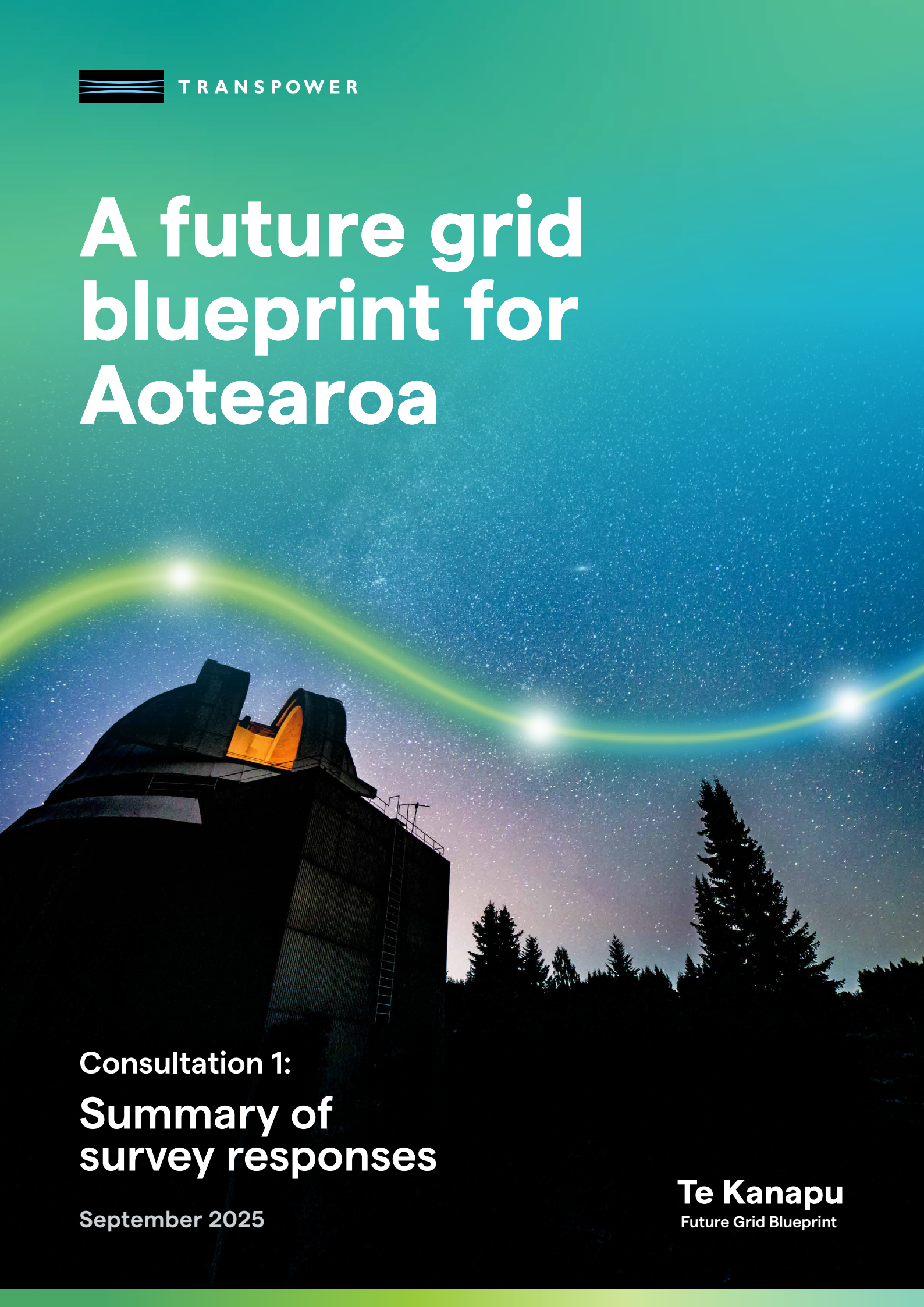
TRANSPOWER

A future grid blueprint for Aotearoa



Consultation 1:

Summary of survey responses

September 2025

Te Kanapu
Future Grid Blueprint

Executive summary

Transpower has an important role in enabling Aotearoa to electrify and grow. We own and operate the national electricity grid, which has moved electricity from where it's made to where it's needed for over a hundred years.

Through our Te Kanapu initiative, we are building a future grid blueprint for Aotearoa to guide investments in the grid up to and beyond 2050, supporting our country's economic growth and net-zero aspirations.

The approach we are taking is collaborative: we are developing this future grid blueprint by gathering views and information from people like you, across Aotearoa.

Since the start of 2025, we've been meeting with communities, businesses, iwi, customers, industry and energy sector groups, and government to hear their thoughts on Aotearoa in 2050 and how Transpower, and the electricity system, will need to respond.

These conversations are ongoing, giving us many new things to consider and fresh insights that we are applying to our work.

We are also seeking feedback through a series of consultations in 2025 and 2026. At the end of each consultation, we'll summarise what we've heard and what's coming next. All the information and feedback we receive will contribute to how we develop the future grid blueprint.

We opened the first consultation Imagining Aotearoa in 2050 in July 2025. By the end of August, we had received 103 responses giving us a great base of information to work with. Thank you to everyone who has taken part so far for your time and insights. We know that we can only achieve success by working alongside New Zealanders across Aotearoa.

But we still want to hear from more of you! The survey remains open, and we encourage anyone who wants to share their views to please do so. You will find a link to the survey later in this document.

We especially want to hear more from communities and consumers. This process is not just about energy, it's about what sort of nation Aotearoa will be in 2050; our people, our communities and our economy. You don't need to be an energy expert to get involved!

In this document, we've summarised what people told us. As we are continually seeking input, this document does not cover any decisions we are taking in response to this feedback, or any opinions we have on the information. This is simply a summary of what we have heard.

In our next consultation, you will start to see more of how your feedback has influenced our thinking and the development of our work.

We look forward to many more conversations as we work to enable a thriving, growing economy and a net-zero future.

What you told us

The consultation sought your views on four key areas: what existing industries will be driving our economy in 2050; what new industries will be driving the economy; what the most important factors in achieving economic growth are, and what Transpower and the energy sector need to do to achieve economic growth.

In summary, responses from businesses and individuals told us that:

- Primary industries will still be our nation's economic powerhouse in 2050, and these will be supported by the new and emerging fields of technology and digital-based industries, and low-carbon fuel production.
- 'Accelerating growth' is the most important factor for our economy out to 2050, with affordability and the cost of living coming second. This tells us that we are on the right track in setting this key parameter for our work: that in 2050, Aotearoa has a growing and thriving economy.
- Achieving economic growth will require a balance between delivering secure, sustainable and affordable energy (the energy trilemma), energy independence and productivity gains alongside an increase in infrastructure investment and the adoption of new technologies. These are the things the energy sector needs to focus on, together with enabling a diversified supply of renewables.
- An enduring, bipartisan approach to addressing the future, long-term planning and decision making, a stable operating environment and streamlined regulations are needed.
- For Transpower and our development of a future grid blueprint, you told us we need to focus on optimised, long-term holistic planning for a grid that is more flexible, more decentralised and supports more distributed energy resources. We need to balance the energy trilemma through increasing investment in new technologies and enabling renewables, while focusing on reliability and resilience at the lowest possible cost. We cannot afford to ignore the role of thermal generation.
- People's acceptance of the energy transition remains a critical factor to consider, and we must continue to engage with communities and stakeholders to ensure they understand and support the work that will be needed.
- As communities and regions transition to net zero, you've said that energy security, cost, and limiting economic disruption must be top priorities for the sector. Should there be a need for new grid infrastructure, cost should be the number one consideration with resilience, environmental impacts and stakeholder engagement also important.
- Finally, we note that some people questioned whether 'economic' growth is the right metric to focus on and advocated instead for a more holistic measure of societal wellbeing and an emphasis on equality. We will be exploring more on our country's social and environmental wellbeing in our next consultation and seeking your feedback on the potential future scenarios we have drafted. These scenarios explore the impacts of different futures on the economy, society and Aotearoa's place in the world.

Note: During our conversations and consultations, we received feedback about things that are relevant to Transpower's broader programme of work but may not be specifically covered by our work to develop a future grid blueprint, for example, current projects or transmission pricing matters. Where appropriate, this feedback has been shared across the Transpower business.

What happens next?

Our work to develop a future grid blueprint for Aotearoa is still in its early stages. Everything we have heard so far is being used to both expand and refine our thinking.

Our next consultation will be on five potential future scenarios for the country and the impact these different futures would have on our nation, our regions and our electricity use. We have already heard from some of you, that we need to explore a range of scenarios and keep an open mind to future change; that's exactly what we are doing. Future scenarios are core to us understanding how our national grid will need to develop to enable or respond to different plausible futures. Through these scenarios, we'll explore how Aotearoa might have changed by 2050 at both a national level, and out in the regions.

The potential scenarios we will share will reflect the feedback we have heard about what industries will be driving our economy in 2050. The scenarios will also consider how that future could change depending on how our nation chooses to act regarding key factors for example, geopolitical change, our approach to attracting investment or particular regulatory changes.

The feedback we receive will then be used to further refine those scenarios to make them more robust and more reflective of what the people of Aotearoa think the future holds for our country.

We will share the revised scenarios with you again and seek further feedback, next year.

All this work will bring us to the release of a draft grid blueprint for consultation in 2026 and the first 2050 grid blueprint in late 2026.

If you haven't already, please complete our survey *Imagining Aotearoa in 2050* and tell us what you think it will take to achieve a growing, thriving, net zero Aotearoa. We value all the feedback we receive and want to hear as many different voices as possible.

Thank you for being a part of the future grid blueprint for Aotearoa.

Introduction

Transpower has an important role in enabling Aotearoa to electrify and grow. We own and operate the national electricity grid, which has moved electricity from where it's made to where it's needed for over a hundred years.

Since early 2025, we've been having conversations with our customers, industry and energy sector groups, communities, businesses, iwi and government to help build our understanding of the nation's economic and energy future out to 2050 and beyond.

We'll use the information we gather to develop the future grid blueprint. This future grid blueprint will guide Transpower's investments in the grid and the way we manage the electricity system to ensure we meet the needs of a growing, thriving nation and the delivery of a secure, sustainable and affordable electricity system.

Te Kanapu

Te Kanapu is the name of Transpower's initiative to develop a future grid blueprint for Aotearoa.

In 2020, Transpower published **Whakamana i Te Mauri Hiko**, a paper that examined five possible scenarios for our country's energy future. It set out the opportunity for Aotearoa to decarbonise our energy mix through electrification – switching the energy households and businesses use to renewable electricity instead of fossil fuels. Whakamana i Te Mauri Hiko was also a call to action for policy makers and the energy sector to rise to the challenge of enabling electrification. Five years on, as expected, that context has shifted.

Our **Te Kanapu positioning paper** (2025) describes the changed context for Transpower since Whakamana i te Mauri Hiko and introduces our new initiative to develop and deliver a grid blueprint for the future.

In late 2026, following extensive community and industry engagement, we will publish our first future grid blueprint, outlining how we need to invest in the grid through to 2050 and beyond to best enable a growing economy and a thriving net-zero Aotearoa.

Te Kanapu means both 'lightning' and 'bright', so Te Kanapu speaks to the electrification and the illumination of our country and Transpower's goals for a bright, energised future.

Te Kanapu consultations

We have a series of consultations in 2025 and 2026 to build a future grid blueprint for Aotearoa.

As well as these consultations, we're meeting with individuals, organisations and energy sector partners from around the country to understand what our future could look like, and the kind of national electricity network we'll need to generate and move energy to where it is needed. We'll use the information we gather though meetings, workshops and consultations to develop the future grid blueprint.

We'll release a draft grid blueprint in 2026 before releasing the final 2050 grid blueprint later in the year.

Consultation 1: *Imagining Aotearoa in 2050*

On 18 July, we published our first Te Kanapu consultation: *Imagining Aotearoa in 2050*.

We posted this on our website, shared it directly with people who had already joined the conversation, and promoted it through all our channels.

For survey questions and a breakdown of responses, see Detailed responses on page 11.

Responses received to date

103
survey responses

72
survey responses from individuals

31
survey responses on behalf of a business or association, including two written responses

How we dealt with separate submissions

During this consultation, some of you chose to share a written submission rather than using our survey form. Where possible, we have sought to input the information provided into the appropriate section of the survey. Where this is not possible, and you provided additional information, we have considered that information in areas where we included open questions.

All the feedback we received is important, regardless of how it was shared, and it is all being considered as we work alongside others to develop the future grid blueprint for Aotearoa.

Didn't get a chance to respond? You still can!

Our survey is still open because we want everyone to have the opportunity to contribute. All feedback we received will be considered in the ongoing development of our scenarios and our future grid blueprint.

Survey responses by business or organisation

AMA Advanced Manufacturing Aotearoa*

Aurora Energy Limited

Bajema Consultancy

Beca

Bluecurrent

BusinessNZ Energy Council

Consumer NZ

Contact Energy

Daikin New Zealand

EA Networks

Electricity Networks Aotearoa

Electrify Grey Lynn

Energy Resources Aotearoa*

Everllence

Fonterra

Helios Energy

JERA Nex bp

Kwetta

LCL Ltd

Lodestone Energy**

Major Electricity Users Group

Mercury

Meridian Energy

MTL NZ Ltd

NZ Offshore Wind Limited

Orion NZ Ltd

Pioneer Green Power

Solargis

Venture Taranaki

Xatech International Pty Ltd

* Provided as a written submission.
** Two submissions made on behalf of the organisation.

Key themes

For full survey results, see detailed responses on page 11.

Factors shaping our future economy

You believe the three most important factors in shaping the future economy of Aotearoa out to 2050 are accelerating growth, affordability, and having core quality services.

	% rated most important	% rated second most important
 Accelerating economic growth	34%	12%
 Affordability and cost of living	20%	21%
 Having quality core services	20%	20%

Achieving economic growth

When asked how we will achieve that economic growth, you said it will come down to balancing the energy trilemma of security, equity and sustainability, and achieving energy independence, productivity gains and securing new investment. You also told us it needs bi-partisan long-term planning, stability within the operating environment and streamlined regulations.

	% rated most important	% rated second most important
 Energy affordability, security, sustainability and independence	26%	15%
 The economy and productivity	21%	16%
 Investment	15%	26%

Industries and sectors driving future growth

Almost half of you told us that existing primary industries would be the number one factor in driving economic growth in 2050, followed by food and other manufacturing, and technology-based industries. You also told us to expect the rise of new industries centred around AI and data centres, next-generation farming, and the production of low-carbon energy fuels.

Existing sectors or industries

	% rated most important	% rated second most important
 Agriculture, forestry and fishing	45%	18%
 Food and other manufacturing	24%	23%
 Technology and digital-based industries	13%	17%

New or emerging sectors or industries

	% rated most important	% rated second most important
 AI, digitisation and data centres	27%	14%
 Next-generation farming	23%	20%
 Production of low-carbon energy fuels	15%	16%

Supporting new and emerging sectors and industries

You believe the key thing needed to support new and emerging sectors and industries is to provide affordable, secure, sustainable energy that delivers energy independence. You also told us that the energy sector needs to prioritise reliability and security first, affordability second, and an expanded and diversified renewable supply, third.

	% rated most important	% rated second most important
 Reliable and secure supply	35%	27%
 Affordable supply	29%	24%
 Expanded and diversified renewable supply	19%	13%

Community impacts to consider

As communities and regions transition to net zero, you've said that energy security, cost, and limiting economic disruption must be top priorities for the sector. Should there be a need for new grid infrastructure, again, cost should be the number one consideration alongside resilience, with environmental impacts and stakeholder engagement also considered important.

 Energy security	90%
 Costs of the transition	70%
 Limited economic disruption	69%

A more decentralised system

By 2050, you believe it is more likely that our energy system will be decentralised, than centralised, although a balanced system was the most popular option selected. A decentralised system would see energy generated and supplied from smaller-scale sources, located close to where the energy is used, rather than from large, centralised generators like we do, today.

The biggest players: geothermal, grid-connected solar and battery storage

Geothermal, grid-connected utility-scale solar and grid-scale battery energy storage systems are the three sources of fuel that you believe will play the greatest role in our energy future.

Geothermal	82%
Grid-connected, utility-scale solar	80%
Grid-scale battery energy storage systems	77%

Transpower focus: long term, flexible grid planning

In developing our future grid blueprint, you've told us we need to focus on optimised, long-term holistic planning for a grid that is more flexible and supports distributed energy resources. We need to balance the energy trilemma through increased investment in new technologies and enabling renewables, with a focus on reliability and resilience at the lowest possible cost. However, you've also told us that we cannot afford to forget thermal generation and its role in firming. You've also reminded us that people's acceptance of the transition remains a critical factor to consider.

Detailed responses

Section 1. What will Aotearoa look like in 2025?

Questions 1 & 2. "What three factors will be most important for shaping our country's economy by 2050?"

Respondents were asked to rank their top three from a list of seven, and to add any other factors not listed.

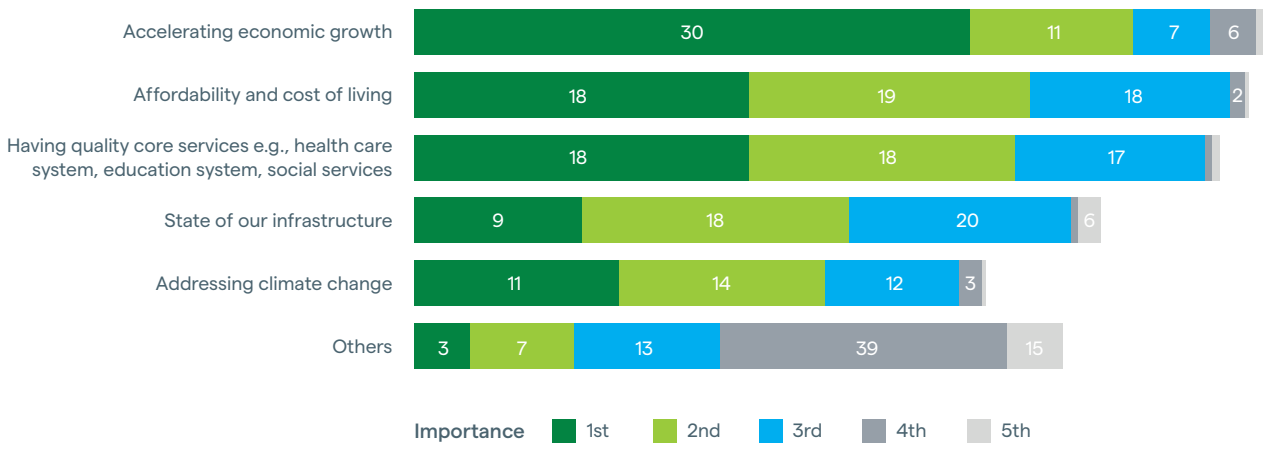
Respondents' top three factors were:

1. Accelerating economic growth
2. Affordability and cost of living
3. Having quality core services

Factors added to the list:

- Decentralised generation
- Digitisation and technology
- Energy sovereignty
- Energy strategy
- Exports
- Food security
- Globalisation
- New Zealand's brand and reputation
- Renewable energy
- Resilience
- Security of supply
- Skilled workforce required to deliver the transition
- Social cohesion and inequality
- Stable electricity prices
- Stable policy settings

Top Factors Shaping Aotearoa's Economy by 2050
Count of responses by importance (n = 89)



Note: The question asked respondents to select and rank their top three factors. Where participants suggested an additional factor that was similar to our named factors, it was treated as if the named factor had been selected, and was therefore ranked four or five.

Rankings are weighted (1st = 5 pts to 5th = 1 pt), and the ordering of factors in the chart is based on the total weighted score.

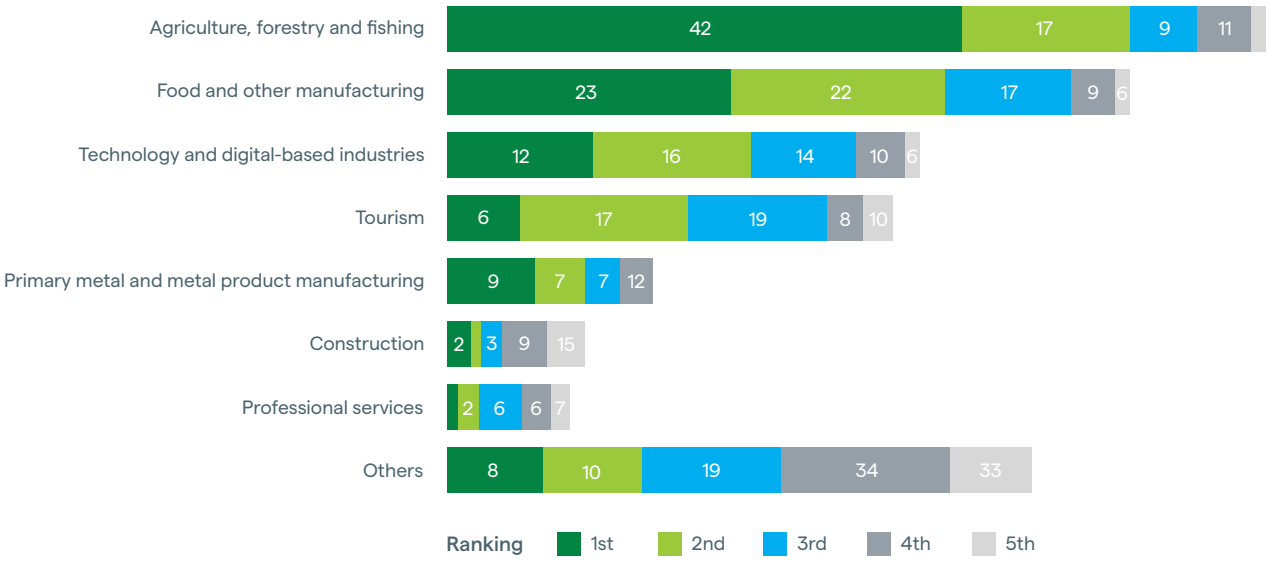
Question 3. "By 2050, what **existing** sectors/industries will be driving economic growth in Aotearoa?"

Respondents were asked to rank their top five from a list of 14.

Respondents' top five existing sectors/industries were:

1. Agriculture, forestry and fishing (e.g. crop growing horticulture, animal farming, forestry harvesting)
2. Food and other manufacturing (e.g. dairy manufacturing, food processing, wood, pulp and paper manufacturing)
3. Technology and digital-based industries (e.g. health-tech, agri-tech, game development, artificial intelligence)
4. Tourism (e.g. tourism activities, indirect employment, tax revenue)
5. Primary metal and metal product manufacturing (e.g. steel, aluminium)

Top-Ranked Sectors Driving Aotearoa's Economic Growth by 2050
Count of responses by ranking of sectors (n = 94)



Note: Rankings are weighted (1st = 5 pts to 5th = 1 pt), and the ordering of factors in the chart is based on the total weighted score.

Questions 4 & 5. "By 2050, what **new or emerging** sectors or industries, will be driving economic growth in Aotearoa?"

Respondents were asked to rank their top three from a list of nine, and add any additional sectors or industries not listed.

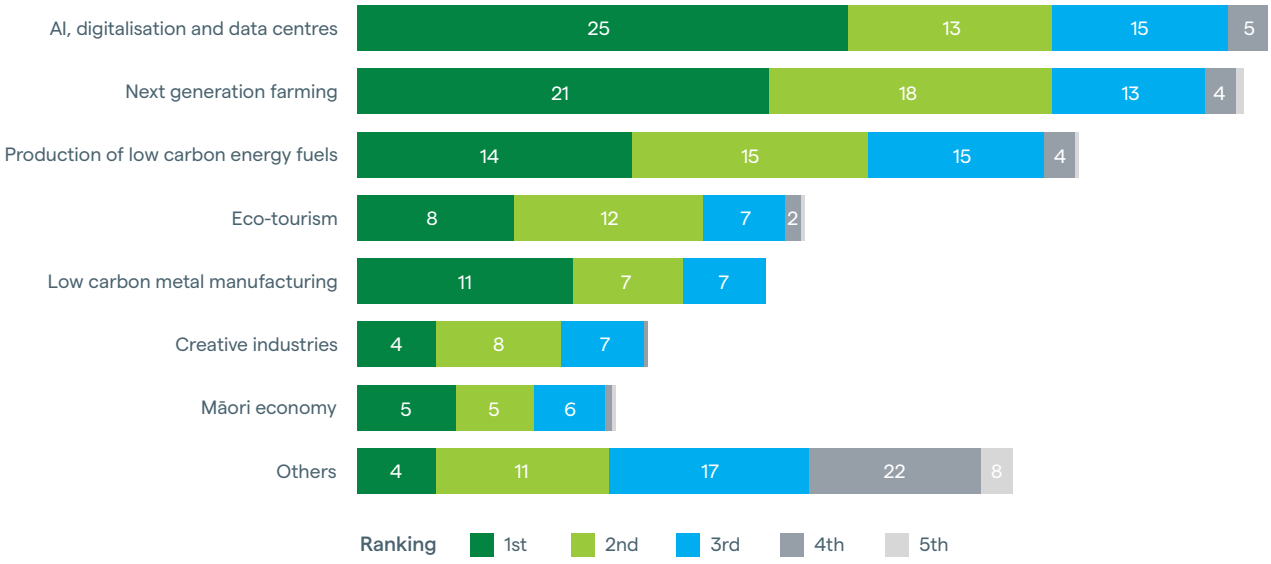
Respondents' top three **new or emerging** sectors or industries were:

1. AI, digitalisation and data centres
2. Next generation farming (e.g., synthetic proteins)
3. Production of low carbon energy fuels (e.g., hydrogen, eSAF, eMethanol)

Sectors and industries added to the list:

- Advanced manufacturing
- Aligned government
- Aviation
- Bioenergy
- Blue economy
- Carbon capture storage
- Circular economy
- Community services
- Consultancy services
- Education and skills
- Farming, forestry and mining
- Financial services
- Food technology
- Future transportation
- Migration
- New materials
- Tourism
- Real estate
- Remote workforce
- Resilience and adaptation services

Top-Ranked New Sectors Driving Aotearoa's Economic Growth by 2050
Count of responses by ranking of sectors (n = 93)



Note: The question asked respondents to select and rank their top three factors. Where participants suggested an additional factor that was similar to one already named, it was treated as if the named factor had been selected. Rankings are weighted (1st = 5 pts to 5th = 1 pt), and the ordering of factors in the chart is based on the total weighted score.

Question 6. "What could the energy sector do to support new or emerging sectors/industries?"

This was an open question with a free text box. We have summarised comments into different themes that emerged. Direct quotes are included to provide context.

Themes that emerged are the need for the sector to:

1. Focus on *affordability and security of supply with an emphasis on renewable energy*
    - *"Deliver abundant amounts of affordable green energy"*
    - *"Affordability is the biggest way the energy sector can support emerging sectors."*
    - *"There needs to be greater certainly over future security of supply and forward prices in order to attract new investment here."*
    - *"The cost of energy to all consumers is holding back business incubation. Without surety of supply and price new business ideas are stifled."*
2. Optimise infrastructure investment, streamline regulations and ensure a stable policy environment.
    - *"Ensure efficiency in both network design/ planning investment (at generation, transmission, distribution) levels and also pricing (cost allocation and recovery), using consistent approaches across Aotearoa."*
    - *"We stress the importance of policy stability, long-term bipartisan support, and a clear National Infrastructure Plan and energy strategy as essential for attracting investment and enabling economic growth. Existing players in the energy industry – government and private – need to be proactive in developing energy industry infrastructure and market policies without shutting out future competition and innovation."*
3. Embrace innovation and technology, be flexible and adaptive and to build ahead of need
    - *"New innovations in storage security of energy and of energy provision management and delivery to avoid sabotage by nefarious actors and AI."*
    - *"Increased capacity of transmission and distribution networks using latest advanced technologies providing greater capacity and improved resilience to adverse weather events backed up with a variety of energy storage systems."*
    - *"Ensure that the sector is flexible and can adapt to new emerging sectors/industries. Advocate for regulatory and policy setting to support economic growth."*

Section 2: Achieving economic growth for Aotearoa by 2050

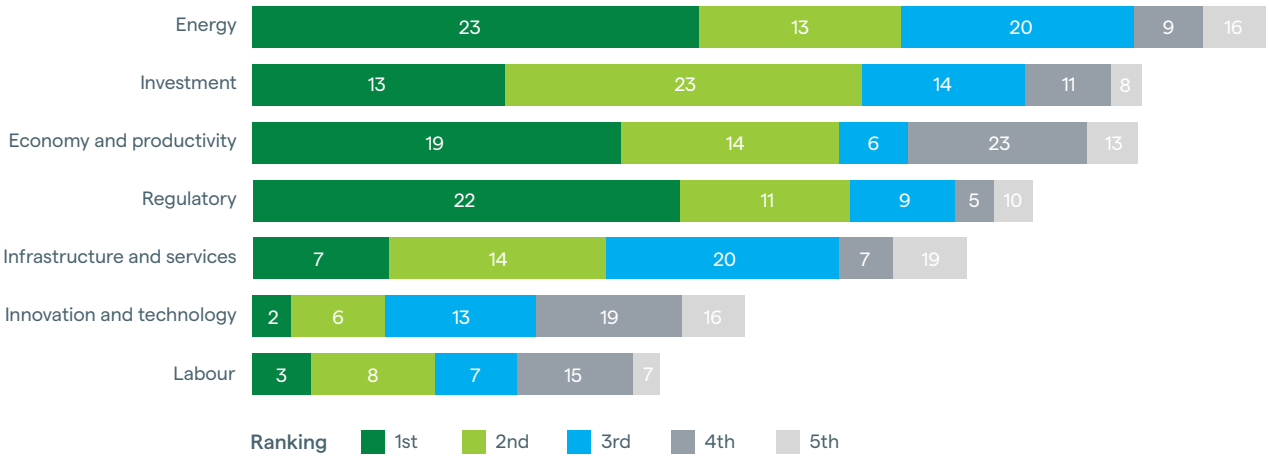
Question 1. "What are the key factors that will help Aotearoa achieve economic growth by 2050?"

Respondents were asked to rank a list of seven factors, in order of importance.

Respondents' rankings were:

1. Energy (affordable energy, secure energy supply, sustainable low carbon energy, energy independence from the rest of the world)
2. Investment (foreign direct investment and alternative source of capital, leverage our existing capital and labour resources, new financing and funding models)
3. Economy and productivity (economic stability, increased productivity, increased trade and export earnings)
4. Regulatory (increased government investment and incentives, bipartisan agreement on key national strategies and policy settings, political stability and governance, energy regulatory reform, other regulatory reform)
5. Infrastructure and services (quality education & training systems, quality healthcare system, quality social services, resilient infrastructure)
6. Innovation and technology (thriving research and development)
7. Labour (retain, develop and attract new skills and talent, increased highly skilled immigration)

Key Drivers of Aotearoa's Economic Growth by 2050
Count of responses by ranking of sectors (n = 89)



Note: Rankings are weighted (1st = 5 pts to 5th = 1 pt), and the ordering of factors in the chart is based on the total weighted score.

Question 2. "Do you have any other comments on Aotearoa achieving economic growth by 2050?"

This was an open question with a free text box. We have summarised comments into different themes that emerged. Direct quotes are included to provide context.

Themes that emerged are the need for:

1. Stability – something that can only be achieved through a bipartisan approach to long-term planning (10-15 years being insufficient) and a clear strategy from Government and industry. Included here is the desire to achieve streamlined regulations.
    - *"First and foremost, we need stability. In 2050 the world will be a much more dangerous and unstable place. NZ needs to be a refuge for stability and investment. With that, the economy can grow with industries that need a high level of investment, such as R&D."*
    - *"I think we need to go back to a degree of central planning and a cross-party, long term, national energy strategy to provide investment confidence and certainty."*
    - *"Bipartisan regulatory stability on a lot of economic regulation (not just energy and infrastructure) is pretty fundamental."*
2. Investment particularly in research and development, technology and innovation.
    - *"A Technology Hub available for government, business and citizen consultation would elevate our opportunities."*
    - *"We critically need investment (as per above) but this will happen if the other elements are sorted."*
3. An alternative view on growth; how we measure it, whether 'economic' growth is the right metric to focus on and whether we need growth at all. The theme of equity and overall community well-being was highlighted here.
    - *"We don't need to keep growing."*
    - *"Growth must be purpose-led, not just GDP-led."*
    - *"Correct the fundamental settings so that equality drives economic growth."*
    - *"If we are seeking growth that actually improves the overall well-being of communities and natural environment then the measures and valuing of economic growth will need to radically change. 'Economic growth' will need to centre on all those things... take a truly whole systems approach to resource access and future building."*
4. Consideration of the fact that all factors are interconnected and equally important. Respondents here are referring to the factors listed in Section 2, question 1.
    - *"We consider that these all need to work harmoniously to be effective, and we do not consider that any one ranks above another."*
    - *"Most of the above are all interconnected - i.e. hard to drive economic and productive growth without infrastructure, energy, skilled people, infrastructure and R&D."*

Section 3: The energy sector

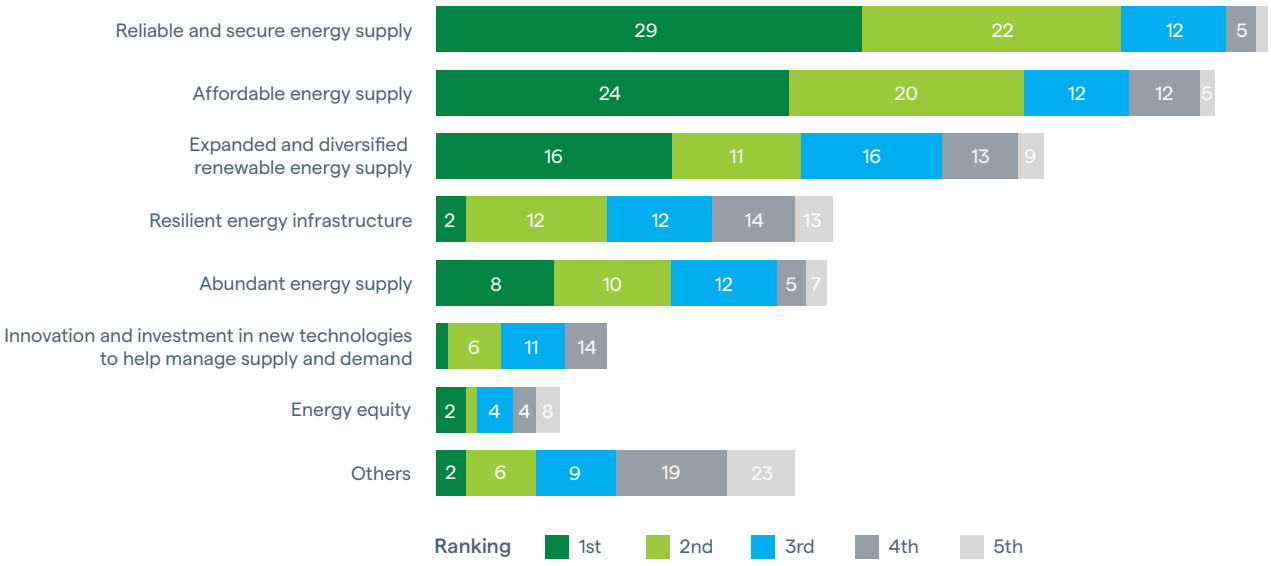
Question 1. "What should the energy sector prioritise to support economic growth for Aotearoa by 2050?"

Respondents were asked to rank their five top priorities from a list of 13, in order of importance.

Respondents' top five were:

1. Reliable and secure energy supply
2. Affordable energy supply
3. Expanded and diversified renewable energy supply
4. Resilient energy infrastructure
5. Abundant energy supply

Sectoral Priorities for Driving Economic Growth in Aotearoa by 2050
Count of responses by ranking of sectors (n = 83)



Note: The question asked respondents to select and rank their top three factors. Rankings are weighted (1st = 5 pts to 5th = 1 p), and the ordering of factors in the chart is based on the total weighted score.

Question 2. "There may be some impacts to communities and regions in the transition to net zero 2050. If that's the case, what is important for the energy sector to consider?"

Respondents were asked to select all that apply from a list of six, and name any additional impacts not listed.

Considerations were ordered as below:

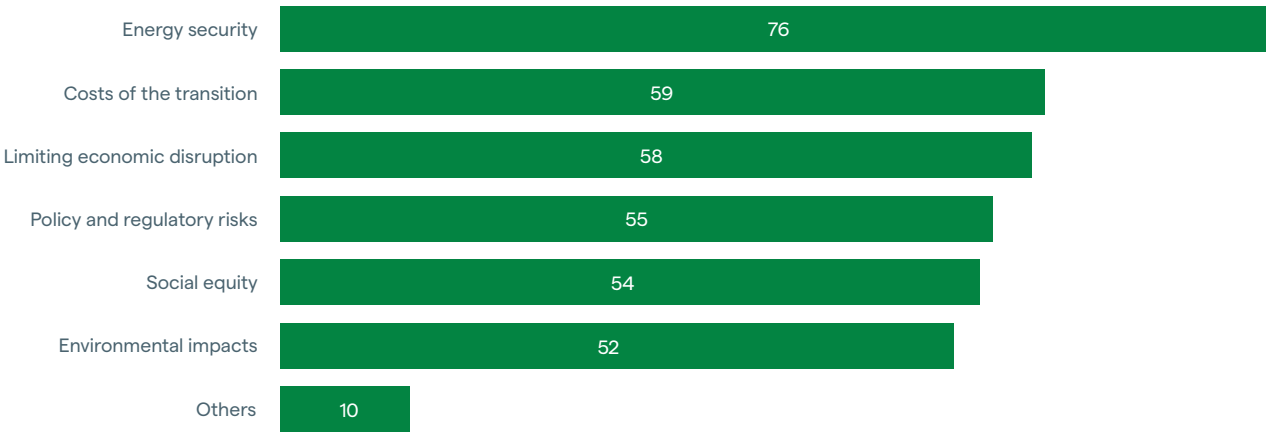
1. Energy security (e.g., ensuring a stable and reliable energy supply) (90%)
2. Costs of the transition (70%)
3. Limiting economic disruption (e.g. ensuring a just transition) (69%)
4. Policy and regulatory risks (e.g., clear and consistent policies needed for a stable investment environment) (65%)
5. Social equity (e.g., ensuring that the benefits of decarbonisation are equitably distributed) (64%)
6. Environmental impacts (62%)

Respondents also named the following:

- Social licence (2%)
- Biofuels (1%)
- Community energy (1%)
- Decarbonisation (1%)
- Distributed energy and consumer incentives (1%)
- Energy affordability and price stability (1%)
- Pace of transition (1%)
- Security of supply (1%)
- Social cohesiveness (1%)

The graph below shows all responses. When responses from companies versus individuals are compared, environmental impacts are considered the fifth most important consideration for individuals, with social equity sixth. All other rankings remain unchanged.

Key Considerations for the Energy Sector in Achieving Net-Zero by 2050
Count of selections (n = 84)



Note: This chart shows the number of respondents who selected each option. The ordering of factors is based on total selection count, reflecting the relative importance assigned by participants.

Question 3. "There may be a need for additional grid infrastructure to connect and power communities, businesses and new industries by 2050. If that's the case what is important for the energy sector to consider?"

Respondents were asked to select all that apply from a list of seven, and name any additional impacts not listed.

Considerations were ordered as below:

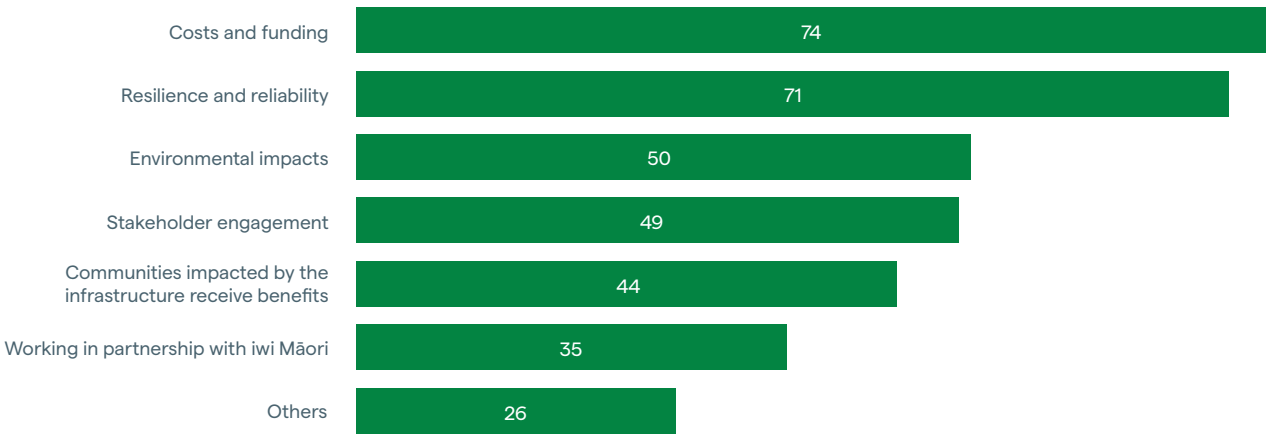
- Costs and funding (88%)
- Resilience and reliability (85%)
- Environmental impacts (60%)
- Stakeholder engagement (58%)
- Communities impacted by the infrastructure receive benefits (e.g. employment opportunities, training or other benefits determined by the communities impacted) (52%)
- Working in partnership with iwi Māori (42%)
- Visual impacts (23%)

Respondents also named the following:

- Anticipatory investment in grid infrastructure (2%)
- Decentralisation of energy (1%)
- Delay in infrastructure build (1%)
- Efficiency (1%)
- Security of supply (1%)
- Technology selection (1%)

The graph below shows all responses. When responses from companies versus individuals are compared, stakeholder engagement is considered the third most important consideration for individuals, with environmental impacts fourth. All other rankings remain unchanged.

Key Considerations for Future Grid Infrastructure in Aotearoa
Count of selections (n = 84)

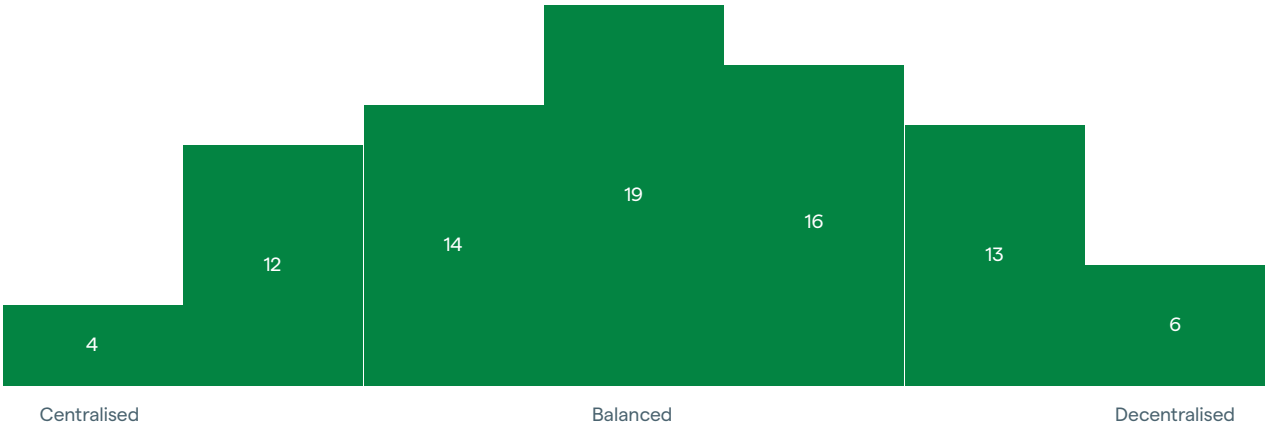


Note: This chart shows the number of respondents who selected each option. The ordering of factors is based on total selection count, reflecting the relative importance assigned by participants.

Question 4. “By 2050, how much of our energy generation system will be centralised and how much decentralised?”

Respondents were asked to plot an X on a sliding scale.

Centralised vs Decentralised Energy Generation by 2050
Count of grouped responses (n = 84)



Note: Responses were grouped into seven ranges across the centralised–decentralised spectrum, with each range representing 1/7 of the scale. The chart shows the count of respondents whose selections fell within each range.

Question 5. "By 2050, what technologies and fuels do you expect to play the greatest roles in the energy future of Aotearoa?"

Respondents were asked to select all that apply from a list of 31, and name any additional items not listed.

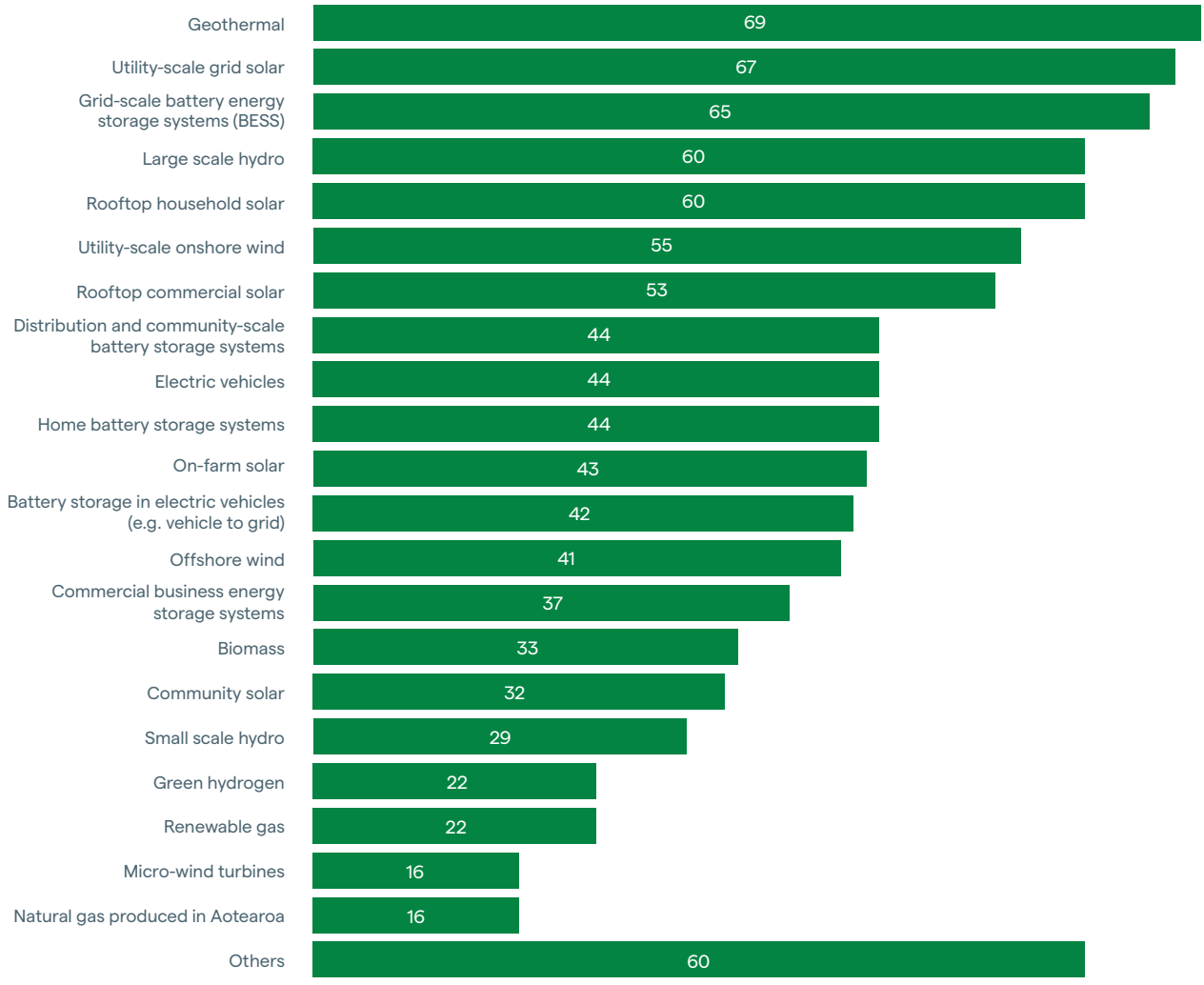
The five selected most often were:

1. Geothermal (82%)
2. Utility-scale grid solar (80%)
3. Grid-scale battery energy storage systems (BESS) (77%)
4. Rooftop household solar (71%)
5. Large scale hydro (71%)

Respondents also named the following:

- Nuclear (5%)
- Data centres (1%)
- eAmmonia (1%)
- Flexibility services (1%)
- Micro grids (1%)
- New energy storage (1%)
- White hydrogen (1%)

Technologies and Fuels Shaping Aotearoa's Energy Future by 2050
Count of selections (n = 84)



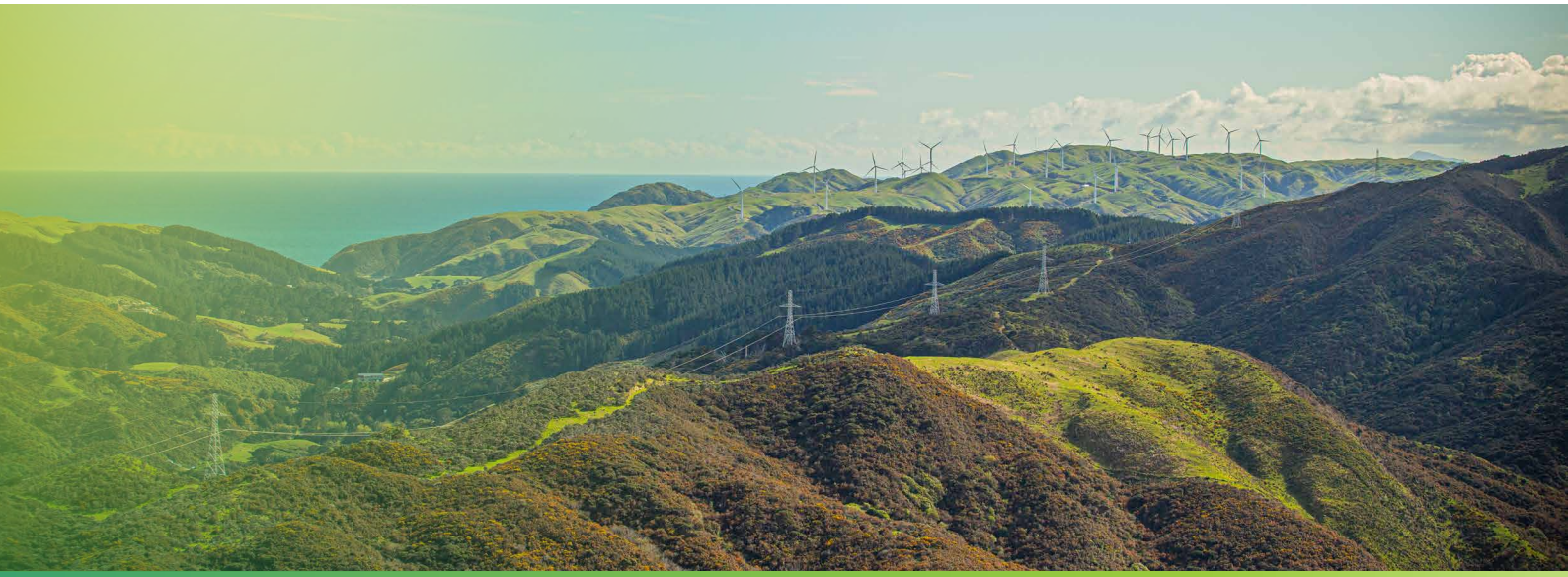
Note: This chart shows the number of respondents who selected each option. The ordering of factors is based on total selection count, reflecting the relative importance assigned by participants. "Others" represents a consolidated count of selections ranked 16th and below.

Question 6. "What should Transpower prioritise when developing a national electricity grid blueprint for Aotearoa?"

This was an open question with a free text box. We have summarised comments into different themes that emerged. Direct quotes are included to provide context.

Themes that emerged are the need for:

1. Optimised planning and investment, that takes a long-term holistic view and provides a clear pathway but also allows for future adaptability.
    - *"Comprehensive energy strategy, not focusing on cheapest solution."*
    - *"Futureproofing and very long-term benefits. It is worth extra cost to Kiwis today to ensure that our infrastructure decisions will continue to serve future generations, especially for permanent decisions"*
    - *"A policy of least regrets that considers all likely options for the future and builds new lines that best supply the probable scenarios."*
    - *"Maintaining energy security through firm, flexible generation – to support long-term investment in reliable, secure, and affordable energy."*
2. A flexible grid, accessible in more areas and supporting distributed energy resources.
    - *"Access to the grid in more areas - a more diverse grid is more resilient. E.g. wind in Northland."*
    - *"Unlocking the areas with the greatest potential for lowest cost renewable generation production in NZ."*
    - *"Efficient integration of DER/CER into the grid."*
3. Balancing the energy trilemma through increased investment in new technologies and enabling renewables, with a key focus on reliability and resilience.
    - *"How we deliver most affordable and equitable power system using all options, and removing any grid-bias to these solutions."*
    - *"Transpower should look at ways of enabling the supporting cast of new generation development (wind, solar, hydro) by making as little investment in the core grid as possible."*
    - *"How renewables and battery storage, distributed generation, demand management, and VPPs can collectively present a smarter and more resilient way forward than what has been done historically."*
    - *"Development of a resilient transmission network with the flexibility to accommodate different sources of renewable energy generation and energy storage systems based on latest and future technologies."*
4. People's acceptance which will come from investing in public education and strengthening community partnerships.
    - *"As political capital relies on public support, there needs to be a focus on building social licence for the energy transition and the grid blueprint. This will require a focus on energy transition storytelling to the general public."*
    - *"Keep engaging communities, but be more innovative in this space."*



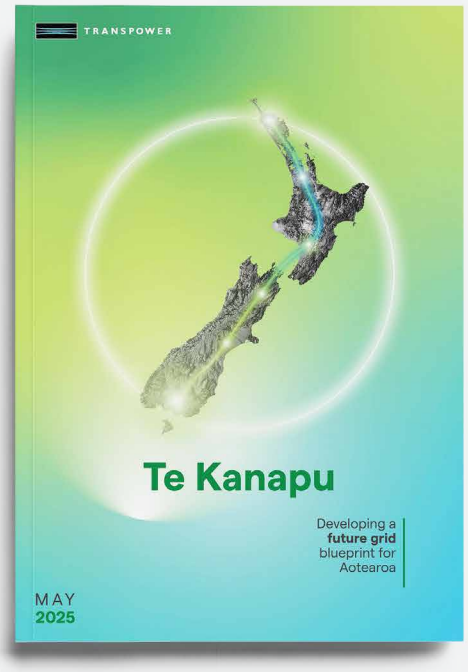
More information

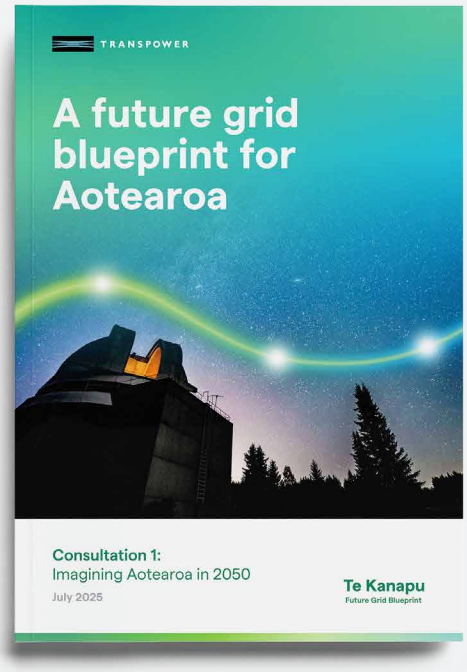
Visit the Transpower website, and our Te Kanapu pages dedicated to this work. There you will find:

- **Te Kanapu: Developing a future grid blueprint for Aotearoa (May 2025)**. Providing the background to this work.
- **Consultation 1: Imagining Aotearoa in 2050 (July 2025)** The consultation document written to support the survey we issued; the results of which are summarised in this Summary of Survey Responses.

If you haven't already, please complete our survey *Imagining Aotearoa in 2050* and tell us what you think it will take to achieve a growing, thriving, net zero Aotearoa. We value all the feedback we receive and want to hear as many different voices as possible.

Thank you for being a part of the future grid blueprint for Aotearoa.





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