



Invest
New Zealand

ENERGY HUBS

Investing in Aotearoa
New Zealand

July 2025

aurecon
Bringing ideas to life

Introduction

Aotearoa New Zealand offers a great opportunity for energy-intensive industries to grow in a low-emissions economy, backed by various renewable energy sources. With more than 85% of its electricity sourced from renewables and a stable regulatory environment, New Zealand provides a strong foundation for businesses that rely on reliable, affordable and low-carbon energy.

Situated in the Asia-Pacific region and linked by a network of free trade agreements, New Zealand provides investors access to major export markets. This report outlines the opportunity for energy intensive industrial operators to co-locate with renewable energy generation, storage and supporting infrastructure. These energy hubs are purpose-built to optimise energy use, reduce transmission losses, and capture economies of scale not available to standalone operations.

New Zealand's industrial sectors, including food processing and emerging fields like green fuels and clean technology, can thrive in these energy hubs. Investing in New Zealand supports national objectives for industrial growth, energy resilience and accelerated decarbonisation.

For global industrial players with high energy needs, New Zealand's Energy Hub Model offers more than just a location. It offers a competitive edge built on clean energy, connectivity and commercial collaboration.

Aotearoa New Zealand: A purposeful base for energy-intensive industries to grow cleaner, smarter and closer to key markets.

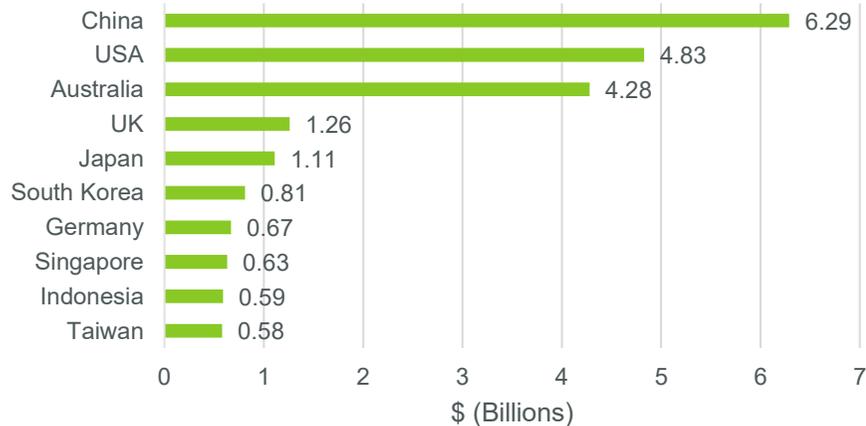
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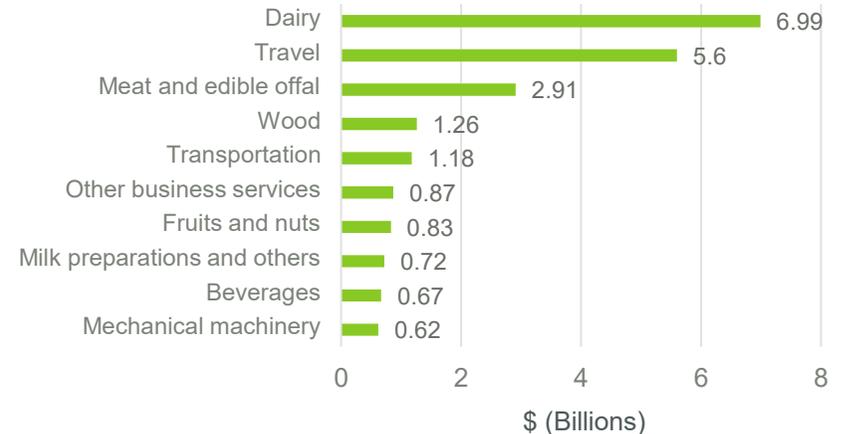
Industry in New Zealand: A strong base

New Zealand has extensive experience in exporting high-quality goods globally. Its economy thrives on converting natural resources into exportable products, including dairy, meat, timber, horticulture and wine. As demand grows for sustainable products, New Zealand is poised to leverage its expertise in new sectors like green fuels and renewable energy, highlighting its renewable resource advantage to the forefront of a low-carbon global economy.

Top 10 Export Destinations as of March 2025



Top 10 Exports by Product as of March 2025



A compelling case for innovative businesses to participate in dynamic projects in New Zealand





Looking ahead: An industrial sector poised for growth

Growth in New Zealand's industrial sector is driving demand across our renewable energy system, and New Zealand is actively planning for future opportunities that build on this momentum and complement our established strengths in processing, manufacturing and emerging clean technologies.

New Zealand presents a strong proposition for industrial players looking to grow in a low-emissions economy with access to renewable energy, skilled talent and export markets.

Four key sectors are shaping the country's next wave of industrial development, each with significant opportunity for co-location, energy integration and long-term investment:



**Digital
Infrastructure**



**Future
Fuels**



**Sustainable
Manufacturing**



**Green
Transition/
Clean Tech**



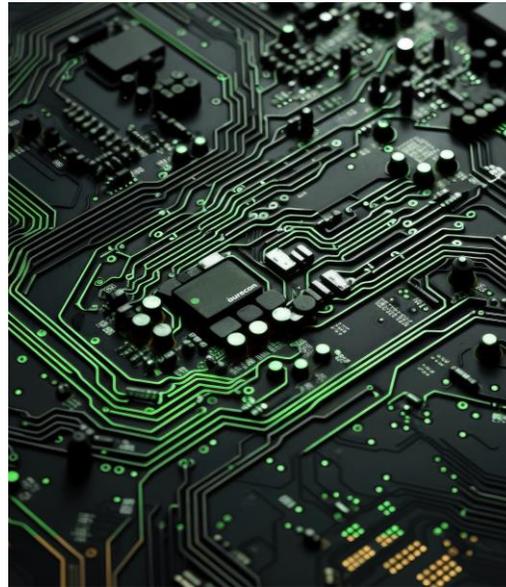
Looking Ahead | Key Industries

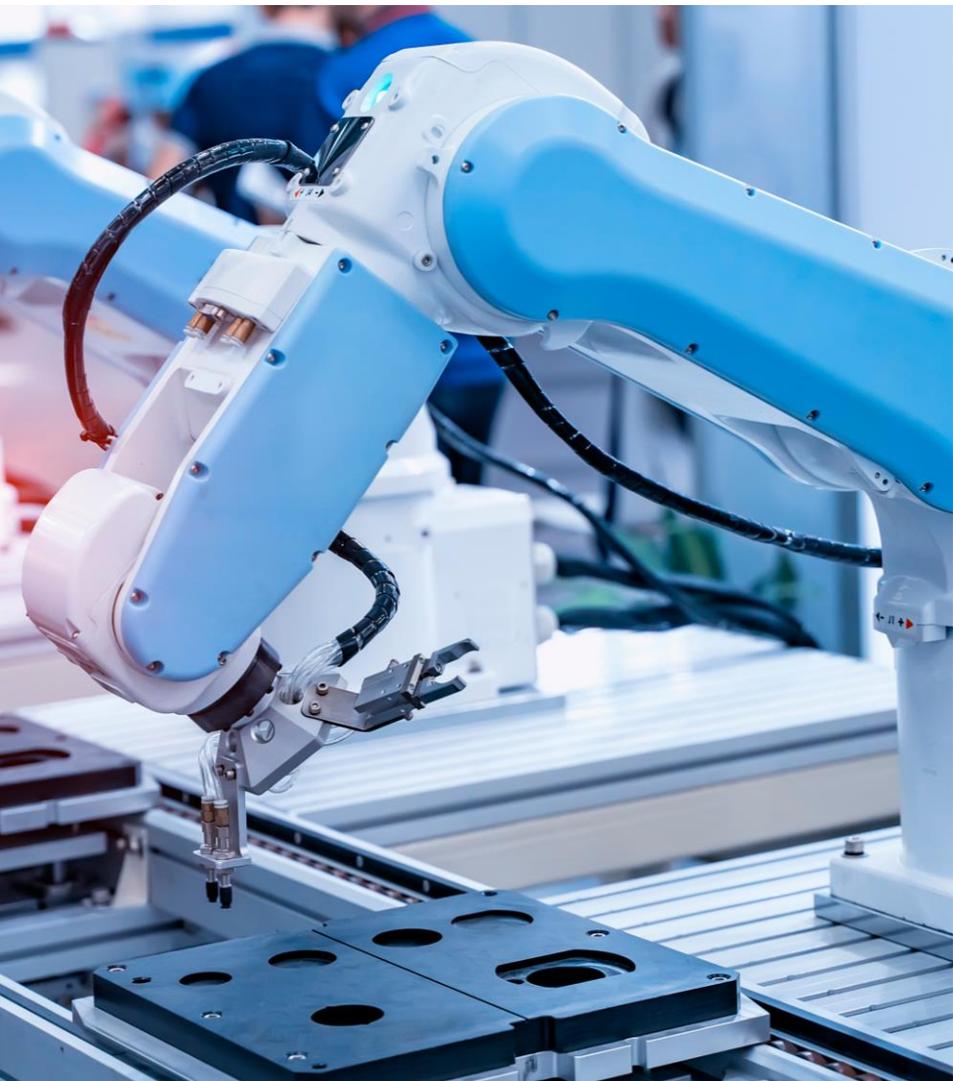
Digital Infrastructure

The rise of data centres and AI services is increasing demand for stable, low-emissions power.

New Zealand's renewable energy mix and cool climate offer clear advantages for emissions-sensitive digital operations.

In addition, investment in digital infrastructure including hyperscale data centres and upgraded data cable connections have laid a strong foundation for energy intensive digital services to grow.



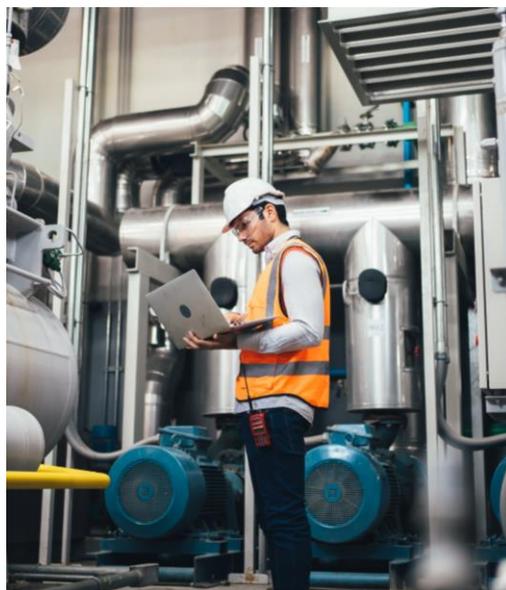


Looking Ahead | Key Industries

Sustainable Manufacturing

As established export sectors shift to electrified and low-emissions systems, there's strong potential to integrate with energy hubs and improve efficiency and resilience.

Examples of growth sectors include precision fermentation, vertical farming, aquaculture and horticulture.



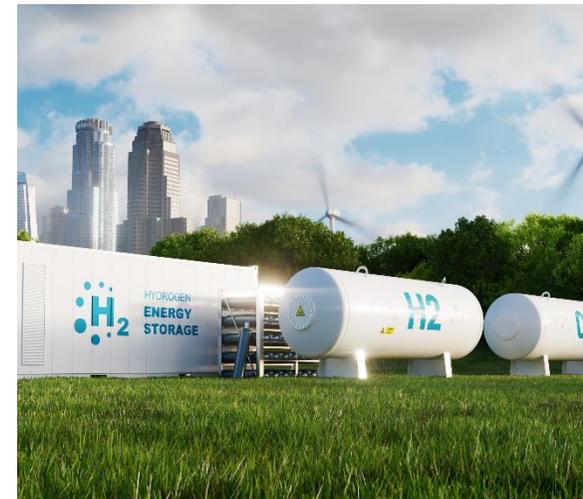


Looking Ahead | Key Industries

Future Fuels

New Zealand's abundant renewable energy potential makes New Zealand an ideal location to produce green fuels such as eSAF, green methanol, ammonia and biofuels for decarbonising heavy industry and transport.

New Zealand is also exploring several green shipping corridors that will demand these fuels for getting products to market.





Looking Ahead | Key Industries

Green Transition / Clean Tech

Sectors like energy storage, carbon capture and smart grids are scaling fast.

Supported by strong decarbonisation policies and infrastructure investment, New Zealand is a strategic base for clean-tech innovation.

Accelerated electrification of industry is anticipated, along with growing energy demand from circular businesses like recycling plants and e-waste mining



New Zealand offers a compelling business environment for prospective investors

New Zealand provides an attractive setting for business activities with its renewable energy system, supportive government policies, strategic location for Asia-Pacific trade and minimal bureaucracy.

The country aims to double exports by value by 2034, providing fast-track consenting processes and support for clean energy investments.

Its trade agreements and established industrial base make it a strategic hub, while the straightforward business processes simplify operations for companies, particularly those in energy-intensive industries.



The advantage of doing
business in New Zealand

Renewable Electricity

New Zealand's renewable electricity system offers large energy users a strong platform to cut emissions and meet global sustainability goals. Access to a low-emissions grid is a strategic asset—already used by companies like Rio Tinto to boost their global positioning.

Tools like renewable energy certificates (RECs) and power purchase agreements (PPAs) are helping firms lock in renewable supply and manage risks, while interest is also growing in renewable fuels such as biomass, biofuels, green methanol and hydrogen to support wider decarbonisation.

~88%

Electricity from renewable sources

Source: [Energy in New Zealand Report \(2024\)](#)



The advantage of doing
business in New Zealand

Access to Asia-Pacific markets

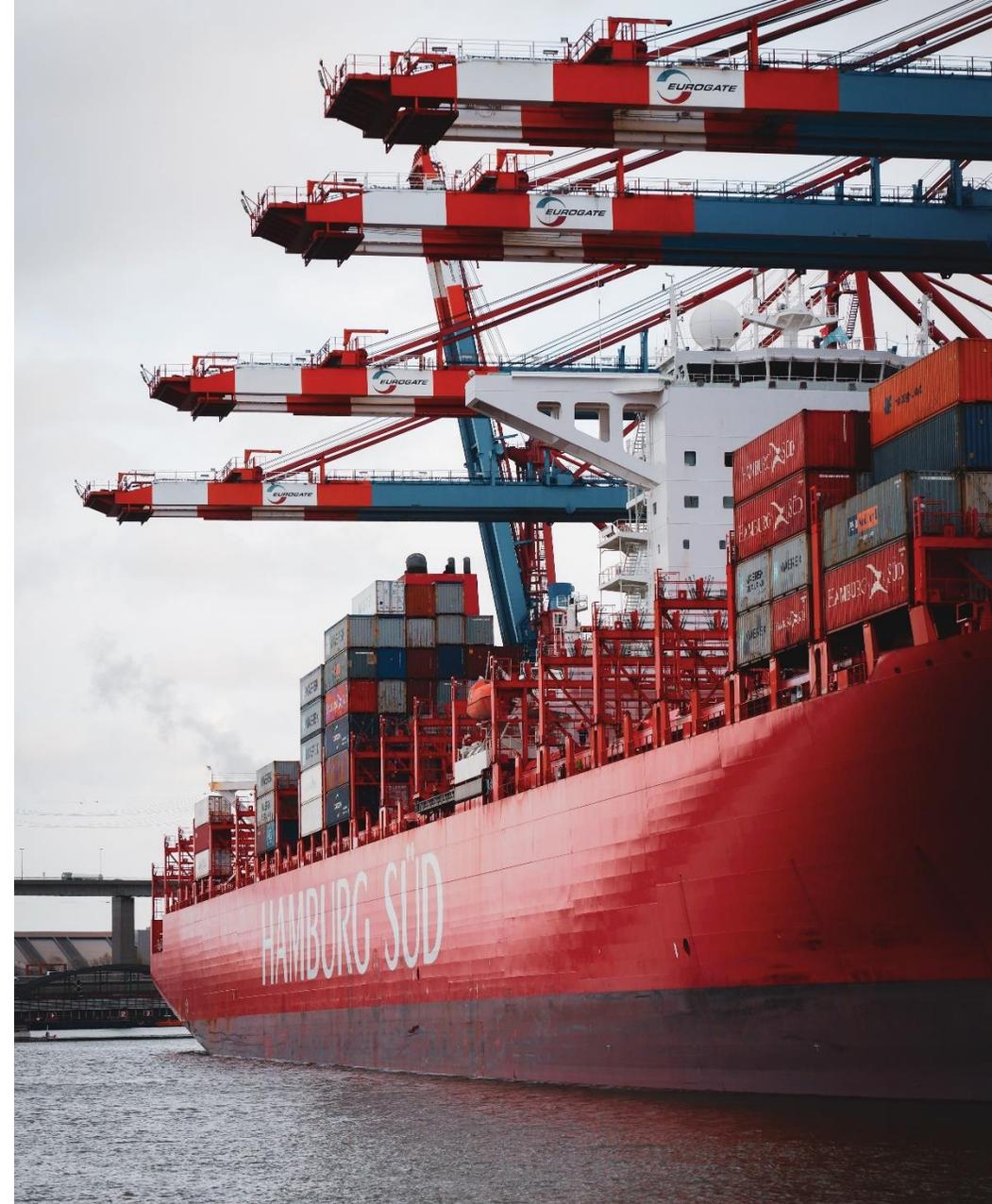
New Zealand's location and trade agreements make it a strategic hub for Asia-Pacific trade. With access to major plurilateral deals like Regional Comprehensive Economic Partnership (RCEP), Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), and Asean-Australia-New Zealand Free Trade Area (AANZFTA), businesses can tap into a wide regional network.

For firms from similar economies, New Zealand offers a familiar business environment, access to the opposite hemisphere and alternative trade routes. Its established industrial base also supports businesses looking to grow a local presence.

16

Free trade agreements in force

Source: [New Zealand Foreign Affairs & Trade](#)



The advantage of doing business in New Zealand

Ease of doing business

New Zealand's business environment is characterised by minimal bureaucracy, a straightforward company registration process and accessible government services, all of which simplify the establishment and operation of businesses, particularly for energy-intensive industrial players.

This efficiency not only enables companies to reduce start-up times but also contributes to a smoother operational landscape.

1st

For governance outside Europe

Source: Legatum Prosperity Index (2023)

2nd

For government integrity and freedom of trade in the world

Source: Index of Economic Freedom (2024)



The advantage of doing business in New Zealand

Enabling policy environment

New Zealand aims to double exports by value by 2034, driving the need for industry growth and innovation. To support this, the Government is introducing faster project approvals, streamlining planning and overseas investment rules, and has launched Invest New Zealand to guide international investors.

The Energy Efficiency and Conservation Authority (EECA) also offers support and co-funding for businesses investing in clean energy and technology to increase energy efficiency.

6th

For political stability
in the world

Source: Global Economy
Political Stability Index (2023)

AA1

Low-risk business
environment

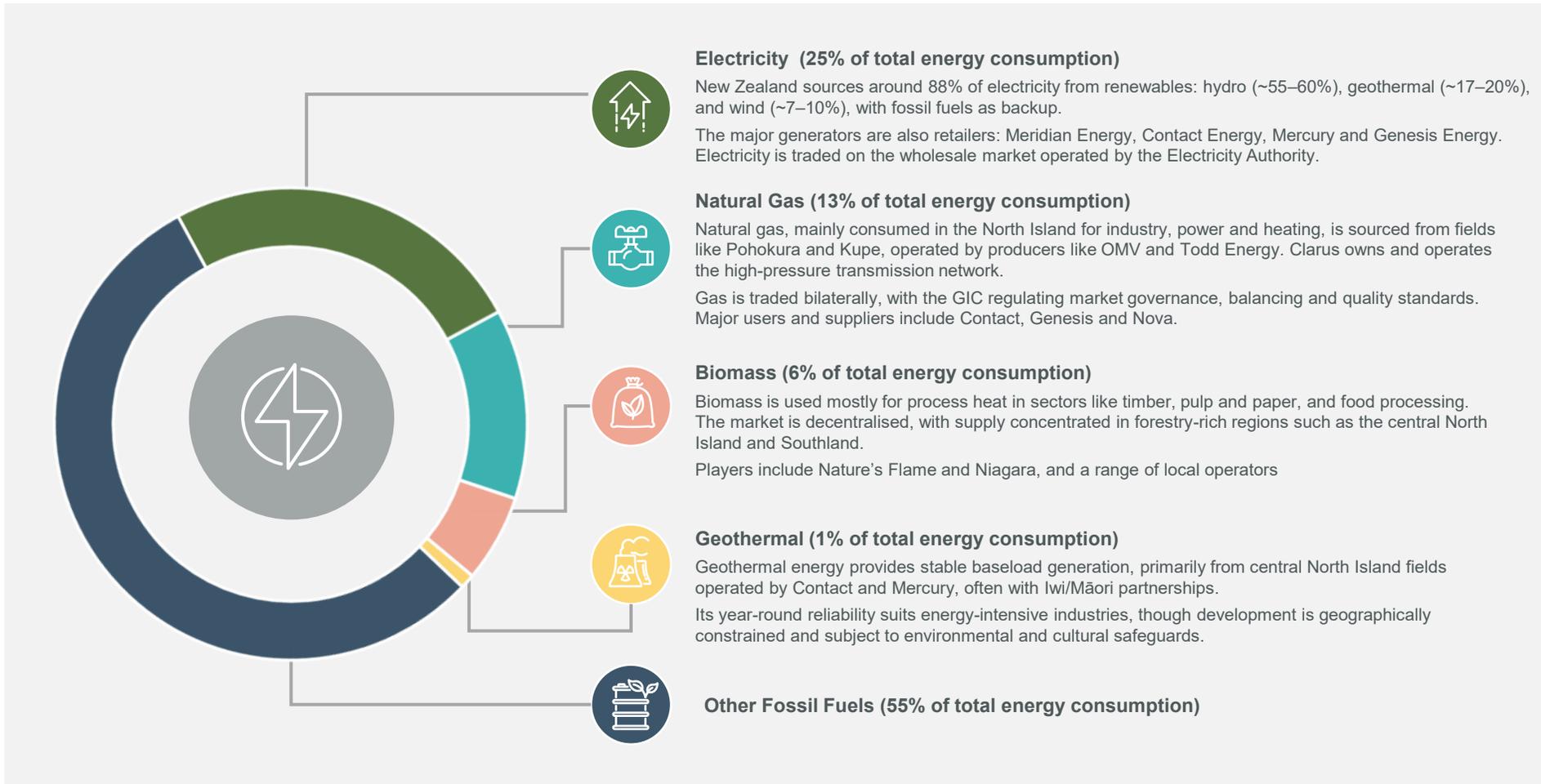
Source: Allianz Country Risk
Ratings (2024)



New Zealand's energy system - a key enabler for industry

New Zealand's energy consumption is 45% renewable (12% average observed among OECD member countries).

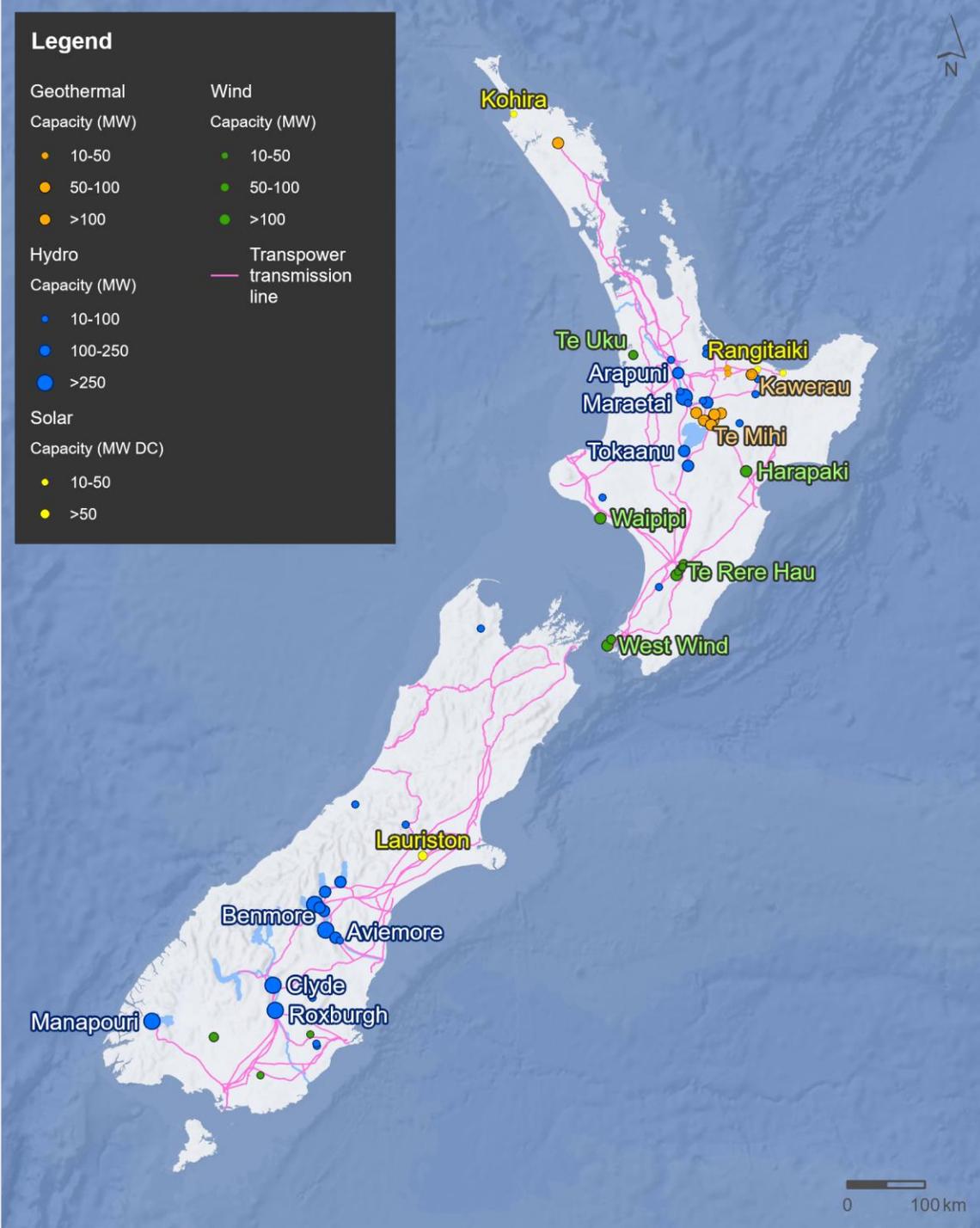
Renewable energy is often associated with electricity production, specifically wind, solar or hydro generation. In New Zealand, renewable energy is also used for process heat in the industrial sector.



New Zealand offers a world-leading renewable electricity system that large energy users are already leveraging

New Zealand's electricity market is mature, open-access and supported by liquid hedging instruments. Electricity supply is generally reliable and low-carbon, but pricing can be volatile, especially when there are extended periods without rainfall (dry years) or grid constraints. There are growing opportunities to secure long-term price certainty through direct connections to generation assets or corporate power purchase agreements (PPAs), especially in regions close to new wind or solar developments.

Only 30% of industrial and transport energy is renewable, signaling major growth potential.



Looking ahead: Where our energy system is heading

New Zealand is rapidly transitioning to a low-emissions energy system, creating a rare alignment between sustainability and economic growth. With electricity demand projected to increase 65% by 2050, driven by electrification across transport, industry and manufacturing, sectors like clean tech and digital infrastructure are fueling stable demand and investment.

Large energy users play a pivotal role—anchoring renewable projects, unlocking export potential, and benefiting from falling renewable costs, strong policy support and abundant clean energy. Businesses can secure reliable, low-emissions supply, co-locate with generation, and build resilience in a market that rewards strategic foresight.

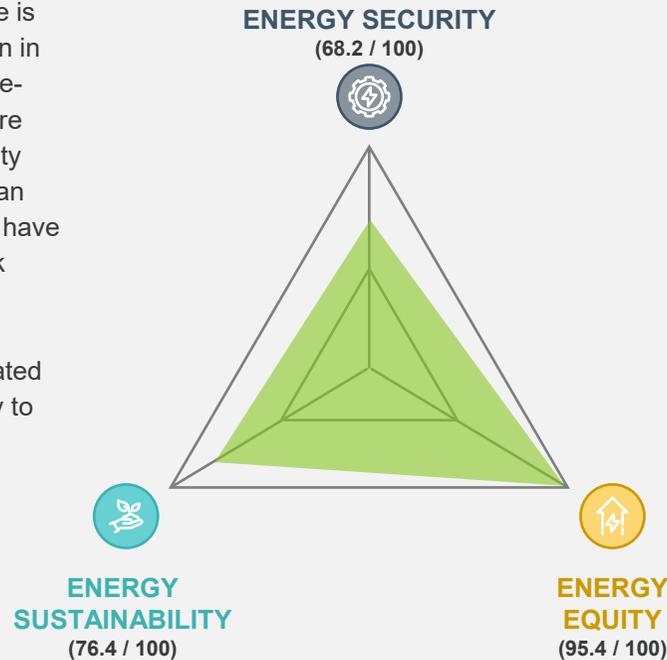


Looking ahead: Where our energy system is heading

New Zealand’s falling renewable energy costs, expanding local projects and improving grid access are reshaping industrial energy strategy—offering businesses a powerful edge in securing stable, low-emissions supply and long-term competitiveness.

ENERGY SUSTAINABILITY

New Zealand already sources over 85% of its electricity from renewable sources. There is now over 13 GW of renewable generation in the development pipeline¹, including large-scale wind, solar, geothermal and offshore wind projects—the latter boasting capacity factors of up to 65%. Nationally, more than NZ\$35 billion² in energy-related projects have been announced, supported by fast-track consenting processes and Transpower’s growing connection pipeline. These investments signal a strong and coordinated push to decarbonise while scaling supply to meet industrial demand.



ENERGY SECURITY

New Zealand maintains a multi-fuel system for energy stability, with the Huntly Power Station contributing significantly to energy security. The government plans to invest \$200 million over four years in gas field developments as a transitional measure, ensuring reliable capacity during dry years or peak demand, while supporting a shift towards renewable energy.

ENERGY EQUITY

Cost of renewable electricity in New Zealand is trending downward. Utility-scale wind is now in the range of \$80–\$110/MWh. Utility solar has trended down rapidly and are now similar to wind (lower capacity factor), depending on location and grid access. As more renewable projects are built and energy hubs facilitate localised use, industrial users will benefit from more competitive and stable energy prices over time.

¹Pipeline in application and investigation phase of Transpower queue

² NZTE_Overview of the NZ Energy Market_updated_20241111_AK

The Energy Hub Model: Optimising costs and capturing benefits to deliver a competitive advantage

An energy hub combines significant energy demand facilities, like industrial plants, with energy generation storage, and infrastructure to enhance energy efficiency and supply in the area. This concept complements the Renewable Energy Zones (REZ)¹ initiative by Transpower, where multiple stakeholders collaborate to share the costs of a common grid connection and potential network upgrades needed for new energy loads.



Typical features of an energy hub

Are all energy hubs the same?

Each energy hub is unique and will develop according to the specific site conditions, economic needs and strategic goals of the stakeholders involved.

What turns an industrial park into an energy hub?

A defining characteristic of an energy hub is the scale of the energy demand (and supply in some cases). Energy hubs are typically designed to handle high volumes of energy production, distribution and consumption, serving large industrial operations and commercial users. This scale, along with synergy between industries, enables economies of scale in energy generation, transmission and storage, driving down costs and enhancing operational efficiency.



Co-locating Industry

Co-locating with other industrial players in an energy hub unlocks shared infrastructure, lowers energy costs and creates circular value across industries

Large Energy Users

Co-locating large energy users like processing plants, data centres or electrolysers within energy hubs anchors demand and justifies shared infrastructure, providing reliable, lower-cost energy and shared services.

Industrial Symbiosis and Circular Precincts¹

Energy hubs foster circular economies by turning one business's waste into another's input, and support knowledge sharing in safety, environmental management and operations, driving efficiency and cost savings.

Regional Opportunities in New Zealand

Regions like Taranaki and Southland are ideal for hydrogen and urea or methanol production from forestry residues, while Waikato and Canterbury can enhance sustainability and productivity through integrated energy recovery, heat use and waste systems.



Co-locating Industry



Real world example:

Hunter Energy Hub – New South Wales, Australia

The Hunter Energy Hub, led by AGL at the site of the former Liddell Power Station, is part of NSW's Hunter-Central Coast Renewable Energy Zone. It aims to become a clean energy precinct supporting hydrogen, energy storage and low-carbon industrial development, designed with circular economy principles.

What's Happening:

- Redevelopment of coal plant site into a multi-user clean energy precinct
- Key infrastructure includes battery storage, hydrogen electrolysers, solar and wind inputs, grid interconnection
- Closely linked to the Hunter-Central Coast REZ to support coordinated infrastructure

Circular Economy and Energy Outcomes:

- Clean generation to power both the grid and on-site industrial processes
- Reuse of existing grid and industrial infrastructure to lower development costs
- Load-side solutions (e.g. battery, hydrogen, demand response) to manage local congestion and maximise REZ output

Risks:

- Coordination challenges across multiple stakeholders and project timelines
- Dependency on strong policy and infrastructure alignment to unlock full value

Co-locating Industry



Real world example:

Oserian Two Lakes, Kenya

A sustainable and environmentally friendly development scheme covering an area of 20,000 acres.

What's Happening:

- Flower exporters, food processors and geothermal producers co-located
- Steam from geothermal wells is used to heat greenhouses and sterilise soil
- Organic waste (crop and processing residues) used in composting and anaerobic digestion

Circular Economy and Energy Outcomes:

- Closed-loop waste and energy use
- Drip irrigation uses treated wastewater
- Cost savings from eliminating synthetic fertilisers and fossil-based heating
- Increased resilience to droughts and blackouts

Risks:

- Requires good governance across tenants (Oserian acts as master planner)
- Market dependency on export logistics and cold chain infrastructure

Energy supply and demand optimisation

Multiple levers can be pulled to optimise energy unit costs and energy infrastructure costs

At a high level, energy costs may include:

1. Energy (commodity) costs—Electricity usage charges, gas or other fuel charges
2. Transmission and distribution charges—Fixed and variable infrastructure charges determined by transmission pricing methodology and distribution pricing principles, other capacity or demand charges
3. Retail and service fees—any retail margin, metering and data services
4. Emissions Trading Scheme (ETS) for fossil fuel use
5. On-site infrastructure and operational costs—maintenance, energy management system
6. Non-electricity energy sources like biomass will have additional transport and storage costs



Energy supply and demand optimisation

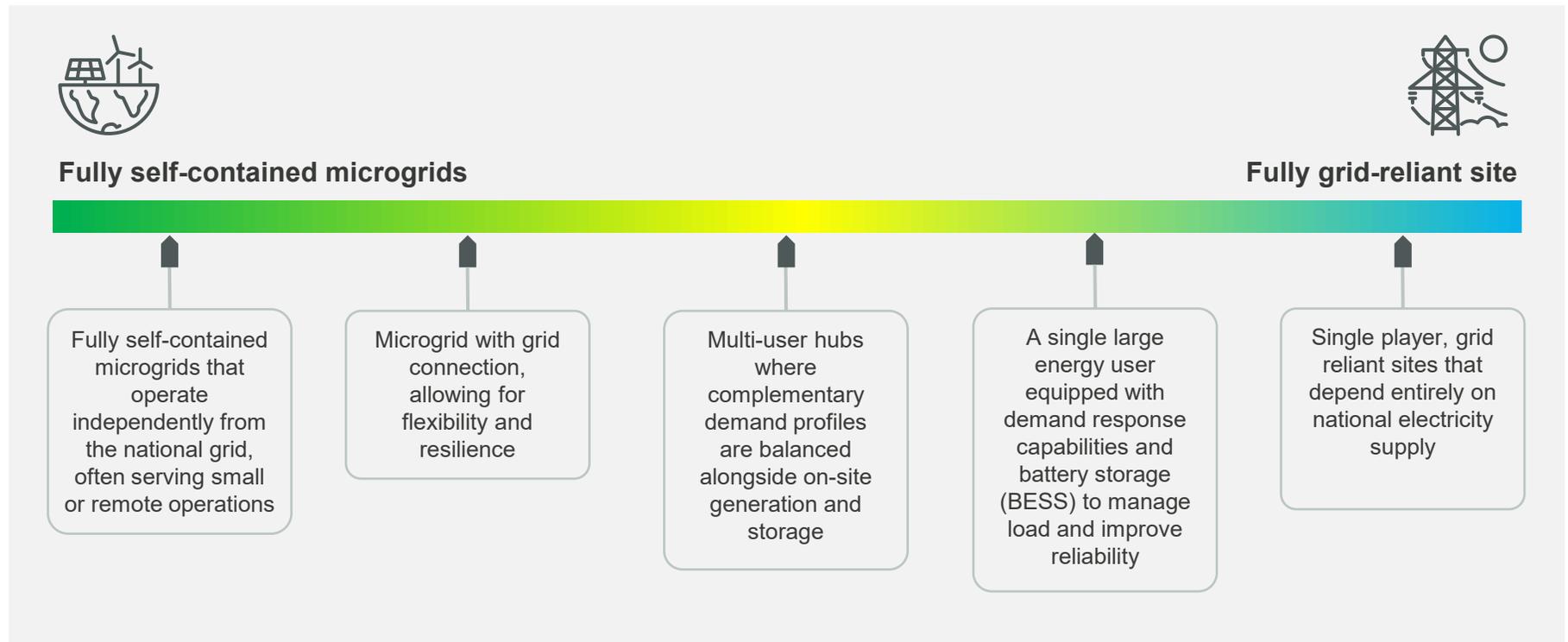
Energy hubs empower businesses to cut costs and boost efficiency by sharing and optimising energy resources.

Energy Demand: Managing and Aggregating Energy Use	Supply: Accessing and Sharing Renewable Generation	Storage: Sharing and Optimising Storage Assets
<p>Load diversity and balancing: By co-locating with other industrial users with complementary demand profiles (e.g. different operating hours or seasonal peaks), businesses can smooth overall energy usage within the hub, reducing peak charges and grid upgrade requirements.</p> <p>Demand response participation: Aggregated industrial demand can participate more effectively in demand response markets, providing flexibility to the grid in exchange for lower tariffs or market payments.</p> <p>Shared energy management systems: Hubs can invest jointly in control systems that optimise demand across multiple users in real time—improving efficiency and negotiating power with energy suppliers.</p>	<p>Direct lines to renewable generation: Co-located users near large-scale generation (e.g. geothermal in the central North Island or hydro in the South Island) can explore direct supply arrangements or private wire models to secure lower-cost electricity.</p> <p>Shared infrastructure for grid connection: Instead of each business paying for its own grid upgrades, hubs can jointly fund connection assets—reducing per-user infrastructure costs and streamlining consenting and compliance.</p> <p>Behind-the-metre generation: Businesses can jointly invest in on-site solar, wind or hydro (depending on location), lowering energy unit costs and reducing transmission losses. In New Zealand, high-quality wind and solar resources and access to water rights can be leveraged collectively.</p>	<p>Shared battery storage: Instead of each business investing in standalone systems, energy hubs can install shared battery infrastructure to manage peak loads, enable time-shifting of consumption and provide backup supply—significantly reducing unit costs per MWh stored.</p> <p>Thermal or process-based storage: Industrial sites with heating or cooling processes (e.g. food processing or cold storage) can act as ‘thermal batteries’, absorbing surplus renewable energy during peak generation periods—helping stabilise the hub’s load.</p> <p>Collective resilience planning: Co-investing in backup storage (e.g. batteries or renewable-powered generators) ensures better reliability without duplicating infrastructure.</p>

Energy supply and demand optimisation

Energy hubs can take many forms (see spectrum below), depending on the infrastructure available, the types of industry on site, and the specific energy needs of users—such as volume, reliability and timing of demand.

Each model can be tailored to match the local context and optimise cost, resilience and emissions outcomes.



Energy supply and demand optimisation

Self-reliant microgrids and grid-reliant sites have their own advantages depending on the needs of investors:

	Power Source	Grid Connection	CapEx Requirements	OpEx & Energy Cost Exposure	Carbon Profile	Market Participation	Operational Complexity	Best Fit For
Fully Self-Contained Microgrid	On-site renewables (wind, solar, biomass) with storage and backup (diesel or gas)	None. Site designed for islanded operation	Varied. Site requires generation assets, batteries, control systems, and backup	Stable, with potential savings if optimised; limited exposure to market price swings	Can achieve low emissions with full renewable stack	No access to NZ Electricity Market, not eligible for demand response	High. Site requires in-house capability or third party microgrid operator for energy balancing and reliability	Remote locations with weak grid or sustainability showcase sites
Fully Grid-Reliant Site	Supplied by Transpower via grid connection (110 kV or 220 kV), largely renewable grid mix	Direct connection to national grid via local lines company or private network	Various upfront costs; CapEx focused on substation and site integration	Exposed to spot price volatility, transmission pricing and grid constraint risk	Already low-emissions due to NZ's ~85% renewable grid, but harder to fully decarbonise	Full access to electricity market, PPAs, and potential for aggregated demand response participation	Moderate. Grid handles frequency and balancing; businesses focus on consumption optimisation	Industrial zones with strong grid infrastructure

Other on-site considerations

New Zealand's integrated infrastructure provides an enabling environment for industrial needs beyond energy



Transport and utilities

A well-functioning energy hub requires access to transport infrastructure and sufficient utilities, including water, gas (where needed), fibre internet and other essential services. When multiple parties are involved, there is potential to share infrastructure costs, reducing the financial burden on individual users.



Industrial zoned land

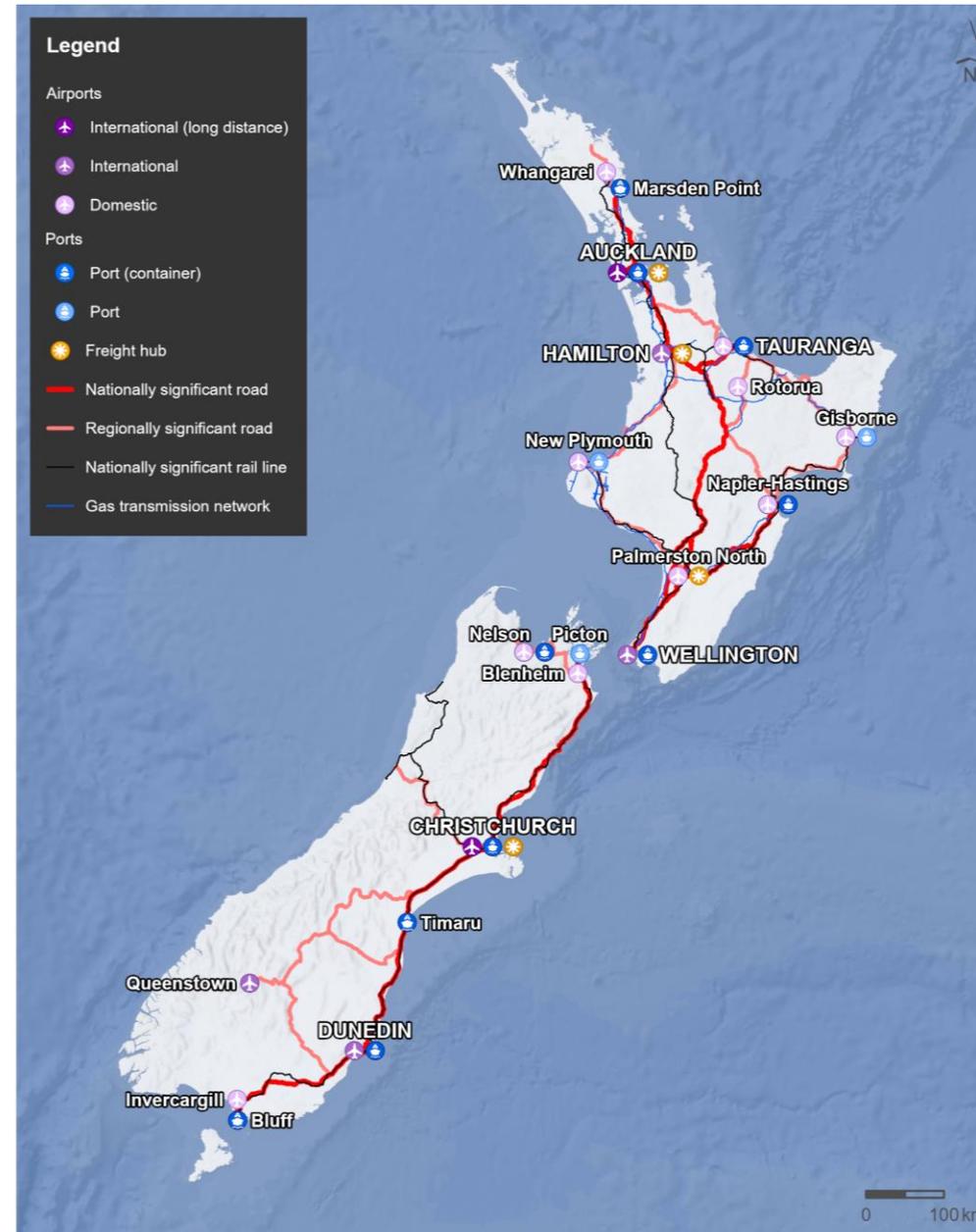
Energy hubs are typically established on industrial-zoned land, often with surrounding buffer zones. These buffers help minimise constraints related to noise, visual impact, and emissions, and reduce the risk of conflict with residential development. As a result, such sites are well-suited to hosting large-scale industrial activity.



Other on-site considerations

The table below lists key New Zealand stakeholders that investors and industry leaders can engage and collaborate with:

Transport and utilities	Key stakeholders to engage with
Gas transmission/distribution (North Island only)	Location dependent: Firstgas (Clarus), Powerco, Vector, Nova Energy, GasNet
Water infrastructure (including water supply, wastewater, stormwater)	Regional and District councils* *water reform transition underway in New Zealand
Fibre	Chorus
Transport infrastructure: roads, rail, ports, airports	Regional and District Councils New Zealand Transport Agency KiwiRail
Land zoning and consent approvals	Regional and District Councils



Stakeholders to engage with

Energy hub stakeholders can be grouped into two categories:



Primary Participants

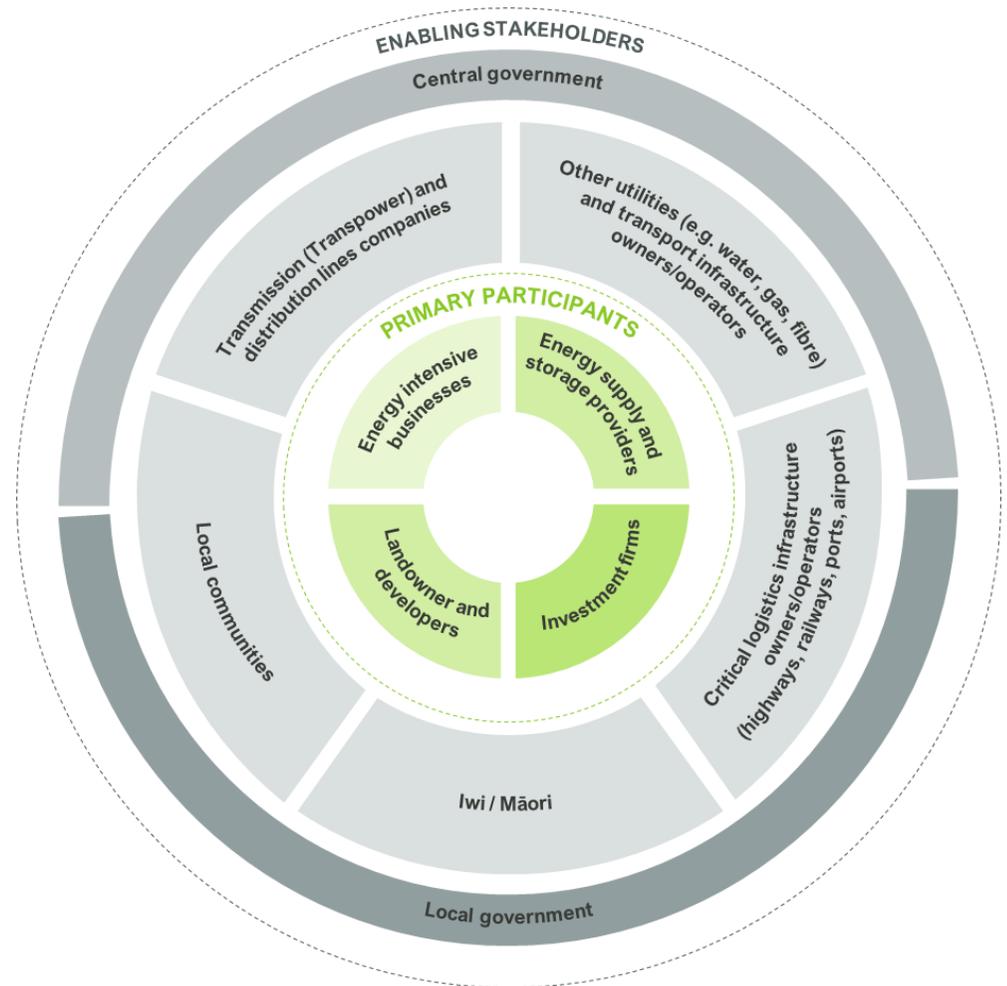
are those that directly invest in energy hubs and are present on site. They are critical to the planning, design and delivery of an energy hub, and will expect a return on the resources they invested in energy hub development.



Enabling Stakeholders

are other stakeholders that may not directly invest in an energy hub but nonetheless have significant interest in or influence over its success. Some may play a direct role in providing infrastructure at the request of primary participants.

Actively involving these stakeholders from the outset will **help to reduce barriers, build mutual support for energy hub initiatives and streamline approval processes.**

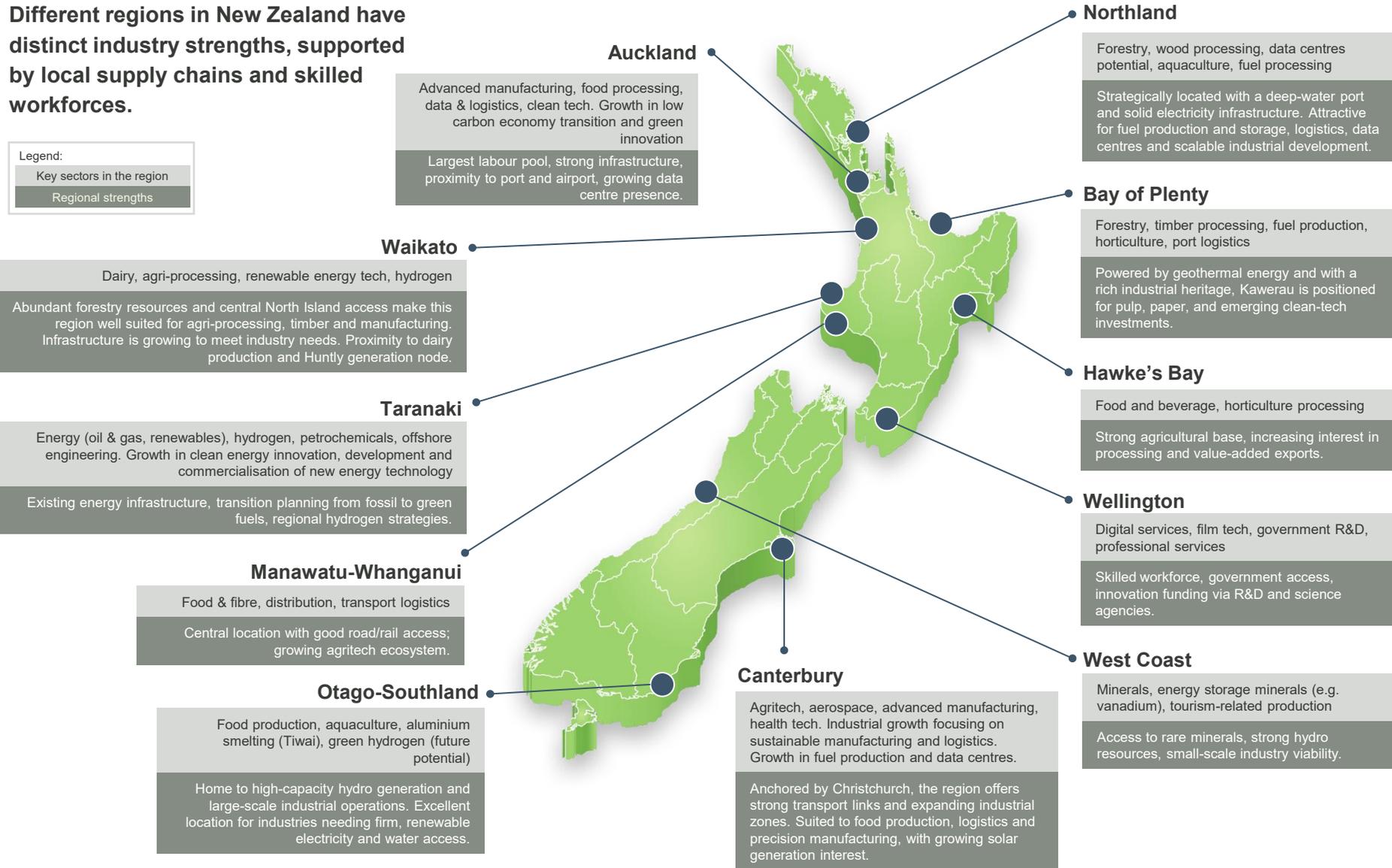


Regions where energy hubs could be developed in New Zealand

Different regions in New Zealand have distinct industry strengths, supported by local supply chains and skilled workforces.

Legend:

- Key sectors in the region
- Regional strengths



Examples of where energy hubs are being developed in NZ

Currently in development in New Zealand, these are example of sites that could fit the criteria of an energy hub. This list is not exhaustive.

Port Taranaki

- Zoned for heavy industry
- Transport access to networks via sea and road
- Suitable for industries requiring import/export capabilities
- Strong existing industrial workforce in region, looking to transition from fossil fuels
- High voltage grid connection

Waiinu Energy Park (Proposed)

- Potential wind farm, solar energy and battery development considered by Meridian
- Strong renewable energy potential: consistent coastal winds and high solar exposure
- Grid-ready location: Close proximity to existing transmission infrastructure enables efficient grid connection, reducing environmental impact and lowering development costs

Awarua Quadrant

- Located 10 km south of Invercargill
- Largest industrial business park in Australasia
- Has its own zone under the Invercargill City Council district plan – Industrial 4 (Awarua) Zone
- High sustainability aspirations
- Permitted activities include chemical processing



Glenbrook
(case study)



Marsden Point
(case study)

Huntly/Ohinewai



Kawerau

He Ahi

- Zoned for heavy industry
- Adjacent to geothermal power station
- Geothermal steam available for process heat



Palmerston North



Tāwhaki

- Newly developed space port with aerospace focus
- Located near Christchurch International Airport
- Newly sealed runway has been installed
- Significant adjacent land available for development for sector adjacent industry (hydrogen and other fuels)



Comparison table for each location

Location	Zoned Land Size*	Transport Access	Water and Wastewater Infrastructure	Renewable Energy Potential	Existing Industrial Cluster	Available Grid Capacity**	Substation Specifications**
Port Taranaki	80 hectares	Good access to sea and road networks	Yes	Potential for wind and solar energy development	Maritime, logistics, petrochemicals	Medium; capacity of approximately 24 MVA	Transpower Carrington Street 110/33 kV substation
Awarua Quadrant	695 hectares	Located near major roads and rail infrastructure	Yes	Geothermal and wind energy potential	Manufacturing, chemicals, and food processing	Medium; firm capacity of 12 MVA available at Colyer Road Substation	Power Net Colyer Road 33 kV substation, And new Kekeno 66 kV substation will be built
He Ahi	230 hectares	Close to regional transport infrastructure	Yes	Significant geothermal energy available	Energy sector, manufacturing	Medium; firm capacity of 15 MVA available from	Unison Networks 33 kV substation
Tāwhaki	2,740+ hectares	Located near Christchurch International Airport	Yes	High potential for solar and wind energy	Aerospace and technology sector		New 33 kV substation infrastructure planned to cater to future needs

*Comprises various Industrial/Heavy Industrial (Port) zonings and a range of Owner/Occupiers

**The information presented is based on various network planning documents and assessments. These figures are subject to change due to future network developments, regulatory updates and ongoing evaluations.

Case Study: New Zealand Steel, Glenbrook Energy Hub

The following case study provides an overview of the energy hub concept being investigated at NZ Steel's Glenbrook site.

About NZ Steel

New Zealand Steel Limited (NZS) is New Zealand's sole producer of flat rolled steel products, which are central to the building, construction, manufacturing and agricultural industries. They operate the Glenbrook steel mill located 60 km south of Auckland CBD and use locally sourced ironsand to produce around 670,000 tonnes of steel each year.

The energy hub opportunity

NZ Steel owns around 570 hectares of land at Glenbrook, of which approximately 360 hectares is heavy industrial zoned land that is available for further development.

NZ Steel is exploring the energy hub concept as a means of bringing other external parties on site to create the most value out of the existing industrial land, in a way that complements and creates synergy with their existing steel making operations. Energy plays a big role in how their site operates, therefore any opportunity to streamline or improve the efficiency of energy assets will be key.



The Glenbrook site's location provides prime opportunity for energy hub participants



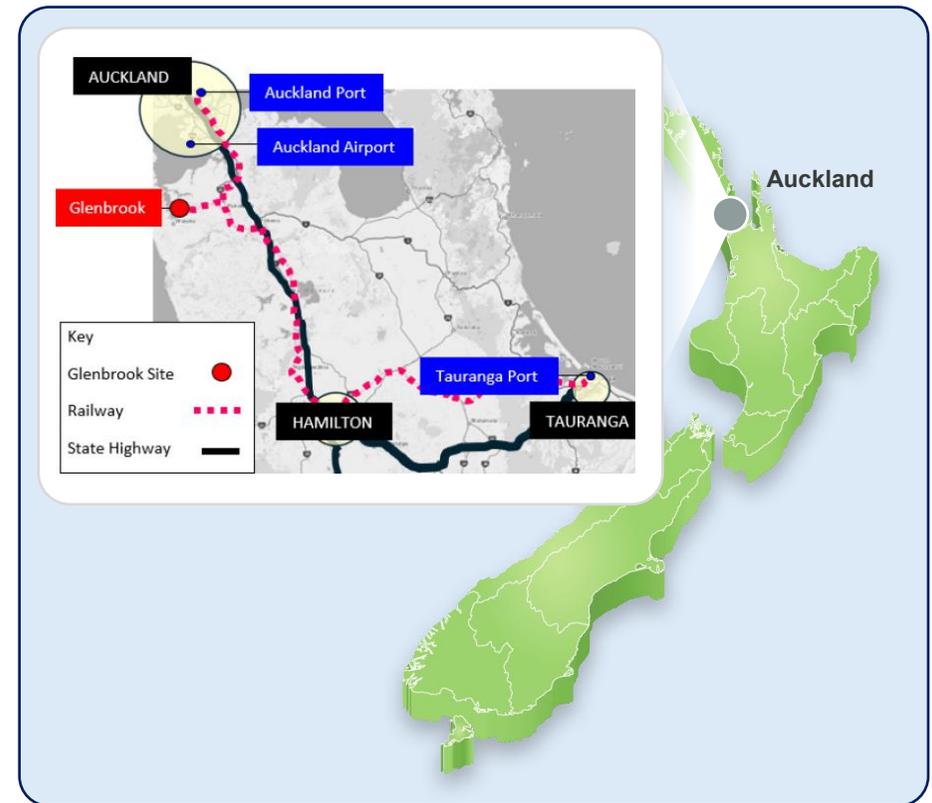
Access to major transport connections

Glenbrook has access to multiple major transport connections. It is 23 km from State Highway 1, has a rail connection to Auckland and Tauranga ports along with rail lines on site. Rail is grade separated. There is existing and potential future capacity for rail sidings to service future industry. Glenbrook is also near Auckland airport.



Proximity to major centres and customers

Glenbrook is roughly 60 km by road to the urban centre of Auckland. This is a unique location for a heavy industry zoned site as these sites are scarce in the Auckland area. Auckland is New Zealand's major population centre with over 1.7 million people.



The Glenbrook site's location provides prime opportunity for energy hub participants

Continued



Industrial-zoned land

Much of the site has the permissive Business - Heavy Industrial zoning which provides for industrial activities which may produce objectionable odour, dust and noise emissions. There is also a land buffer surrounding the site that limits constraints due to noise, visual impact and emissions.



Supporting regional economic and workforce development

Glenbrook is strategically located between Auckland's urban centre and northern Waikato in the Franklin District. Tātaki Auckland Unlimited expects significant development in Southern Auckland (Southern Auckland Economic Masterplan).

Rapid growth in Drury, Karaka and Northern Waikato positions Franklin district well for economic development, with the local board aiming to facilitate these opportunities (Franklin Local Board Plan 2023).



Case Study:
New Zealand Steel, Glenbrook Energy Hub

On-site opportunities for the Glenbrook Energy Hub

The Glenbrook site provides a unique proposition, located close to New Zealand’s major load centre of Auckland and with significant existing grid infrastructure, with potential for on-site and nearby renewable energy generation.

On-site energy storage: Contact Energy is developing a 100 MW battery on site (with potential to expand to 130 MW) creating opportunities for behind-the-metre energy optimisation and/or energy arbitrage

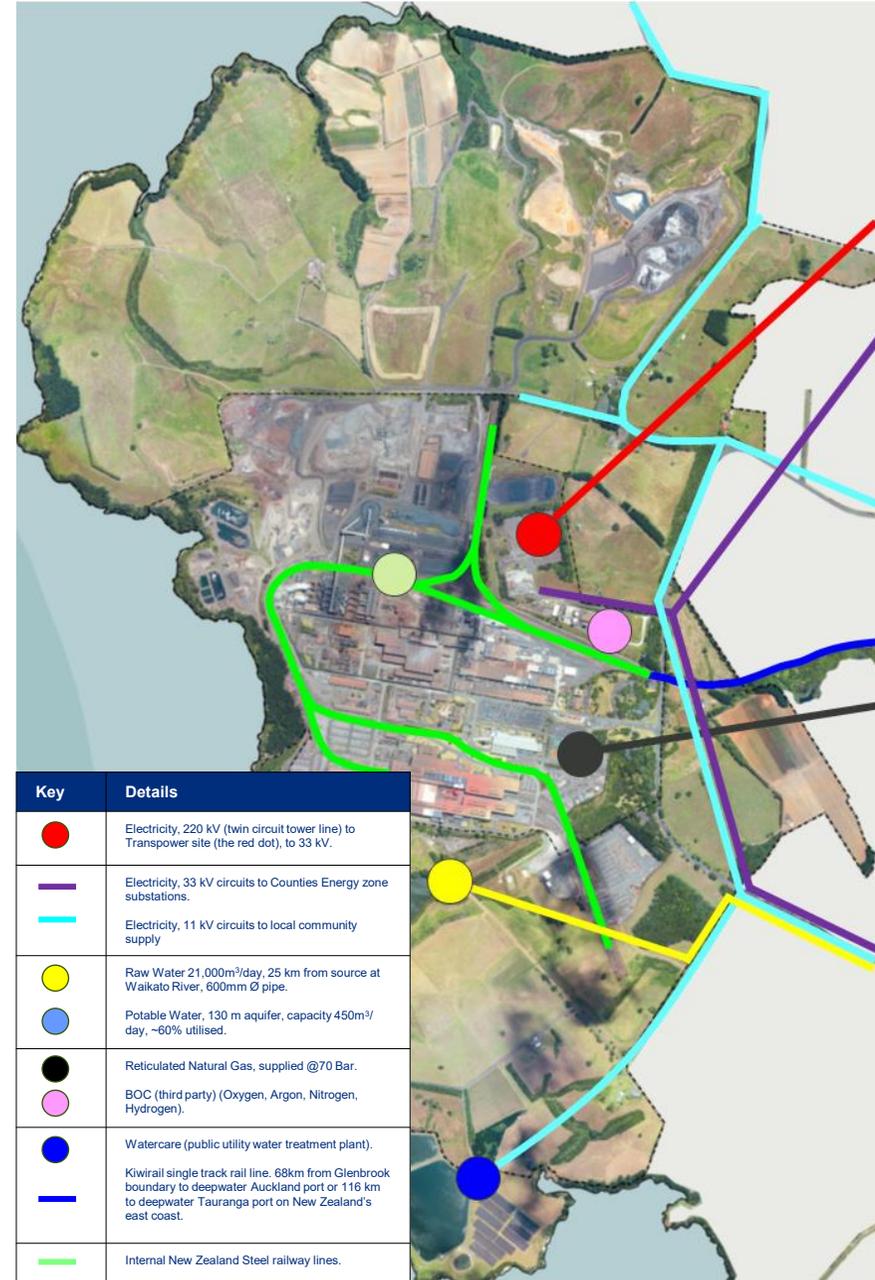
Spare transmission capacity: Glenbrook’s electricity supply is from 220 kV twin circuit tower line 20 km to the East and off-take is at 33 kV. The capacity of the GXP on the Glenbrook site is underutilised providing enabling infrastructure for other industries at the site to obtain a grid connection in a cost-efficient manner.

Nearby generation: Potential for on and offshore wind power developments in the area with a small windfarm already built 8 km away on the Awhitu Peninsula.

Energy supply contract: NZS has signed a PPA with Contact Energy for supply of 30 MW of electricity for a new Electric Arc Furnace being installed.

Sufficient utilities: Glenbrook has established utilities supply for industrial scale operations with a natural gas pipeline and water supply with large volumes of process water available if needed. Glenbrook is also fibre-connected, physically provided by the vendor Chorus.

Industrial symbiosis: Glenbrook already has multiple established industrial corporates onsite (Alinta, BOC, Contact Energy) that are taking the advantage of being co-located.



Future plans for the Glenbrook Energy Hub

The Glenbrook site provides a unique proposition, located close to New Zealand's major load centre of Auckland and with significant existing grid infrastructure, with potential for on-site and nearby renewable energy generation.



Combination of participants

There are a diverse range of businesses that could participate in the energy hub. How might NZ Steel work with a combination of businesses that creates value for the site (e.g. through industrial synergy, energy efficiency and savings) while also mitigating any risks to NZ Steel operations?



Optionality and staging

Recognising that energy hub participants may come on in a staged manner, how might NZ Steel and other participants make decisions now, while keeping options for future developments open?



Funding and financing

Individual businesses may require the land/site to be developed to suit their needs. How might such developments be funded and financed in a way that benefits each party?

Case Study:

Channel Infrastructure NZ, Marsden Point Energy Hub

The following case study provides an overview of the Marsden Point Energy Hub Concept.

About Channel Infrastructure NZ

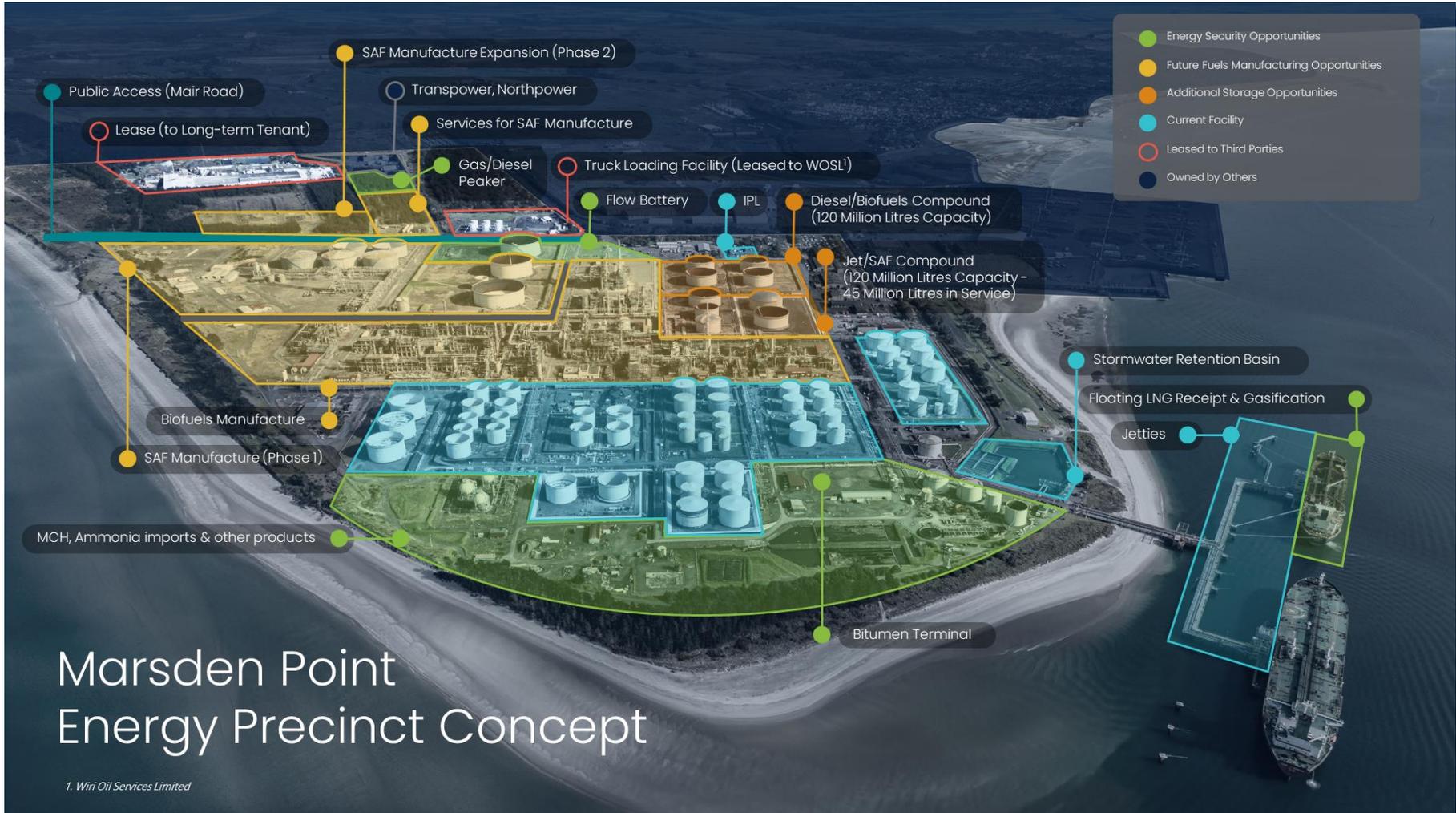
Channel Infrastructure is New Zealand's largest fuel import terminal, storing and distributing 40% of New Zealand's fuel, including 80% of New Zealand's jet fuel. They receive, store, test and distribute petrol, diesel, and jet fuel that their customers import and supply to Auckland and Northland.

The energy hub opportunity

The Marsden Point site offers a rare opportunity to establish a large-scale energy hub, leveraging 120 hectares of industrial zoned land with existing infrastructure, including deep-water berths, fuel storage, grid and gas connections, and a pipeline to Auckland. Channel has been repurposing its site from a now-closed refinery, into a renewable fuel hub and other energy projects, including biofuels, eSAF, and bitumen imports. With strong community support, permissive consents, and strategic location, Channel is well placed to support the development of an energy hub on site.



Case Study: Channel Infrastructure NZ, Marsden Point Energy Hub



Marsden Point Energy Precinct Concept

1. Wiri Oil Services Limited

Case Study:

Channel Infrastructure, Marsden Point Energy Hub

On-site opportunities for the Marsden Point Energy Hub

Marsden Point is well prepared and strategically located for energy hub participants seeking to invest in future fuels, energy generation, and industrial scale energy infrastructure.

Zoning and consents: The Marsden Point site offers 120 hectares of available heavy industrial-zoned land, that permits fuel manufacturing and energy-related activities. This zoning significantly reduces consenting complexity. The site also holds long-dated resource consents for air, land, and water discharges, providing certainty and flexibility for industrial operators.

Fuel handling and distribution: As New Zealand's largest fuels terminal, the site manages over 3.5 billion litres of throughput annually and holds more than 290 million litres of storage capacity. It includes the country's only fuel berths capable of accommodating large Long Range 1, Long Range 2, and Medium Range tankers, with backloading capability. This is a rare advantage in New Zealand. A 170km underground pipeline connects the site directly to Auckland, supplying most of the region's fuel and all of Auckland Airport's jet fuel, which accounts for 80% of national jet fuel demand. A road tanker loading facility is also located on-site.

Energy and utilities: The site has the national grid on its doorstep via the northernmost 220kV Grid Exit Point in New Zealand. It is supported by industrial-scale water supply and natural gas connections. Existing infrastructure includes stormwater retention, wastewater treatment, and a firewater system, all essential for safe and efficient energy operations. The site is also certified as a Major Hazard Facility, allowing for complex and high-volume activities.

Transport and logistics: Marsden Point's location includes New Zealand's only natural, sheltered deep-water harbour, ideal for marine logistics. It has its own fuel jetties within the site boundary and is connected by road to Auckland. A rail spur connection to Marsden Point is under active consideration, offering potential for expanded transport options. NorthPort sits adjacent to the site, enhancing integration with cargo and freight.

Case Study:
Channel Infrastructure, Marsden Point Energy Hub

On-site opportunities for the Marsden Point Energy Hub

Continued

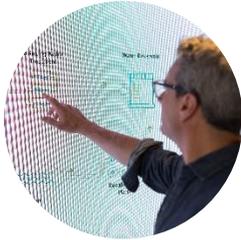
Industrial capability and testing: The site houses New Zealand's only jet fuel testing laboratory and New Zealand's largest fuels testing facility. Some legacy refinery infrastructure remains in place and is suitable for repurposing into biofuel or other advanced fuels production, reducing capital requirements. The large, flat land parcels also allow for industrial-scale development without major earthworks.

Community and stakeholder support: Channel has deep ties with the local community, and its staff live and work in the area. This long-standing presence supports a strong social license to operate. The company maintains active relationships with iwi and community groups and is viewed as a trusted operator in a sensitive and valued environment.

Active redevelopment and momentum: Channel is already repurposing the site, with new projects such as a bitumen import facility underway and several storage tanks converted. Discussions are progressing with project partners, including a consortium exploring a biofuels refinery and a partner is examining the potential for eSAF production. The site is also being assessed for a diesel peaking power plant, reflecting growing interest in a broad range of energy solutions.



Where to from here?



Understand your energy requirements

Map out your expected energy demand profile including volume, timing, flexibility and future growth—as well as any needs for reliability, backup supply or potential for demand response.

This will help identify what kind of hub configuration or location is best suited to your operations.



Consider your business requirements

Beyond energy, consider your broader operational requirements such as water, waste, land, skilled workforce, logistics access and proximity to suppliers or markets.

These factors will shape the suitability of a site and the potential for co-location benefits.



Talk to Invest New Zealand (NZ)

If you are unsure where to start, contact Invest NZ for confidential, no-cost support.

They offer advice on regulatory processes, site and region scoping, connections to government stakeholders, insights on incentives, and introductions to potential partners and landowners.



Engage with potential partners

Identify regions that match your energy and business needs. Connect with landowners, developers and local businesses to discuss potential partnerships.

Energy hubs benefit from shared resources and collaboration, leading to cost savings and improved efficiency.

How can we help?

At any point in your journey, contact Invest New Zealand for support:



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