We’re seeking feedback

Our Discussion Document, Testing our thinking: Developing an enduring National Infrastructure Plan, sets out our thinking as we begin work to develop a National Infrastructure Plan. The Discussion Document sets out what we expect the Plan will cover and the problem it’s trying to solve, as well as the approach we’re proposing to take to develop it.

We’re sharing this now to test our thinking and give you the chance to share your thoughts. Let us know if we’ve got it right or if there are issues you think we’ve missed.

We’ll use your feedback as we develop the Plan. We’ll be sharing our thinking by presenting at events around the country, hosting workshops and webinars, and sharing updates through our website, newsletter, and social media. We’ll also seek feedback on a draft Plan before publishing the final Plan in December 2025.

Submission overview

You’ll find 17 main questions that cover the topics found in the Discussion Document. You can answer as many questions as you like and can provide links to material within your responses. On the final page, you can provide any other comments or suggestions that you would like us to consider as we develop the National Infrastructure Plan. Submissions are welcome from both individuals and organisations.

Deadline for submissions: 5.00pm on 10 December 2024.

A few things to note:

- We expect organisations to provide a single submission reflecting the views of their organisation. Collaboration within your organisation and internal review of your submission (before final submission), is supported through our Information Supply Platform. You'll need to be registered with an Infrastructure Hub account and be affiliated with your organisation to utilise these advanced features. Many organisations will already have a 'Principal respondent' who can manage submissions and assign users at your organisation with access to the draft responses.
- Submissions will be published on our website after the closing date. The names and details of organisations that submit will be published, but all personal and any commercial sensitive information will be removed.

Submission method

We prefer feedback to be submitted through our online survey. Alternatively, you may use this Word template to generate and upload a PDF.

Instructions for PDF submission:

1. Complete your response using this Word template. You can edit the document at points marked with the ⌶ cursor. This includes adding tables, images and text as normal.
2. Save the file type as PDF by selecting ‘Save as’ in MS Word and choosing ‘PDF’ as the file type.
3. Complete the introduction section of the online form.
4. Select ‘PDF attachment’ as your submission method. You’ll then be prompted to upload your PDF.

Important: PDF submissions that are not generated from this Word template cannot be processed.

If you have any questions, please feel free to email info@tewaihanga.govt.nz and one of our team will follow up with you.

Context for the Plan

Section one: Why we need a National Infrastructure Plan

Q1. What are the most critical infrastructure challenges that the National Infrastructure Plan needs to address over the next 30 years?

In general terms and taking a nationwide view, Orion New Zealand Limited (Orion) considers that the National Infrastructure Plan needs to address these matters:

- Investment efficiency. We agree that New Zealand faces challenges in turning our resources into infrastructure services.
- Clarity about the options of "who pays" for infrastructure.
- The broad effects of climate change on our infrastructure, including dealing with extreme weather events.
- Enabling decarbonisation to meet our international and domestic legal obligations.
- Workforce capacity and diversity – please see our comments below at Question 9.
- New technologies that will revolutionise the way New Zealanders interact with and use infrastructure, including energy infrastructure.
- Shifting political priorities that can alter project priorities and cause delays – please see our comments below at Question 3.

Q2. How can te ao Māori perspectives and principles be used to strengthen the National Infrastructure Plan's approach to long-term infrastructure planning?

No comment.

Section two: Long-term expectations

Q3. What are the main sources of uncertainty in infrastructure planning, and how could they be addressed when considering new capital investments?

The requirements and drivers for Orion are not the same as those for other electricity distribution business (**EDBs**). Different regions in New Zealand vary significantly in many ways:

- Geography
- Weather patterns and climate change, for example temperatures, incidence of severe weather events
- Demographics, for example population growth and trends
- Economic / planning imperatives such as housing intensification
- Community needs for amenities, for example housing
- The energy transitions already experienced such as the switch to electricity for water and space heating
- How much latent capacity is available.

This means each electricity distribution network in New Zealand is unique, has their own uncertainties, and must make their own decisions about infrastructure planning and investment. Some will need to invest more in high voltage systems, some more in low voltage, and some, like Orion, in both. Differing investment in data and digitisation of network management systems will also be needed. Opportunities to utilise customer load flexibility will also vary from network to network. As a result,

each New Zealand electricity distribution network will require different infrastructure planning and differ in the timing of investment.

In terms of regulatory uncertainty, we also refer to the comments of Electricity Networks Aotearoa with respect to the need for the Commerce Commission regulatory framework to have the flexibility to evolve with the economy over this transition period.

In our answer to question 1 we referred to shifting political agendas that can alter project priorities and cause delays. Te Waihanga's report specifically refers to this uncertainty. Cross party support for projects in the Infrastructure Priorities Programme could remove this type of uncertainty.

Section three: Existing investment intentions

Q4. How can the National Infrastructure Pipeline be used to better support infrastructure planning and delivery across New Zealand?

Orion supports the Pipeline and updates our list of projects in the Pipeline each quarter.
We do note that inclusion of projects in the Pipeline requires a subjective judgement from participants. There could be more direction around the requirements for inclusion in the Pipeline and the depth of the information that is included in the Pipeline. This could allow for better alignment of projects across sectors.

Section four: Changing the approach

Q5. Are we focusing on the right problems, and are there others we should consider?

Yes, we consider that the Commission is looking at the right problems.

Capability to plan and build

	Theme one: Capability to plan and build
	Investment management: Stability, consistency and future focus
Q6.	What changes would enable better infrastructure investment decisions by central and local government?

No comment..

Q7.	How should we think about balancing competing investment needs when there is not enough money to build everything?

No comment.

	Workforce and project leadership: Building capability is essential
Q8.	How can we improve leadership in public infrastructure projects to make sure they're well planned and delivered? What's stopping us from doing this?

No comment.

Q9.	How can we build a more capable and diverse infrastructure workforce that draws on all of New Zealand's talent?

We refer Te Waihanga to the work that the Energy Academy carried out in relation to workforce capacity and diversity. For example see https://www.energyacademy.co.nz/insights and https://static1.squarespace.com/static/5eaa30126c3cf336cd6effb7/t/6524b9578b741f4da24c1fcd/1696905621724/A+Case+for+Collaboration+%281%29.pdf

	Project costs: Escalation means less infrastructure services
Q10.	What approaches could be used to get better value from our infrastructure dollar? What's stopping us from doing this?

Below we set out some examples of projects where Orion has used different approaches to get better value from our infrastructure dollar.

Duvauchelle to Akaroa Line Refurbishment
The Duvauchelle to Akaroa powerline is a critical 6.6km twin-circuit line supplying electricity to Akaroa and nearby communities in Banks Peninsula. Most of the poles on this line were over 50 years old and had reached the end of their serviceable life. In February 2022, Orion initiated a line refurbishment programme to ensure the power supply remained reliable and resilient.

Banks Peninsula contains many geographically isolated communities that are vulnerable to being cut off (both geographically and in an energy sense) due to storm events. The Peninsula's volcanic topography, rough terrain and lack of road access to assets can make line repairs difficult. It can be challenging for line operators to reach outages to assess the situation and reinstate supply. It is therefore imperative that the electricity supply is reliable and resilient.

The objective of the project was to provide an efficient power supply upgrade for Banks Peninsula customers, while causing the least amount of disruption. From procurement to delivery, Orion changed the way it typically did things to achieve this, including:

- Efficient Delivery: By employing three contractors simultaneously and having them work collaboratively, the project was completed in a short timeframe, reducing community disruption.
- Continuous Supply to Akaroa: A generator ensured uninterrupted power to the township during the works, preserving its role as a key community and visitor hub.
- Strong Community Engagement: Residents and businesses were kept informed about planned outages and timelines.

Project Achievements:

- Pole Replacement: 115 poles were replaced or refurbished.
- Minimizing Outages: Of 2,017 customers, 1,683 experienced no outages. The most affected at any time was 170 customers, with each outage lasting 7.5 hours as scheduled.
- Project finished ahead of schedule, requiring only 10 of the planned 12 outages.
- Zero unplanned outages occurred.

This project highlights the importance of proactive infrastructure renewal, strategic planning, and community collaboration in delivering resilient and efficient services.

Bromley to Milton new underground power cable

A safe, reliable, and resilient electricity network is crucial for our customers and region. Strengthening our network by replacing older underground cables is a major programme of work for Orion over the next ten years. One of the first projects was installing a new underground 66kV cable between our Bromley Zone Substation and Milton Zone Substation. This cable is the first of several new cables that will create new ring circuits in Christchurch City, enabling us to retire older cables. This was the largest cable project Orion has ever undertaken.

The cable was installed in the road, along a 7.5km route through residential, industrial, and commercial neighbourhoods, and along major Christchurch roads including Brougham Street (SH76), a key link between Lyttelton Port and the wider Canterbury region. This was a demanding project with multiple, extensive work sites, challenging ground conditions, significant traffic management on key commuter routes, night works, and highly engaged stakeholders.

The objective of the project was to strengthen the electricity network. We worked closely with our contractors to ensure efficient delivery while minimising disruption to residents, businesses and road users through:

- **Efficient Installation:** The cable was installed along major roads, including SH76, through residential, industrial, and commercial areas.
- **Innovative Approaches:** A fully ducted cable profile was used, something Orion has not previously done. This reduced construction time, traffic impacts, and neighbourhood disruptions. Design improvements, such as precast joint bays and precision drilling, optimised efficiency.
- **Community-Centred Execution:** Proactive engagement ensured residents and businesses were informed and disruptions minimised. Bespoke solutions addressed community concerns, fostering trust and collaboration. The work with the community also reduced impact on construction allowing the project to stay on track and minimised additional expenditure.
- **Strong Partnership Model:** Collaboration between Orion and its contractors encouraged shared innovation, risk, and problem-solving for smooth delivery.

Project Achievements:

- Orion's largest cable installation to date successfully completed.

- New 66kV underground cable successfully installed along a 7.5km route.
- Significant design and construction innovations Orion can carry forward to future projects.
- Strong collaborative relationship built between Orion and its contractors.

This is a critical infrastructure upgrade for Orion in terms of the resilience of our network, and the benefits for our customers will be huge. This project highlights the importance of innovative thinking, strong collaboration, and extensive community engagement to deliver a large and complex project.

General comment:

One area where New Zealand has struggled to reach the right balance is in relation to temporary traffic management. Orion incurs significant traffic management costs because much of its infrastructure is located in the road corridor. We agree with Waka Kotahi that we must all do everything we can to eliminate and reduce the risk of death and serious harm on our roads. All workers and road users must go home safe every day. We are hopeful that the new risk-management approach to temporary traffic management will keep everybody safe and reduce costs for all parties.

Taking care of what we've got

	Theme 2: Taking care of what we've got
	Asset management: Managing what we already have is the biggest task
Q11.	What strategies would encourage a better long-term view of asset management and how could asset management planning be improved? What's stopping us from doing this?

EDBs are required under Commerce Act regulation (see the Electricity Distribution Information Disclosure Determination 2012) to publish Asset Management Plans each year. We refer you to our latest Asset Management Plan at https://www.oriongroup.co.nz/assets/Our-story/Publications/Orion-AMP-2024.pdf

Orion has made a commitment to improve our asset management processes and capability. A key project for Orion in this financial year and beyond is the implementation of our Integrated Asset Management (IAM) programme. IAM is significant because it will fundamentally touch all our major processes across Orion and positively impact our organisation by enhancing our ability to scale, innovate and generate. It will enable us to predict when to undertake the right task, at the right time — which will enhance efficiency. Ultimately, it gives us confidence in our ability to deliver.

This is the type of strategy that needs to be adopted to encourage a better long-term view of asset management.

	Resilience: Preparing for greater disruption
Q12.	How can we improve the way we understand and manage risks to infrastructure? What's stopping us from doing this?

Being a lifeline utility, our community depends on electricity and our services especially during and after High Impact Low Probability (HILP) events such as major earthquakes or storms. Network resilience also requires us to be prepared for other risks such as national security risks (for example cybersecurity threats) and economic fragmentation (supply chain and workforce capability challenges).

The Commerce Commission have recognised in the final decision on default price-quality paths for electricity distribution businesses from 1 April 2025 that "*There is general acknowledgment of the need to invest in maintaining resilience in response to increased risk of more extreme events, including storm damage or cybersecurity threats. Some EDBs have been exposed to higher costs to respond to such events, and all EDBs have had to reconsider how they forecast expenditure for network resilience to better prepare for a wider range of potential extreme events*."

We need to constantly reassess our readiness and the information available to us. Direction from the government (such as completion of the work by DPMC in relation to strengthening the resilience of New Zealand's critical infrastructure) will be of assistance in that infrastructure providers should be able to more easily share information and evaluate risks in a more coordinated fashion.

	Decarbonisation: A different kind of challenge
Q13.	How can we lower carbon emissions from providing and using infrastructure? What's stopping us from doing this?

In terms of the electricity sector, climate change is presenting the sector with a number of opportunities and challenges. Electrification will support decarbonisation, improve household energy bills, and increase the resilience of New Zealand's energy system.

It is estimated that it will remove 18.4 tonnes CO2-e per year by 2050. It is forecast to substantially reduce average (mean) household energy bills by about 10% in 2030 and 45% in 2050. It will also improve New Zealand's energy independence, increasing energy supplied from domestic production from 55% today to 85–90% in 2050. We refer you to the Boston Consulting Group Report: The Future is Electric A Decarbonisation Roadmap for New Zealand's Electricity Sector 2022, page 11. The Report estimates that there are plans to invest $22 billion in the 2020s in distribution infrastructure to support electrification and distributed energy resources. This is a 30% increase in spend in 2026–2030 relative to 2021–2025 and is sufficient for increased electrification provided it is supported by regulatory allowances.

By way of example, Orion's planned level of investment over the 10-year AMP period is a significant increase on current levels of expenditure and is beyond what is allowed under the Commerce Commission's next five-year Default Price-quality Path (DPP). We may apply to the Commerce Commission for a Customised Price-quality Path to reset Orion's regulated revenue allowances to a level that allows us to meet our customers' needs, legislative requirements and maintain good industry practice. These are the types of decisions that need to be made in relation to lowering carbon emissions from providing and using infrastructure.

Getting the settings right

	Theme 3: Getting the settings right
	Institutions: Setting the rules of the game
Q14.	Are any changes needed to our infrastructure institutions and systems and, if so, what would make the biggest difference?

No comment.

	Network pricing: How we price infrastructure services impacts what we think we need
Q15.	How can best practice network pricing be used to provide better infrastructure outcomes?

EDB distribution pricing is subject to oversight by the Electricity Authority. The Authority is currently considering distribution pricing. The Authority notes that "*Distribution pricing is important as it affects how consumers use electricity, how distributors and others manage load, and when distributors invest in new or replacement poles and wires. It also affects the timing, level and location of investments in new technology, such as distributed energy resources like solar panels, electric vehicles and batteries, and businesses. Our work on distribution pricing is focused on supporting reform towards more efficient distribution pricing structures*." The Authority considers that this aligns with the recent Government Policy Statement, released in October 2024, which emphasises the importance of efficient network pricing.

Other infrastructure providers are not subject to the same rules that apply to EDBs. The Commission may wish to consider whether the efficient network pricing approach is appropriate for other network providers.

	Regulation: Charting a more enabling path
Q16.	What regulatory settings need to change to enable better infrastructure outcomes?

Orion considers that further improvements in the Government's approach to regulation will allow us to get better infrastructure outcomes. As the Ministry for Regulation notes "*Good regulation can help governments to achieve their desired economic, environmental and social outcomes, support the effective operation of markets, and protect communities from harm*."

Examples where there has been considerable delay in reviewing and amending regulation in the energy sector include

- the Electricity (Hazard from Trees) Regulations 2003, and the obligations on tree owners and network utility owners to provide for tree trimming near power lines. Despite the government acknowledging that the current Regulations are seen as ineffective and inefficient by works owners in achieving its purpose, there has been little real action over the years to make improvements.

- A long-term regulatory gap between the Electricity Act 1992, compliance processes under the Building Act 2004 and Resource Management Act 1991, and NZECP34 (New Zealand Electrical Code of Practice for Electrical Safe Distances). The gap has effectively excluded ECP 34 from consideration when new buildings are consented. Consequently, despite compliance with ECP

34 being a legal requirement, an alarming number of consents are being issued for development that cannot be safely constructed, occupied or maintained.

What happens next

Section five: What happens next?

Q17. Do you have any additional comments or suggestions that you would like us to consider as we develop the National Infrastructure Plan?

No comment.

Thank you for providing feedback on our Discussion Document. We'll use your comments as we continue to develop the Plan. This will not be the only opportunity for you to provide feedback, but it is an important way to test our emerging thinking on the development of an enduring National Infrastructure Plan.

Please email info@tewaihanga.govt.nz if you have any questions or need more information.