kaimahi (staff) across our sites in Kerikeri, Kaitiāia, Puketona, and Ngāwhā.

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# 34,500

FAR NORTH ELECTRICITY  
ACCOUNT HOLDERS

# 57MW

OF GEOTHERMAL POWER  
GENERATED BY NGĀWHĀ

# 200

KAIMAHI ACROSS FOUR  
LOCATIONS IN THE FAR NORTH



# We're doing the mahi

## E mahi ana mātou i te mahi

This year marked a significant milestone for electricity generation in Te Hiku o te Ika, with the third large-scale solar farm coming online. Together, these solar farms now generate more than 60 megawatts of renewable electricity for our region.

While this is a positive step toward a cleaner energy future, it also means that without further investment in network capacity, we currently have no ability to connect additional large solar farms without constraining their output. Importantly, generators do not contribute to the cost of the network they use, and we are committed to ensuring that the cost of new infrastructure does not fall on our customers.

At the same time, we continue to actively encourage and support rooftop solar for homes and businesses on our network. To better enable this, we increased the amount of electricity that households with solar can export back into the network to 10kW. We are seeing a clear shift in how customers are investing in solar, with typical system sizes growing from 3–4 kW to 6–8 kW, and around 60% of new installations now including battery storage. These trends are encouraging. A diverse mix of generation sources helps create a more abundant, resilient, and affordable energy system for our region.

The Far North now has around twice the national average level of solar generation. With this leadership comes responsibility. We believe it is important that customers with solar contribute fairly to the additional use of the network, which is why exports are currently charged at 1 cent per kilowatt-hour. This approach helps ensure that customers who are unable to afford solar are not carrying the additional direct costs of solar customers.

Diversity in generation also strengthens resilience, which has never been more important. Over the past year, we have experienced the impacts of climate change more frequently than at any time in the previous decade, with weather-related events occurring almost monthly. Cyclones are now tracking further south and retaining greater intensity, resulting in more extreme conditions across Northland and beyond. This was seen recently in regions such as the Coromandel and Hawke's Bay. It increasingly feels like the new normal, and while we continue to adapt, there are practical limits to what can be achieved with a network of overhead powerlines.

We remain committed to reducing energy hardship in our communities. We have worked to limit our price increase to no more than 5% for the coming year, including CPI, while also investing in practical support initiatives. These include funding thermal curtains to reduce heat loss from homes and delivering in-home energy education programmes to help customers better manage their energy use.

Alongside this, we continue to progress our Te Ao Māori journey. This year, we were grateful to be hosted by Ngāti Rangī at Ngāwhā Marae, giving our people an opportunity to reconnect with experiences that many grew up with. We are also learning how to weave tikanga Māori into our everyday business, including learning waiata and taking the opportunity to introduce karakia tīmata. This work strengthens our organisation and deepens our connection to the communities we serve.

# Looking ahead

## Te anga whakamua

As we look to the year ahead and beyond, our focus remains on building a resilient, affordable, and sustainable electricity system for the Far North.

One of the most significant opportunities we are currently evaluating is the potential development of a further 32 MW geothermal plant at Ngāwhā. If approved, this would bring Ngāwhā Generation to full capacity, with construction potentially commencing in the second half of 2026. This investment would strengthen our local renewable generation and increase the opportunity to offset consumer power prices against income from generating carbon zero electricity here in the Far North.

To support long-term reliability and growth, our Board has also committed to the construction of a second transmission line to Kaitiāia. Subject to planning, construction is expected to begin in 2028. This project is a critical step in improving resilience for the Far North, particularly as demand for electricity continues to grow.

We will also be seeking government support through the Regional Infrastructure Fund to help unlock additional generation capacity and further strengthen the resilience of our network.

Partnership with central government is essential if we are to deliver infrastructure that benefits the region and country without placing undue cost pressure on our small number of customers.

Vegetation management remains one of our biggest operational challenges. This year, tree damage accounted for around 40% of power outages across the Far North. We are actively working with government to secure greater powers to manage trees near power lines more effectively. Although we recognise this change is still likely some time away. In the meantime, we will continue to manage vegetation within the limits of current regulations.

Alongside this, we will keep replacing end-of-life equipment and upgrading lines with higher-capacity infrastructure to support reliability and enable more customers to generate electricity from their homes. We are mindful that only around 7% of our customers indicate a willingness to pay more for increased reliability, and this is a key consideration when planning our capital and maintenance programmes. These decisions are made even more challenging by global supply pressures, with the cost of some of our materials increasing by more

than 40% over the past year driven by the insatiable power demands of AI in the US.

Our sustainability journey is not only about large infrastructure investments. In the year ahead, the next phase of our Te Ao Māori journey will include the development of standards that support ongoing capability uplift across our organisation. This work is about embedding our commitments into how we operate every day.

As we deliver many of the major sustainability initiatives, the challenge increasingly becomes maintaining momentum on the smaller, everyday actions that collectively make a meaningful difference. Building this way of thinking into our culture will be a key focus, ensuring sustainability remains part of how we all work, not just what we deliver.



**Russell Shaw**  
Top Energy CEO

# Sustainability Survey results

## Ngā hua o Te Tirohanga Toitūtanga

This year Top Energy carried out sustainability surveys with staff, stakeholders and customers to better understand their views, expectations and perceptions of Top Energy's sustainability performance.

Nearly 70% of consumers say sustainability is personally important to them and influences their everyday decisions – especially when it comes to disposing of waste, buying a vehicle, or voting. More than 80% rate their own sustainability efforts as fair to excellent. When purchasing products, however, customers told us that price and quality remain the most important factors, with sustainability considered after these.

60% of consumers believe sustainability should be extremely important to Top Energy, with a further 25% saying it should be somewhat important. Despite this expectation, around half of consumers said they do not have a clear understanding of Top Energy's current sustainability position.

Across consumers, stakeholders and staff, around 80% agreed that Top Energy's top priorities should be focusing on renewable energy and ensuring a reliable supply of energy. Other important areas identified include: strong business conduct, ethics, compliance and reducing energy hardship within the community.

Surveying our customers, stakeholders and staff is one part of the equation when prioritising sustainability. These results are overlaid against what is most important to Top Energy as a business. And there is a strong alignment between the two.

Top Energy considers ensuring a reliable supply of energy and focusing on renewable energy to be top priorities. As well as strong business conduct, ethics and compliance. And while reducing energy hardship is important, we prioritise Company Performance which includes Financial Performance – this enables us to continue to operate, whilst attracting and retaining employees.

We already report on several measures identified as important by both the survey results and Top Energy, such as our work to enable energy hardship support.

To strengthen our reporting on priority areas, we have added Renewable Energy Performance, through Ngāwhā Generation uptime reporting.

Also, Network Reliability, through our unplanned outage minutes (also known as SAIDI – System Average Interruption Duration Index).

We have refined our alignment with the UN Sustainable Development Goals (SDGs). Rather than spreading effort across nine goals, we have sharpened our focus to five SDGs where we can demonstrate meaningful impact and track performance through specific measures.

Top Energy considers ensuring a reliable supply of energy and focusing on renewable energy to be top priorities. As well as strong business conduct, ethics and compliance.

# Aligning to global standards

## E ū ana ki ngā paerewa ā-ao






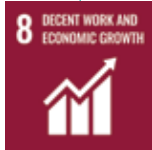

PLANET



PEOPLE



PROSPERITY

FY26			
YOU TOLD US WHAT IS MOST IMPORTANT	<ul style="list-style-type: none"> <li>• Renewable energy</li> <li>• Environmental sustainability and protections</li> </ul>	<ul style="list-style-type: none"> <li>• Reducing energy hardship</li> </ul>	<ul style="list-style-type: none"> <li>• Reliable electricity</li> <li>• Business conduct, ethics and compliance</li> </ul>
TOP ENERGY'S SUSTAINABILITY FOCUS	<ul style="list-style-type: none"> <li>• Emissions reduction</li> <li>• Minimise environmental impact</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce energy hardship</li> <li>• Developing local talent</li> </ul>	<ul style="list-style-type: none"> <li>• Reliable electricity</li> <li>• Renewable energy</li> </ul>
TOP ENERGY'S STATEMENT OF CORPORATE INTENT	<ul style="list-style-type: none"> <li>• Environmentally sustainable</li> <li>• Contribute to decarbonisation</li> </ul>	<ul style="list-style-type: none"> <li>• Minimise the risk of injuries</li> <li>• Minimise the electricity cost to consumers</li> <li>• Responsive to the social needs of our community</li> </ul>	<ul style="list-style-type: none"> <li>• Operate a successful business to optimise the long-term value</li> <li>• Acceptable network quality standards</li> </ul>
UNITED NATIONS SUSTAINABILITY DEVELOPMENT GOALS (SDGs)	 		 



# Planet

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**Protect and care for  
the planet**

Hena! Tiakina,  
manaakihia te taiao

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# Emissions reporting He pūrongo tukuwaro

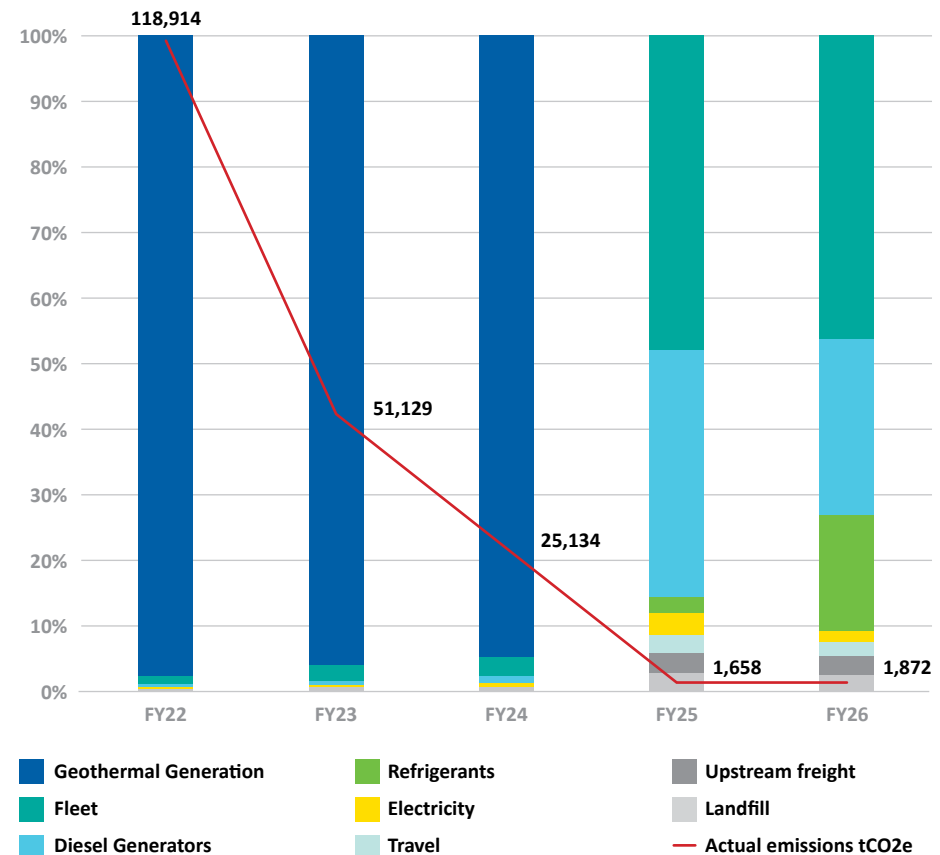
We spent three innovative duct-tape-and-number-8-wire years on successfully reinjecting emissions from our four geothermal power plants. The result of this is, when we produce electricity for our Far North community, we release zero emissions.

This means our greatest emissions are now from our fleet of vehicles which traverse the rugged and diverse landscape of Te Hiku o te Ika to upgrade, maintain and repair our electricity network. Also our diesel generators, which do a fantastic job of keeping the power on during large maintenance jobs in our Kaitiāia area – supporting Aotearoa in times where power is scarce in the dark of winter and avoiding rolling outages when whānau are most in need.

This year, we have spent time getting reporting in place to baseline our fleet measures such as, utilisation and idle time, while we watch for emerging vehicle technology to make them more fit for purpose. Key to meeting our requirements are: towing capacity (we have a lot to haul across the motu and need to be sure it can get safely from A to B), drivable kilometres and charging times. Cyclones are becoming more frequent and we don't want to waste precious time waiting for our batteries to charge.

We expect to see a sharp increase in our emissions as we begin to measure Scope 3 supplier emissions.

## Emission sources



The result of this is, when we produce electricity for our Far North community, we release zero emissions.



CARBON EMISSIONS (tCO <sub>2</sub> e)	SOURCE	FY22	FY23	FY24	FY25	FY26	FY27 FORECAST
<b>DIRECT EMISSIONS (SCOPE 1)</b>	Geothermal Generation Diesel Generation Transport Fuel Sulphur Hexafluoride Leaked Refrigerants	118,155	50,558	24,760	1,454	1,583	1,297
<b>INDIRECT EMISSIONS FROM IMPORTED ENERGY (SCOPE 2)</b>	Electricity Purchased Distribution Losses	247	118	187	55	161	149
<b>INDIRECT EMISSIONS FROM TRANSPORT (SCOPE 3)</b>	Air Travel Other Travel (Rental Cars, Taxis etc) Freight	47	41	125	97	82	84
<b>INDIRECT EMISSIONS FROM PRODUCTS USED (SCOPE 3)</b>	Transmission Losses Waste to Landfill	465	412	62	52	47	47
	<b>TOTAL</b>	<b>118,914</b>	<b>51,129</b>	<b>25,134</b>	<b>1,658</b>	<b>1,872</b>	<b>1,577</b>

# Supporting a solar future

## E tautoko ana i te anamata pūngao kōmaru

There are three large solar farms in the Far North which generate more than 60 megawatts of clean, renewable electricity, making solar a cornerstone of how our region is powered.

For customers, this is an encouraging sign of progress. More locally generated renewable electricity means less reliance on power imported from outside the region, lower exposure to volatile energy markets, and a more sustainable energy future for the Far North.

### Reaching the Limits of the Network

While the growth of solar generation is something to celebrate, it also brings new challenges. With three large solar farms now operating, our network has reached its current capacity to connect additional large-scale solar generation without significant upgrades.

Building more network capacity would require major investment in infrastructure, such as, substations and lines. Importantly, generators do not pay for the electricity network they use — those costs are ultimately borne by customers. We are committed to ensuring that the cost of enabling further large-scale generation does not fall on households

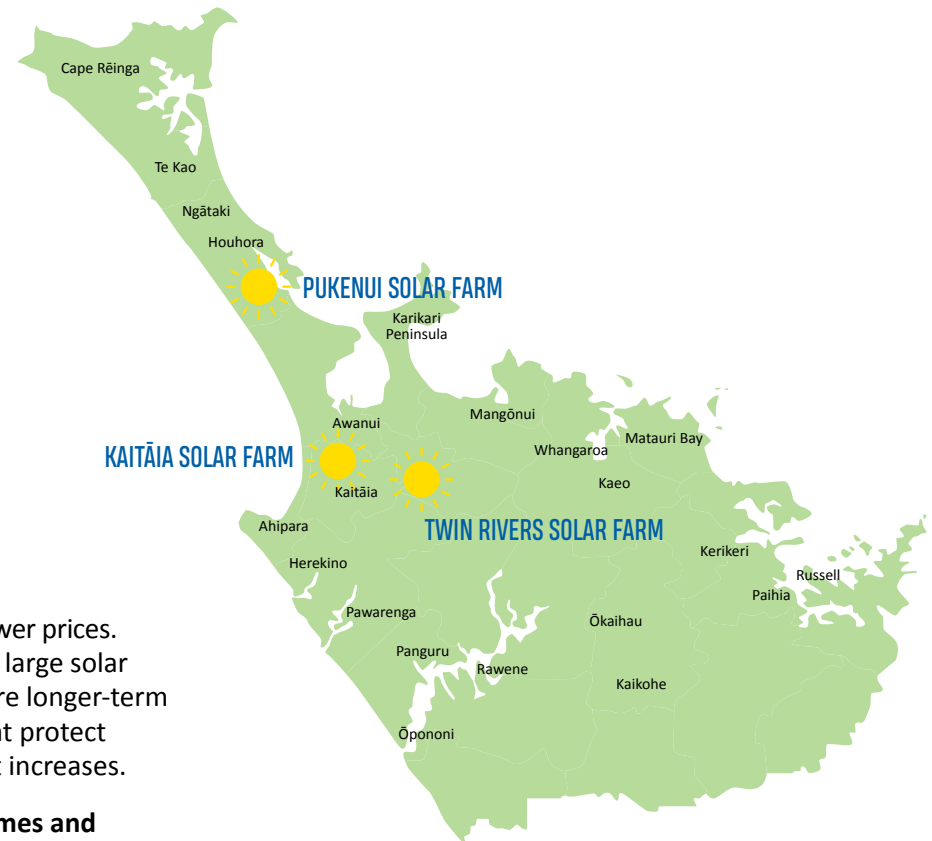
and businesses through higher power prices. For now, this means pausing new large solar farm connections while we explore longer-term solutions and funding options that protect customers from unnecessary cost increases.

### Supporting Rooftop Solar for Homes and Businesses

While large-scale solar connections are constrained, our support for rooftop solar has never been stronger. We continue to actively encourage households and businesses to generate their own electricity and share surplus power with the network.

This year, we increased the amount of electricity that customers can export from rooftop solar systems to 10 kilowatts, making it easier for people to get value from their investment. This change reflects how solar technology is evolving and how customers are choosing to use it.

We are seeing a clear shift in customer behaviour with larger solar systems often being installed with capacity to allow households to store energy generated during the day and use it in the evening. This reduces pressure on the network at peak times and improves resilience during outages.



Solar Farms in the Far North

# 17.1MW

PUKENUI SOLAR FARM

# 23.7MW

KAITĀIA SOLAR FARM

# 24MW

TWIN RIVERS SOLAR FARM

## A Solar Leader — with Responsibility

The Far North now has around twice the national average level of solar generation, putting our region at the forefront of New Zealand’s clean energy transition. With that leadership comes responsibility to ensure the system remains fair and affordable for everyone.

To help manage the additional demand solar exports place on the network, exports are currently charged at 1 cent per kilowatt-hour. This is a direct cost incurred by these customers.

This approach is about fairness. Not all customers are able to afford solar panels or batteries, and it’s important to us that those households are not subsidising network costs created by increased domestic generation.

## Building a Resilient, Affordable Energy Future

A diverse mix of energy sources — including solar farms, rooftop solar, batteries and other renewable generation — helps create a more resilient electricity system. It reduces reliance on single sources of power, supports local generation and helps keep energy affordable over the long term.

Our role is to balance these benefits with the practical realities of running a safe, reliable network. Every decision we make considers, not just today’s opportunities, but the long-term impacts on customers, communities and the region as a whole.

As solar continues to grow in the Far North, we remain committed to working with customers, industry and government to find solutions that support renewable energy while keeping costs fair and electricity reliable.

The sun is playing an increasingly important role in powering Te Hiku o te Ika, and with the right balance, it will continue to do so for years to come.

The Far North now has around twice the national average level of solar generation, putting our region at the forefront of New Zealand’s clean energy transition.





PROTECTING OUR PLANET

# Reducing our carbon footprint

## Te whakaheke i te tapuwae waro

### Our Fleet

Now that our geothermal powerplants are emitting zero emissions, our fleet is our highest emissions source.

Top Energy has a field fleet of 150 vehicles which include utes, trucks and bucket trucks. Our pool cars are RAV4 hybrids, and we have an electric vehicle we are trialling, but most of our fleet requires power and distance not yet on offer in New Zealand's electric and hybrid options. We need to lug heavy loads and tow through rugged and super rural Northland terrain.

However, we do have a watching brief and are always interested to see what options are available on the market.

We know that once a suitable hybrid or electric solution becomes available, we won't be first in line, as there are much bigger companies than us waiting for the same thing. This however, would give us time to learn a lot about the vehicles' performance before we make any significant investment.



E KORO KIA TUTUKI

# People

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**Nurturing our  
communities, affirming  
our collective identity**  
Manaakitia ō tātou kāinga,  
he kōpū puta tahi tātou

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## Te Ao Māori

This year we had the privilege of experiencing a pōwhiri on a marae thanks to the warmth and generosity of local hapu Ngāti Rangi who were very welcoming and knowledgeable.

Many of our staff, both local and from abroad, had never had the opportunity to experience a marae visit before.

And more than just the experience of a pōwhiri, tikanga and waiata māori, our hosts enhanced the experience by sharing with us the history of Ngāwhā marae and the surrounding area.

Te Hiku o te Ika has a lot to offer in terms of Māori history. So we also took the opportunity to visit St Michaels Church to learn about its history and the battle of Ohaeawai.

Together we learned our first karakia and waiata – the anthem that is Te Aroha.

Later in the year, we visited Ruapekapeka with a local guide, gaining insight into its history, culturally significant sites and the battle fought there.

# Meet our new trainees

## Tutaki ki ō mātou pia hou



**Khalon Walters,  
Thore Paarman and  
Corban Aspinall –  
2026 Line Mechanic  
Trainees**



Callum Field –  
2026 Communications  
Technician Trainee

CARING FOR OUR PEOPLE

# Paying a Living Wage

## E utu nei i te Utu Whaioranga

Top Energy is a Living Wage accredited employer.

From 1 September 2025, the Living Wage hourly rate is \$28.95. The Living Wage (different from the Minimum Wage) is worker and whānau focused.

Paying the Living Wage rate is voluntary. Employers who pay the Living Wage want to make sure their workers get enough money to live with dignity.

The Living Wage considers basic expenses. It gives breathing room for rest, activities or saving for a rainy day. It enhances collective wellbeing and is good for our economy.

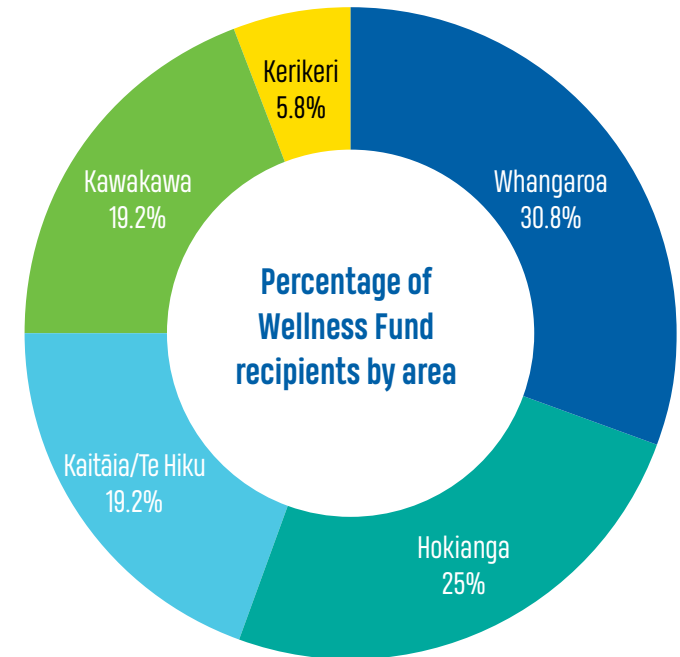


# Energy Wellness Fund outcomes Nga hua o Te Pūtea Oranga Pūngao

Last year, the Top Energy Wellness Fund awarded \$70,000 to CBEC, alongside additional funding, to help improve home warmth and comfort through the installation of brand new thermal curtains.

By the end of the year, this funding enabled thermal curtains to be installed in 50 homes across the community. Of these, 41 homes received curtains funded directly through Top Energy’s fund.

Households eligible for the hardship scheme also benefited from a range of extra energy-saving measures, including: draft stoppers and strips, window vacs, LED lightbulbs, hot water cylinder wraps and mould kits — helping families stay warmer, healthier and more energy-efficient year-round.



“Noticeable difference in warmth, especially on cold nights and reduced condensation on the windows.  
Happy and grateful.”

“A huge thanks to Top Energy for supporting us to live in a warmer home. The curtains have made such a big difference... my family is warm for the first time in three years. Sometimes it was warmer outside than inside so the difference is huge! For the first time in years we have had no sickness in the house this winter!”

“Thank you to Top Energy and the team at CBEC for allowing us to live in a warmer house with insulation and curtains.”

# Top Energy Coach: Supporting warmer homes in the Far North

## Kaiwhakaako Top Energy: E tautoko ana i ngā Kāinga o Te Hiku kia Mahana ake

Top Energy is excited to pilot Top Energy Coach, a new local initiative designed to help Far North households stay warm and reduce their power bills – especially through the colder winter months.

This year marked the closure of the national Energymate in-home energy coaching programme. Since 2020, Energymate has been a vital service in the Far North, supported by Top Energy, to help whānau better understand their energy use and save money on power.

Recognising the value of this service, Top Energy is committed to ensuring local households continue to receive this support.

To make this possible, Top Energy has partnered with two trusted community organisations:

- **Te Pūtahi-Nui-o-Rēhua**, based in Kaikohe, who bring strong experience in delivering in-home energy coaching; and

- **CBEC**, based in Kaitiāia, who have extensive expertise delivering the Healthy Homes programme across Tai Tokerau.

Funded by Top Energy, the Top Energy Coach pilot will deliver 120 in-home energy coaching assessments and six community hui over a six-month period. The programme will run leading into, and throughout winter — when energy costs are often highest.

The goal is simple: to help whānau households use energy more efficiently, reduce pressure on power bills and feel confident turning on the heating when it's needed most — supporting warmer, healthier homes across the Far North.





# Understanding modern slavery and our role

## Kia mārama ki te ponongatanga hou me tō mātou mahi

At its core, modern slavery is about people being treated as commodities for someone else's profit. It is often hidden, cruel and deeply isolating. Modern slavery doesn't only occur overseas or in the products we buy — it is estimated to affect around 8,000 people in New Zealand. These practices are illegal and breach both the Crimes Act and the Immigration Act.

Across the electricity lines sector, several companies have been working together for the last two years to better understand how modern slavery risks could arise in our businesses and how we can prevent them. This work starts with building awareness — helping our people understand what modern slavery looks like and giving them the confidence and tools to speak up if they see or suspect it.

This is especially important in our industry. We face ongoing skill shortages and often rely on workers and contractors from overseas. Migrant workers can be more vulnerable to exploitation, making it critical that we take extra care to protect them.

Our supply chains also present risks. The energy sector depends on materials such as cobalt for

batteries and polysilicon for solar panels. In some parts of the world, the extraction and processing of these materials have been linked to forced labour, unsafe working conditions and unfair treatment of workers.

This year, Top Energy took an important first step by rolling out modern slavery awareness training for all staff. This training helps our people understand the issue, recognise warning signs and know how to report concerns. It marks the beginning of our ongoing journey to learn, improve and ensure that everyone connected to our business is treated with dignity and respect.

Since 2019, Australia has had laws in place that require large businesses (earning over \$100 million a year) to report on the risk of modern slavery in their operations and supply chains.

New Zealand is also expected to introduce legislation. A proposed bipartisan Modern Slavery Bill would require large businesses to publish annual modern slavery statements. These statements would outline the risks they face, what they are doing to manage those risks, and any incidents identified. Businesses that do not comply could face fines or other penalties.

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# Prosperity

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**Prosperity is in the  
palm of our hands**  
He kai kei te kapu o  
aku ringa

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# From sacred springs to zero carbon: The story of Ngāwhā Generation

## Mai i te puna tapu ki te tukuwaro kore: Te ahunga mai o Ngāwhā Generation

Long before electricity was generated at Ngāwhā, the thermal springs east of Kaikohe, were a sacred place for tangata whenua. Māori oral history tells of warriors bathing in the hot, mineral rich waters to heal and restore strength. These springs remain a taonga for local hapū, particularly Ngāti Rangī, and for the wider Far North community.

Ngāwhā is unique, not just culturally, but geologically. It is the only high temperature geothermal field in New Zealand outside the Taupō Volcanic Zone. Its chemistry — rich in minerals and naturally occurring gases — would later shape both the challenges and breakthroughs of power generation on this land.

In the late 1800s and early 1900s, European settlers were drawn to Ngāwhā by mercury deposits rather than geothermal energy. Small scale mining altered parts of the landscape but never fully succeeded. Over time, the hot pools became well known locally for their perceived healing properties, and their cultural and environmental significance endured.

Investigation into geothermal electricity generation began much later. In the 1990s Top Energy, then the Bay of Islands Power Board, began studying the resource. From the outset, understanding and

protecting the environment was critical. Extensive baseline monitoring of air, water, ecosystems and wildlife was undertaken — data that would underpin every decision that followed.

The first power station at Ngāwhā began generating electricity in 1998, through a joint venture between Top Energy and the Tai Tokerau Māori Trust Board. This partnership reflected a shared commitment to developing the resource responsibly and in a way that respected its cultural significance.

Over time, land required for geothermal development was acquired in stages. The site of the original power station was purchased more than 30 years ago from Carter Holt Harvey. Between 2011 and 2013, additional surrounding land — including the area known as Ginn Springs — was purchased from farming families and developers to enable

future generation and protect the geothermal field. Crucially, Ngāwhā Springs themselves were later gifted back to Ngāti Rangī, reaffirming iwi guardianship and ensuring the sacred pools remained in Māori ownership and care.

A second power station came online in 2008, doubling generation capacity and reinforcing confidence that the geothermal field could be sustainably managed. But the most transformative step came in 2020 with the completion of a third, much larger station. This investment more than doubled Ngāwhā's output and, for the first time, enabled the Far North to meet almost all of its electricity needs locally. Power that once flowed into the region now flows out.

Ngāwhā's geothermal fluids contain unusually high levels of carbon dioxide, which made the



**Ko te Ngāwhā te kanohi o te taonga  
engari ko tona whatumanawa,  
ko tona mana hauora, no raro.**  
Ngāwhā is the eye of the taonga  
but its heart, its life giving power,  
lies beneath.

station emissions intensive. In a New Zealand first, Ngāwhā Generation adapted overseas technology to reinject these gases back into the geothermal reservoir. By early 2023, all three stations were operating as a closed loop system, eliminating emissions. Ngāwhā became New Zealand's first zero carbon geothermal power station.

Another station is already consented, and Ngāwhā Generation is now recognised nationally as a model

for low carbon geothermal energy. Yet this story is not just about technology. It is about partnership, respect for the land, and a long term commitment to doing what is right for the Far North.

From sacred healing waters to a zero carbon power station, Ngāwhā's journey reflects an enduring relationship between people, place, and the energy beneath our feet.

**Our goal is to make sure we generate  
enough sustainable power for our  
communities' current and future needs.  
We can then sell power south to  
offset the cost of our lines business  
to keep electricity affordable here  
in the Far North.**



PK 17.001 SLD1

PASSING

TOP ENERGY

smartrak  
GPS SPEED MONITORED FOR  
EVERYONE'S SAFETY

ORD789

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ten

# Climate Change and network reliability

## Te Hurihanga Āhuarangi me te whakaū i te kāwei hiko

April's Cyclone Tam led to outages with ongoing impacts continuing well after the cyclone passed. While the immediate outages were limited, storm-related damage created a longer-term effect on network performance.

Persistent high winds and wet weather throughout the last 12 months have had a major impact on the network, contributing around 30% of our outage duration.

Compared with long-term averages, wind and rainfall have been consistently higher across the network compared to the last decade. This has resulted in:

- More faults directly caused by severe weather; and
- Indirect impacts such as faster equipment wear, weakened infrastructure and increased vegetation growth.

Wet, warm conditions have driven unusually strong vegetation growth, while high winds have caused fallen branches and trees to interfere with power lines. In many cases, storm damage does not result in an immediate power outage but leads to faults days or even weeks later, such as the major outage on 31 October. This was caused by a tree weakened

by earlier storms, even though the fault occurred several days after the worst weather.

Damage sustained during cyclone scale events can continue to cause outages for months due to stress on poles, crossarms, insulators and power lines.

Our reliability programmes focus on reducing the impact of outages by improving recovery times and reducing customer exposure, particularly on the poorest-performing feeders. This multi-year programme will continue to deliver benefits as improvements are made across the network.

Vegetation remains a key challenge during weather patterns such as La Niña. We are maintaining a strong focus on vegetation management by improving prioritisation, increasing efficiency and working more closely with customers who own trees near power lines. Investment in vegetation management has increased in recent years to address these challenges.

Wet, warm conditions have driven unusually strong vegetation growth, while high winds have caused fallen branches and trees to interfere with power lines. In many cases, storm damage does not result in an immediate power outage but leads to faults days or even weeks later...

# Sustainability Measures

## Ko ngā mahi whakauka

	GOAL	FY23	FY24	FY25	FY26	FY27 TARGET
PLANET	RENEWABLE ENERGY					
	Increase residential solar Measure: MW	9.5	11.4	14.2	15.8	17.5
	Increase commercial solar Measure: MW	–	23	23	67.68	67.68
	Ngāwhā Generation availability Measure: Uptime	96%	94%	95%	91%	93%
	ENVIRONMENT					
	Reduce waste to landfill Measure: t	157	91	77	77	<77
	Reduce emissions Measure: tCO <sub>2</sub> e	51,129	25,134	1,658	1,872	This goal will reset once we identify our Scope 3 supplier emissions
PEOPLE	Enable Energy Hardship reduction Measure: Programmes implemented	<ul style="list-style-type: none"> <li>EnergyMate in Kaitāia &amp; Te Kao</li> </ul>	<ul style="list-style-type: none"> <li>EnergyMate in Kaitāia</li> </ul>	<ul style="list-style-type: none"> <li>Energy Wellness Fund awarded</li> <li>EnergyMate in Kaitāia &amp; Kaikohe</li> </ul>	<ul style="list-style-type: none"> <li>Top Energy Coach established</li> </ul>	<ul style="list-style-type: none"> <li>Energy Wellness Fund awarded</li> <li>Top Energy Coach in Kaitāia &amp; Kaikohe</li> </ul>
	Grow local talent Measure: Hire 3 local trainees	2	8	2	4	3
PROSPERITY	Increase electricity reliability Measure: Unplanned SAIDI minutes	–	292	256	399	<289



## Governance

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**Challenges can be overcome with great leadership**

He moana ka pukepuke,  
he moana ka ekengia e  
te tauihu o te waka

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# Facing our risk headwinds

## E anga atu ana ki ngā hautūmū tūraru

Top Energy's Board of Directors are responsible for the governance of risks, including those related to climate change.

This is entrenched in our current process, where the Audit and Risk Committee supports the Board by promoting integrity and transparency in risk management.

The Audit and Risk Committee meets at least six times a year and reports proceedings back to the Board.

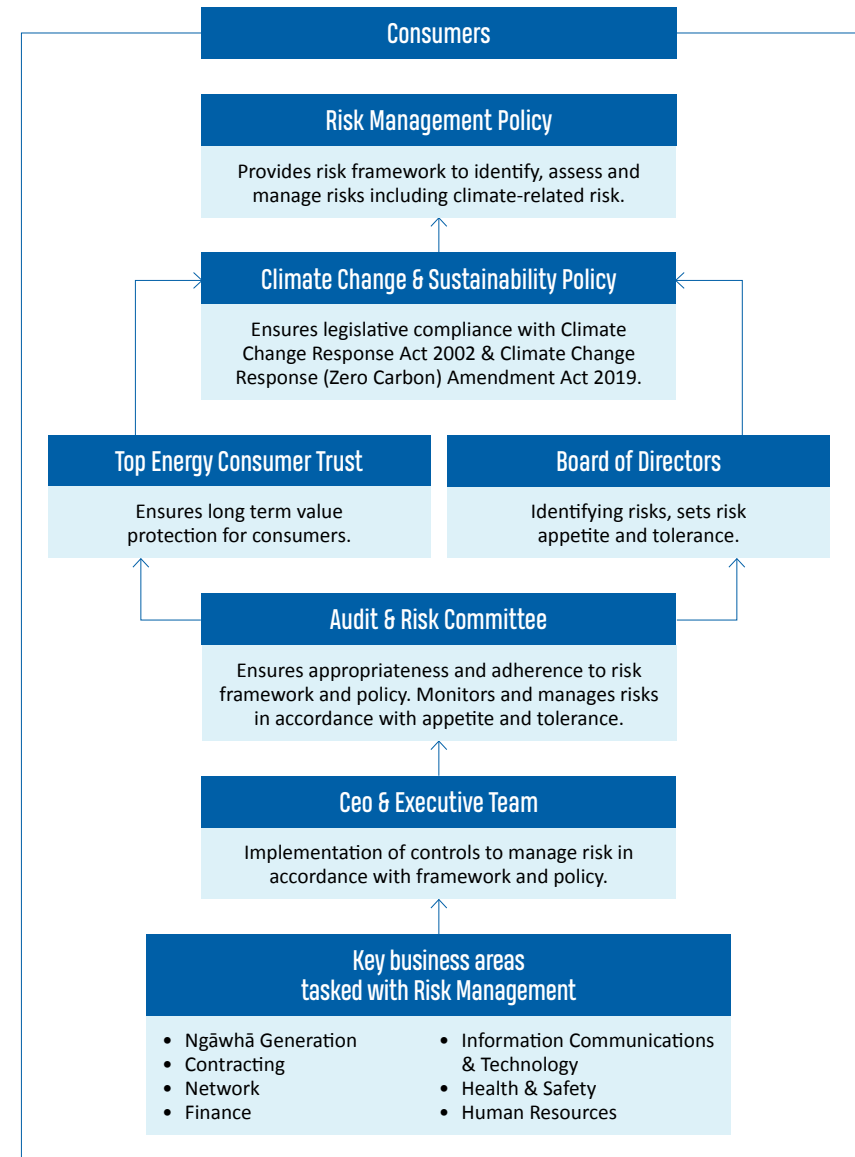
Our Climate Change and Sustainability Policy aims to limit our impacts on climate change with a view to carrying out all business activities in a sustainable manner.

The Risk Management Policy recognises that risk management is a part of core business operations. We commit to risk management aligned with AS/NZS ISO 31000: 2009 Risk Management – Principles and Guidelines, to proactively identify, measure and manage risks.

Risk appetites are documented to ensure that risks are managed within Board-approved risk parameters. Performance is reported in Top Energy's Statement of Corporate Intent and in our Annual Report.

Our Risk Matrix has been used for the scale of our risks on pages 30 and 32.

### Governance Structure



## Climate change predictions Ngā matapae hurihanga āhuarangi

Dramatic weather events are common in Te Tai Tokerau. We are more likely to experience increases in coastal inundation and erosion, more regular river flooding and sedimentation, extended periodic dry periods, increased fire danger weather and alterations to seasonal weather conditions such as frosts and spring rainfall decline.

The region's warm, humid summers and mild winters are shaped by shifting influences – ranging from dry anticyclones to westerly wind flows and occasional tropical systems.

All of this contributes to more volatile weather, including highly variable rainfall. But the past decade brought a more intense element to these patterns: as notably shown in the summer of 2022/2023, when four powerful storms within seven weeks caused major flooding events in the region.

Longer dry spells will reduce soil moisture, limit pasture growth and raise the chance of seasonal water shortages. Droughts are projected to become more frequent and last longer.

Climate change risks and how they apply to Top Energy are outlined in the following pages.

Source: 2025 Case study Ā Te Taitokerau urutau i ngā āhuarangi Responding to a changing climate in Te Taitokerau/Northland – He Pou a Rangi – Climate Change Commission

## Opportunities Ko ngā āheinga

### Expansion of Low-Emissions Electricity Generation

As national electrification accelerates, electricity demand across Aotearoa New Zealand is expected to increase materially. This presents an opportunity to expand Top Energy's electricity generation activities to support regional demand while contributing to the low-emissions transition. In response, we are in the planning phase of an additional 32 MW generation facility.

This investment would increase our generation capacity and enable additional revenue from electricity generation, which can be used to help offset network costs. Over time, this supports our objective of maintaining electricity affordability for consumers in the Far North while strengthening regional energy security.

### Network Capacity Growth to Enable Regional Development

Electricity demand and distributed generation in the Far North have grown significantly in recent years, with three solar farms commissioned in as many years. As a result, parts of the network are approaching capacity limits for large-scale exporters.

While capacity is incrementally increased through the replacement of end-of-life assets, further investment is required to unlock additional export capacity and support future renewable generation. To enable this, Top Energy will seek external funding support, including through the Regional Infrastructure Fund, to accelerate targeted capacity upgrades. This would allow additional large exporters to operate in the region, supporting economic development and the transition to renewable energy.

# Physical Risks

## Ko ngā tūraru kikokiko



### STORMS & CYCLONES



### VEGETATION



### RAIN & FLOODING



### SEA LEVEL RISE

RISK DRIVERS	STORMS & CYCLONES	VEGETATION	RAIN & FLOODING	SEA LEVEL RISE
<b>SCALE</b>	Inherent: High (24) Residual: High (18)	Inherent: Medium (15) Residual: Medium (12)	Inherent: High (18) Residual: Medium (12)	Inherent: Medium (12) Residual: Low (4)
<b>LIKELIHOOD</b>	Almost certain	Likely	Almost certain	Possible
<b>TIMEFRAME</b>	Medium to long term	Medium to long term	Medium to long term	Medium to long term
<b>SEVERITY</b>	Major localised damage and extended outages	Serious financial impact	Serious financial impact	Serious financial impact
<b>IMPACT</b>	Overhead lines and poles are vulnerable to damage from storms and high winds, particularly in rural and coastal areas as a result of treefall. This risk leads to unplanned power outages which can result in large outages.	Rising temperatures are expected to accelerate vegetation growth, increasing the risk of unplanned outages as branches encroach on powerlines.	Heavy rain and flooding can disrupt cable installations, increase cable faults and damage critical infrastructure. Flooding can also cause soil erosion, landslides and access challenges, leading to longer outage durations and higher maintenance costs.	Rising sea levels in the Far North, especially in coastal areas, may raise water tables, leading to more cable faults and making installations harder. Saltwater intrusion and coastal erosion could also threaten infrastructure and limit access for repairs.
<b>MITIGATION</b>	The Board recently approved the Network Reliability Programme. This additional budget will allow for installation of additional sectionalisers, reclosers and continuation of the Pole Replacement Programme to bring them up to the new design specs and N-1 security related projects.	We have adapted our Maintenance Programme including vegetation resources annually in our Asset Management Plan. We have increased the vegetation budget to allow for a two man crew for maintenance. We will make ongoing submissions to have the Hazards from Trees Regulations changed.	An extended outage would only occur if a substation were flooded, but past heavy rain events have not caused such disruptions. Furthermore, the Top Energy network's predominantly overhead design mitigates the risk, reducing the severity of heavy rain and flooding impacts.	Completed flood risk remediation at substations. Ongoing assessment of assets against NRC sea-level projections for both short- and long-term impacts. New coastal assets are evaluated to minimise risks from sea level rise and erosion.

Top Energy’s key physical risks are assessed against the tropical climate change predictions for the Far North in conjunction with the fast-growing topography and coastal nature of our district.



### FIRE & DROUGHT



### AMBIENT TEMPERATURE



### LAND MOVEMENT (SLIPS)

RISK DRIVERS	FIRE & DROUGHT	AMBIENT TEMPERATURE	LAND MOVEMENT (SLIPS)
SCALE	Inherent: Medium (8) Residual: Low (4)	Inherent: High (18) Residual: High (18)	Inherent: High (18) Residual: High (18)
LIKELIHOOD	Possible	Almost certain	Almost certain
TIMEFRAME	Short to medium	Medium to long term	Medium to long term
SEVERITY	Moderate financial impact	Serious financial impact	Serious financial impact
IMPACT	Drier conditions increase the risk of fires, particularly where vegetation is close to overhead lines, potentially leading to network damage and power outages.	Electricity consumption may decrease in winter, but demand is expected to rise in summer due to increased cooling and irrigation needs, shifting load patterns and potentially straining the network. Higher ambient temperatures can also reduce the efficiency of our transmission and distribution systems.	Land movement, such as slips, can cause significant damage to assets and lead to unplanned power outages due to treefall and infrastructure instability.
MITIGATION	Work with commercial entities to manage vegetation near lines and enforce clear zones. Follow FENZ fire monitoring protocols, with TECC adjusting protection settings, inhibiting auto-reclose, conducting risk assessments, and patrolling lines. In extreme cases, TECC will decide on de-energising or re-livening lines.	Incorporate temperature impacts into transmission, and distribution design. Upgrade cooling systems, expand network capacity to handle increased demand and enhance maintenance strategies. Support the workforce to adapt to higher temperatures.	Geotechnical assessments are conducted in high-risk areas, and an inspection regime is in place to monitor erosion and other signs of land movement.

# Transitional risks

## Ko ngā tūraru hurihanga

Top Energy’s key transitional risk is increased cost from a rise in the cost of living and the additional cost incurred from transport relying on fossil fuels. Thanks to the reinjection of emissions at Ngāwhā Generation, we have removed the risk of regulation and/or consumer preference reducing the ability to generate due to high generation emissions.



### INCREASED COST



### NEW TECHNOLOGY



### REDUCED RESOURCE AVAILABILITY

RISK DRIVERS	INCREASED COST	NEW TECHNOLOGY	REDUCED RESOURCE AVAILABILITY
<b>SCALE</b>	Inherent: High (24) Residual: High (18)	Inherent: Medium (10) Residual: Medium (5)	Inherent: High (24) Residual: High (18)
<b>LIKELIHOOD</b>	Almost certain	Likely	Almost certain
<b>TIMEFRAME</b>	Medium to long term	Medium to long term	Short to medium term
<b>SEVERITY</b>	Major financial impact	Moderate financial impact	Major financial impact
<b>IMPACT</b>	The costs of equipment, materials (such as concrete poles, steel and timber) and transportation are likely to rise due to increasing global carbon prices, supplier costs and inflation. These factors could strain budgets, delay projects and potentially reduce the scope or quality of work.	The adoption of new technologies like solar power, electric vehicles (EVs), and other distributed energy resources (DERs) may challenge the traditional network’s efficiency and capacity. These changes could require significant adjustments to infrastructure, management practices and regulatory compliance.	A shortage of skilled workers and supply chain disruptions could hinder network maintenance and project execution, leading to delays, increased costs and potential quality issues.
<b>MITIGATION</b>	Investigate and adopt new technologies to reduce reliance on expensive or carbon-intensive materials. Influence the supply chain to adopt low-carbon and cost-effective solutions, including for transportation. Regularly update budgets to reflect rising costs and ensure project plans are adaptable to maintain scope and quality.	Continue upgrading the network to accommodate new technologies, including increased capacity and flexibility. Assess the impacts of solar power and EVs on the network and implement smart grid solutions to manage distributed energy resources. Ensure compliance with evolving regulatory standards and maintain proactive engagement with stakeholders to adapt to technological changes.	Recruit from overseas and expand trainee programmes to ensure a skilled workforce. Improve early communication with suppliers to secure materials and manage supply chain risks. Diversify suppliers to reduce dependency on any single source.



**TOP ENERGY**<sup>®</sup>  
*TePuna Hihiko*

