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MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Evaluation of the National Policy Statement on Electricity Transmission and National Environmental Standards for Electricity Transmission Activities

New Zealand Government

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The Ministry for the Environment and the Ministry for Business, Innovation and Employment would like to acknowledge and thank those who provided feedback and input into this evaluation. A list of those stakeholders, including Transpower New Zealand Limited, are noted in Appendix 2. Transpower New Zealand Limited have provided significant input including information about the programme of work planned for the National Grid, Resource Management Act 1991 council plan data, resource consent examples, and maps.

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Executive summary

The National Policy Statement on Electricity Transmission (NPSET) came into effect on 10 April 2008 and the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009 (NESETA) came into effect on 14 January 2010. The Ministry for the Environment (MfE) and the Ministry of Business, Innovation and Employment (MBIE) have conducted an evaluation of the effectiveness of the NPSET and NESETA. This report presents the findings of that evaluation.

The NPSET was developed to guide local authorities in recognising the national significance of the National Electricity Transmission Network (the National Grid) in Resource Management Act 1991 (RMA) planning documents and local decision-making. It facilitates the effective operation, maintenance and future upgrades of the transmission network.

The NESETA were developed to:

- minimise the cost to councils of implementing the NPSET
- ensure planning requirements are:
  - nationally consistent
  - provide adequately for maintaining and upgrading transmission lines, to achieve the intention of the NPSET
- minimise resource consent processing costs and delays.

Key findings of the evaluation

This evaluation found that the NPSET and NESETA are important policy instruments that have broadly met their objectives.

However, changes in technology and a significant programme of work for the National Grid mean the instruments could be revisited to better support the Government's priority of "secure and affordable energy" as identified in the New Zealand Energy Strategy 2011–2021,[1] and move towards a climate-resilient Aotearoa New Zealand.

What impact have the NPSET and the NESETA had on RMA decision-making?

Regional policy statements, regional plans, and district plans

The NPSET states that councils should notify and process a plan change or review by 10 April 2012, to give effect to the NPSET in planning documents, as appropriate. At 30 November 2018, data collated by Transpower New Zealand Ltd (Transpower) shows that:

- the majority of councils had either undertaken a plan change to give effect to the NPSET in their planning documents, or are actively updating their plans (79.5 per cent)

[1] Ministry of Economic Development, 2011.

- 13 councils have not begun updating their plans (16.5 per cent)
- three councils did not need to make changes to their plans, as they do not have National Grid assets in their area (4 per cent).[2]

The evaluation found that councils generally tend to incorporate the NPSET into planning documents under their existing full plan or policy statement review cycle. Approaches to incorporating the NPSET provisions into plans vary, but the most common approach is for the council to include generic utility provisions to cover the issues under the NPSET. These may also cover other issues relating to utilities.

While the majority of councils have or are in the process of implementing the NPSET, its effectiveness is hampered by councils who have not implemented it.

Resource consents and designation processes

The NPSET has a less significant role to date in managing the existing transmission network, which is more directly regulated under the NESETA. The evaluation has found that the NPSET has helped establish new transmission infrastructure, manage adverse environmental effects of the transmission network, and manage the adverse effects of other activities on the transmission network. This is considered to be an improvement in comparison to the situation before the NPSET was in effect.

The evaluation found that the NESETA have facilitated the operation, maintenance and upgrading of the existing transmission network in rural areas, and improved national consistency in planning requirements for maintenance and upgrading of transmission lines. In many cases fewer, or less stringent, resource consents, or no resource consents, are required to approve a project under the NESETA, compared to before the NESETA came into effect.

Projects assisted by the NESETA primarily took place in rural areas. The NESETA appear to have had less impact on streamlining the resource consent process for those projects:

- located in more sensitive areas
- in districts with more permissive rules
- requiring more significant structural changes.

Are the NPSET and NESETA achieving their objectives?

The evaluation has found that the NPSET is meeting its objective. It has:

- had a positive impact on the ability of Transpower to establish new transmission infrastructure
- improved the management of the adverse environmental impacts of the transmission network
- been helpful in protecting the National Grid from the adverse effects of incompatible third-party activities and development.

[2] See Appendix 5. Data provided by Transpower New Zealand Limited, dated 30 November 2018.

The NESETA are also found to be meeting their objectives, having:

- a positive impact on facilitating the operation, maintenance and upgrading of the existing transmission network
- replaced locally variable rules with a nationally-consistent set of regulations for electricity transmission activities relating to the existing National Grid
- reduced the time and cost of resource consent processes.

Do the NPSET and NESETA remain appropriate?

Electricity transmission has an important role in powering New Zealanders' lives and our economy. The objectives of the NPSET and NESETA remain in line with the Government's strategic priority to ensure New Zealand has secure and affordable energy.

However, there is some concern that the NPSET and NESETA may not be enabling enough to accommodate the growth anticipated over the next 30 years, particularly in light of the Government's goal to transition towards 100 per cent renewable electricity generation by 2035 and net zero emissions by 2050.

To better facilitate long-term strategic planning of the transmission network, the NPSET could be more specific for reconductoring activities, enabling changes to the National Grid, and enabling new connections to renewable electricity generation facilities to meet electricity demand. In particular, the following issues have been raised in relation to the NPSET:

- interaction with other, more directive RMA national direction instruments
- concern that the wording in policies 6 and 7 will require the 'undergrounding' of transmission infrastructure
- ambiguity in how the 'upgrade' policies may be interpreted (policies 4, 5 and 6).

The NESETA could better reflect current routine maintenance practices with minor environmental impacts, particularly in urban areas. Transpower identified a number of technical and implementation issues regarding the NESETA, such as lack of specific provisions for steel monopoles and uncertainty in the regulations for vegetation management and earthworks.

Some stakeholders, mainly lines companies, also commented that they would like the NPSET and NESETA to cover distribution networks.

1 Introduction

1.1 Purpose of this report

This report outlines the findings of the Ministry for the Environment's (MfE) and the Ministry of Business, Innovation and Employment's (MBIE) evaluation of the outcomes of the National Policy Statement on Electricity Transmission (NPSET) and the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009 (NESETA). These are national direction instruments under the Resource Management Act 1991 (RMA). This evaluation aims to gain a greater understanding of the impacts of the NPSET and NESETA, and whether they are meeting their objectives and remain fit for purpose.

This report does not include MfE or MBIE recommendations for next steps or policy amendments to the NPSET or NESETA. However, it does include stakeholders' suggestions for amendments where they have been made during the evaluation.

1.2 Evaluation questions

The key questions guiding this evaluation were:

NPSET

1. What impact has the NPSET had on RMA council planning documents and decision-making?
2. To what extent is the NPSET achieving its objective?
3. Are there any issues or technical errors in the NPSET?
4. Does the NPSET remain appropriate in light of government and sectoral developments?

NESETA

5. What impact have the NESETA had on RMA council planning documents and decision-making?
6. To what extent are the NESETA achieving their objectives?
7. Are there any issues or technical errors in the NESETA?
8. Do the NESETA remain appropriate in light of government and sectoral developments?

This evaluation also, where possible, provides evidence to support effective policy decisions for continuous improvement, and identifies transferable learnings for other national policy statements and national environmental standards developed under the RMA.

1.3 The National Grid

The NPSET and NESETA are instruments that apply to New Zealand's National Grid, the high voltage transmission network that supplies and transfers electricity around the country (see map 1). Transpower (a state-owned enterprise) is the owner and operator of the National Grid.

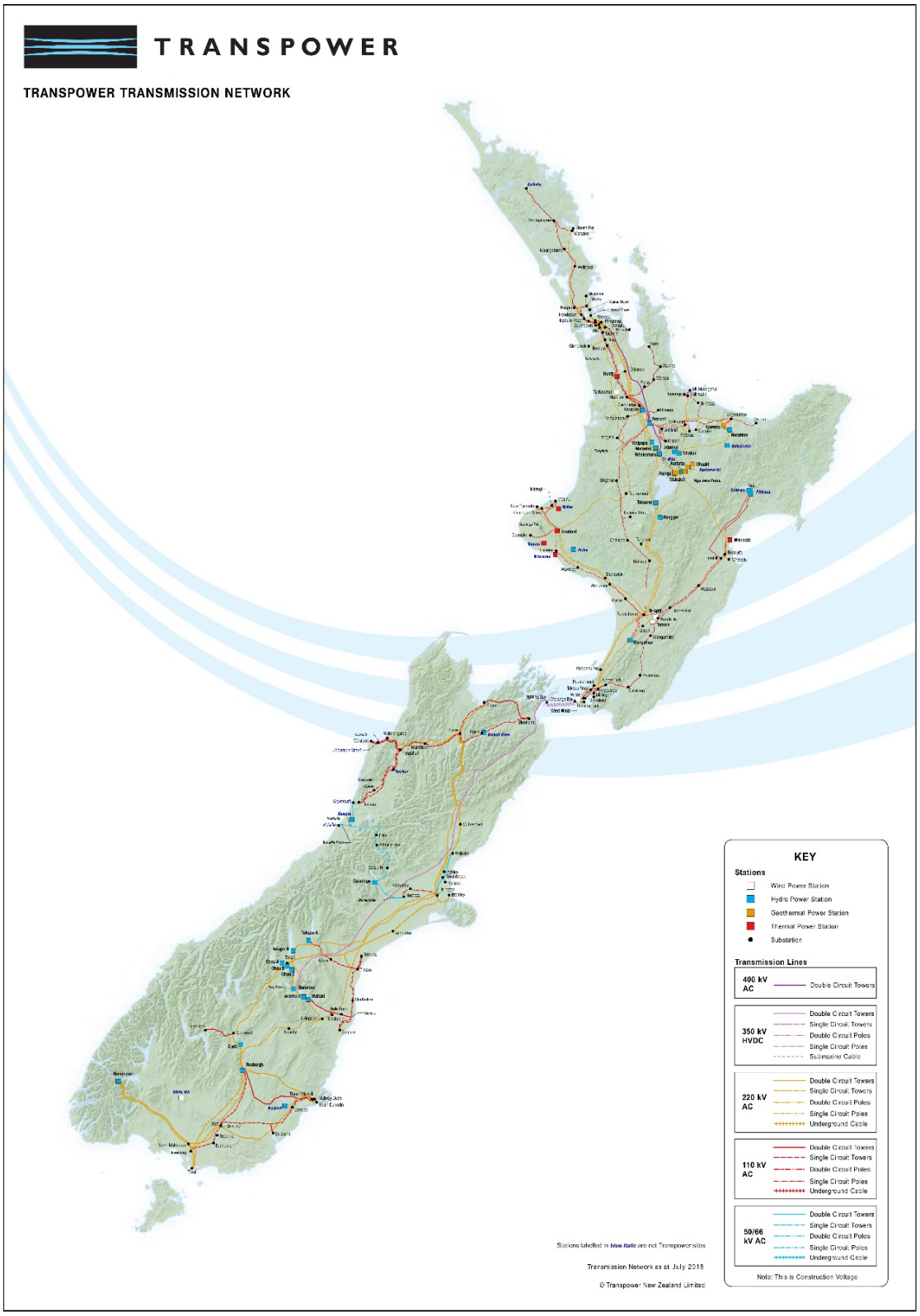
The National Grid is made up of over 12,000 kilometres of high-voltage transmission lines, as well as cables and more than 165 substations. It crosses all but three regions/districts in New Zealand,[3] connecting power stations to substations that feed local electricity distribution networks.

The majority of National Grid assets were developed over 60 years ago. Most overhead lines are not designated under the RMA, nor do they have easements for access. Transpower relies on 'deemed easements' under the Electricity Act 1992 to access, inspect and maintain the lines, and the NPSET and NESETA to provide a nationally-consistent planning framework under the RMA.

The NPSET defines the National Grid as "assets used or owned by Transpower NZ Limited". The NESETA define the National Grid as: "the network that transmits high-voltage electricity in New Zealand and that, at the commencement of these regulations, is owned and operated by Transpower New Zealand Limited, including (a) transmission lines; and (b) electricity substations".

[3] The National Grid crosses all regional and district council boundaries in New Zealand, with the exception of Gisborne District Council, Kaikōura District Council, and Chatham Islands District Council.

Map 1: New Zealand transmission map



Source: Transpower, 2019

1.4 The NPSET

The NPSET came into effect on 10 April 2008. It states that electricity transmission is a matter of national significance under the RMA, and sets out an objective and policies to help guide resource management decision-making. The NPSET is available in full on the MfE website.

The NPSET applies to the current and future National Grid.

What is a national policy statement?

National policy statements (NPSs) are national direction instruments issued under section 52(2) of the RMA. They state objectives and policies for matters of national significance that are relevant to achieving the purpose of the RMA.

All regional policy statements and regional and district plans must "give effect to" an NPS.[4] RMA decision-makers must also "have regard" to a relevant NPS as part of their decision-making processes for resource consent applications, requirements for designations, heritage orders, and water conservation orders.[5]

What does the NPSET do?

The NPSET provides guidance for local authorities on how to recognise the national significance of the National Grid in RMA planning documents (including regional policy statements, regional plans, and district plans), and in decision-making.

The NPSET contains one objective and 14 policies. It provides a framework for managing and future planning of the National Grid, by:

- acknowledging its national significance
- requiring decision-makers to recognise and provide for the national, regional and local benefits of sustainable, secure and efficient electricity transmission
- guiding the management of environmental effects of transmission
- guiding the management of the adverse effects of activities of third parties on the grid by using a buffer corridor management approach (local authorities must consult with Transpower to identify an appropriate buffer corridor that sensitive activities including schools, residential buildings, and hospitals will generally not be allowed within)
- requiring territorial authorities to identify the electricity transmission network on their planning maps
- encouraging long-term strategic planning for elements of the National Grid.

The NPSET preamble directs local authorities to notify and process a plan change or review of their plans to give effect to the NPSET within four years of approval (ie, by 10 April 2012).

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[4] Refer sections 62(3), 67(3) and 75(3) of the RMA.

[5] Refer sections 104(1)(b)(iii), 171(1)(a)(i), 191(1)(d) and 207(c) of the RMA.

MfE produced an implementation guide in 2010[6] that included commentary and examples to help councils in giving effect to the NPSET. The key messages covered in the guidance were:

- the NPSET requires a proactive response to give effect to its objective and policies
- in developing regional and district policies in response to the NPSET, early consultation with Transpower is encouraged, particularly in relation to Transpower's development planning for that particular region or district
- Transpower will need to work with councils to provide relevant information in policy development and resource consent processes.

Further guidance on the risks of development near high-voltage transmission lines was prepared by Transpower[7] (in 2010, updated in 2012), in response to council requests for further information.

Development of the NPSET

Before the NPSET was developed, there was no national framework to support local government decision-making on proposals for transmission lines.

The NPSET was introduced to resolve inconsistencies in provisions relating to electricity transmission activities between first-generation RMA plans and policy statements. Despite the fact that the National Grid is largely the same from one end of the country to the other, all district plans dealt with it differently, and there was considerable variation in policy frameworks. It was considered necessary to promote a more standardised and consistent approach throughout New Zealand, while recognising that local authorities need to respond to their differing environmental circumstances.

The NPSET was developed through consultation, following a board of inquiry process under the RMA. The Board of Inquiry recommended a version of the NPSET, with the Minister for the Environment making final policy decisions. The final gazetted NPSET closely followed the policy recommendations from the Board of Inquiry.

1.5 The NESETA

The NESETA came into effect on 14 January 2010. They set out a national framework for regulating the electricity transmission activities of electricity transmission lines that were operational, or able to be operated at the beginning of the regulations. The NESETA apply only to activities that relate to the operation, maintenance, upgrading, relocation or removal of an existing transmission line and associated activities.[8] The NESETA are available on the New Zealand Legislation website.

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6 Ministry for the Environment, 2010a.

7 Ministry for the Environment, 2010b.

8 Refer regulation 4 of the NES-ETA.

What are national environmental standards?

National environmental standards (NESs) are regulations made under sections 43 and 44 of the RMA. They can prescribe technical standards, methods, or other requirements for specific environmental matters, to ensure a nationally-consistent approach and decision-making process. Each local authority must observe and enforce the standard to the extent to which its powers enable it to.[9]

What do the NESETA do?

The NESETA prescribe a national rule framework for electricity transmission activities, including permitted activities and resource consent requirements. The NESETA apply only to existing high voltage electricity transmission lines that were operational, or able to be operated, when the regulations came into effect. They do not apply to:

- the construction of new transmission lines or substations
- electricity distribution lines – the lines carrying electricity from regional substations to electricity users.

The NESETA replaced any existing and potentially conflicting rules in regional and district plans about the activities it regulates. Councils were required to remove these rules from their plans. The RMA does not specify a timeframe in which councils had to ensure their plans are consistent with the NES, but any rules that conflict with or duplicate the provisions of the NES must be removed as soon as practicable.[10]

MfE produced guidance in 2010 on implementing the NESETA. *NES for Electricity Transmission Activities: Introduction*, provided guidance for councils, Transpower and the public. Including a specific chapter – *NES for Electricity Transmission Activities: Inclusion in District and Regional Plans* – to help councils review and amend their plans to make them consistent with the NESETA.

Developing the NESETA

The majority of the National Grid was constructed before the RMA came into effect, and has rights under the RMA to continue as an existing land use. These rights, however, do not apply to upgrading the transmission lines.

Before the NESETA, resource consent requirements for upgrading and maintenance activities varied across the country. There was often a lack of specific provisions for electricity transmission, which created problems, including:

- variations in costs of processing consents
- delays and uncertainty caused by inconsistencies in plan rules.

These problems created complexities and delays for Transpower to obtain approval for major grid upgrades.

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9 Refer sections 44A(7) and 44A(8) of the RMA.

10 Refer section 44A(4)(b) of the RMA.

The NESETA were developed through consultation (including workshops) carried out by MfE. A small reference group, which included local government and Transpower, were consulted during the final drafting stages.

More information on national direction under the RMA, the NPSET and the NESETA is available on the MfE website.

2 Context

A safe, secure and efficient electricity transmission network is critical to the well-being of New Zealanders, and to our environment. It powers how we live our lives and operate our businesses.

This section outlines the wider context in which the National Policy Statement on Electricity Transmission (NPSET) and the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009 (NESETA) operate, including government priorities and industry developments.

2.1 National direction under the Resource Management Act 1991

Under the Resource Management Act 1991 (RMA), a range of legislative instruments can be used by central government to set national direction. These legislative instruments include national policy statements (NPSs), national environmental standards (NESs), regulations and the National Planning Standards (which will be gazetted in April 2019).

A number of national direction instruments have been developed to date, with more under development. National direction instruments will need to be considered alongside one another in plan making and RMA decision-making.

A number of the NPSET policies are drafted as matters for decision-makers to consider, rather than obligations to achieve certain outcomes. This means the policies are generally weighed up alongside other RMA matters (including other national policy statements) during RMA decision-making, for instance on resource consent decisions.

Other relevant national direction instruments to be considered include the National Policy Statement for Renewable Electricity Generation (NPSREG), the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health, and the New Zealand Coastal Policy Statement. Full lists of national direction instruments that are in force or are currently being considered are available on the MfE website.

2.2 Wider government energy and climate change priorities and legislation

New Zealand is committed to both domestic and international climate change progress. The Government is undertaking initiatives to reduce greenhouse gas emissions, and ensure a climate-resilient future for New Zealanders. These initiatives include both adaptation and emissions reduction work.

In 2016, New Zealand ratified the Paris Agreement. This agreement commits New Zealand to reduce greenhouse gas emissions by 30 per cent below 2005 levels by 2030.

A key part of reducing New Zealand's greenhouse gas emissions is a transition towards 100 per cent renewable electricity generation. At the time of writing this report, work is

underway across government to achieve these goals, with the establishment of the Interim Climate Change Committee and the development of the Zero Carbon Bill.[11] The Interim Climate Change Committee have been tasked with looking at how to achieve the renewable electricity goal.

Following a request from the Government to undertake an inquiry, the Productivity Commission published their report in 2018 *Low-emissions Economy*.[12] This report recommends how New Zealand should manage a transition to a lower net emissions economy. The Productivity Commission noted that the process of obtaining resource consents under the RMA may slow renewable electricity expansion, and the Government should review the relevant planning instruments to reduce these barriers.

The Productivity Commission recommends (R13.3) that the Government should prioritise revising the NPSET and the NPSREG (potentially with more directive language) to ensure local authorities give sufficient weight to the role renewable electricity generation and upgrades to the grid will play in New Zealand's transition to a low-emissions economy. It also recommends that an NES be developed to improve the speed and resourcing of those renewable electricity generation projects with minor environmental and social impacts (R13.4).

Energy strategies

The Government has two operational energy strategies, the New Zealand Energy Strategy 2011–2021 (NZES)[13] and the New Zealand Energy Efficiency and Conservation Strategy 2017–2022 (NZEECS)[14]. These strategies were introduced before recent moves towards more ambitious climate change and energy goals, including a target of net zero emissions by 2050, and a target of 100 per cent renewable electricity generation by 2035.

The NZES sets out four strategic priorities, including:

1. diverse resource development
2. environmental responsibility
3. efficient use of energy
4. secure and affordable energy.

[11] See the Ministry for the Environment's website for further information.

[12] New Zealand Productivity Commission, 2018.

[13] Ministry of Economic Development, 2011.

[14] Ministry of Business, Innovation and Employment, 2017.

Complementary to the NZES, the NZEECS sets out the objectives, actions and targets[15] for energy efficiency and renewable energy. The three priority areas identified in the NZEECS are:

1. renewable and efficient use of process heat
2. efficient and low-emission transport
3. innovative and efficient use of electricity.

Achieving the targets in these priority areas will depend to a large extent on well-functioning electricity markets and ongoing development of electricity-related infrastructure.

Electricity (Hazards from Trees) Regulations 2003

The NESETA set out the permissions and consenting requirements for trimming trees around existing high voltage electricity transmission lines, and complement the Electricity (Hazards from Trees) Regulations 2003, which help govern, among other things, the trimming of trees near power lines.

The Electricity (Hazards from Trees) Regulations 2003 prescribes distances from electrical conductors that trees must not encroach on, and sets rules about who has responsibility for cutting or trimming trees that encroach on electrical conductors.

The Government is undertaking a full review of the Electricity (Hazards from Trees) Regulations 2003 in 2019. This review will examine whether the regulations remain fit for purpose from a range of perspectives, such as electricity supply security, public safety, clarity, efficiency, and effectiveness.

The Electricity Act 1992, safety regulations, and related technical requirements

The Electricity Act 1992 provides for legal access for maintenance and some upgrade work for the electricity networks.

The Electricity (Safety) Regulations 2010 (the ESR) were developed under the Electricity Act 1992, and set rules for the safe design, construction, and management of electricity networks, and safety around networks. The ESR mandate safe distances from power lines, including when anyone works in proximity to power lines.

Implementation of the ESR is supported by various standards and codes of practice that stipulate the technical requirements for electrical installations and applications. When councils implement the NPSET and the NESETA, the distances set out in the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) have been applied.

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[15] NZEECS targets include:

- renewable and efficient use of process heat: decrease in industrial emissions intensity of at least 1 per cent per annum on average between 2017 and 2022
- efficient and low-emissions transport: electric vehicles make up 2 per cent of the vehicle fleet by the end of 2021
- innovative and efficient use of electricity: 90 per cent of electricity will be generated from renewable sources by 2025.

2.3 Work programme for the National Grid

The National Grid plays a key role in transferring electricity across the country. Around 90 per cent of New Zealand's electricity passes through the National Grid, which delivers electricity at high voltage to substations in different parts of New Zealand. The remaining 10 per cent of electricity is generated on site, or by plants directly connected to the local distribution network.

Electricity demand is expected to increase in the next few decades, and the National Grid will need to be further developed and upgraded. *Te Mauri Hiko*[16] estimates a doubling in electricity demand over the next 30 years in its base case scenario. Modelling for the Productivity Commission's *Low-emissions Economy* report[17] outlines that generation will need to increase between 45 per cent and 63 per cent to meet demand by 2050.

Until recently Transpower has focused on maintaining its existing National Grid assets to ensure the 'lights stay on'. Transpower's last major new build project was the North Island Grid Upgrade Project, which was completed in December 2012. Work will be required, however, on the Upper South Island Reliability Project; in the Auckland area to accommodate growth (eg, moving to accommodate roading infrastructure); and for future connections to renewable electricity generation projects. An extensive reconductoring work programme is forecast for the next 30 years due to aging assets, and to enable more efficient transmission.[18] See Appendix 7 for details of Transpower's major transmission line projects planned until 2026.

Overground or underground

The National Grid can be underground or overground. Transpower note that there are advantages and disadvantages to both options. Underground lines:

- are seven to 10 times more expensive to install than overground lines
- have a less significant visual impact, but in the instance of faults, it is harder to identify and access the faults
- are more resilient to weather conditions, but can be susceptible to earthquake damage and third-party damage from digging.

In 2015, the Commerce Select Committee looked at a petition by landowners and businesses seeking the progressive undergrounding of transmission lines in urban areas, predominantly in Auckland.[19] The majority of the Select Committee found that a programme to underground the transmission lines would be impracticable due to prohibitive cost – around $4–6 billion to

16 Transpower, 2018.

17 New Zealand Productivity Commission, 2018.

18 More information on Transpower's work programme is available at www.transpower.co.nz and the Commerce Commission's website www.comcom.govt.nz. Note the cost of new grid assets, maintenance and upgrades is covered by Transpower. Spending and work programmes must be approved by Transpower's regulator, the Commerce Commission.

19 Commerce Select Committee, 2015.

underground the 400 kilometres of urban overhead lines. This works out at around $10–15 million per kilometre to underground the lines.[20]

Transpower have noted that at times it is asked to relocate or underground their assets to enable development, and have a number of projects in the pipeline:

> "Transpower is always willing to discuss such requests with developers, councils and road-controlling authorities. Any relocation or undergrounding work occurs at the developer's/roading authority's cost. Recent examples include the Massey North town centre development (which involved the undergrounding of 2km of the Albany to Henderson line to facilitate safe and cost-effective development of land). Transpower is also currently working with the New Zealand Transport Agency on various roading projects including the Auckland's Northern Corridor, Auckland Manukau Eastern Transport Initiative and East-West Link."[21]

[20] The minority statement in the Commerce Select Committee's report noted that the minority of the Committee came to a different conclusion. They were of the view that transmission lines should be undergrounded gradually "as resources permit, and as the opportunities to underground economically arise".

[21] Transpower submission, 2018.

3 Evaluation method

To evaluate the effectiveness of the National Policy Statement on Electricity Transmission (NPSET) and the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009 (NESETA), the Ministry for the Environment (MfE) and the Ministry of Business, Innovation and Employment (MBIE) have sought feedback and information, which has been used as the basis for the findings in this report. A sample of council plans and electricity transmission projects have also been reviewed to assess the progress of councils in implementing the NPSET and NESETA, and their impact on councils' plans and the consenting process.

3.1 Stakeholder feedback

In October 2015, stakeholders were invited via email to provide feedback on how the NPSET and NESETA have been working. An open invitation to participate was also posted on MfE's website. The invitation to provide feedback was structured to focus on key evaluation questions. Appendix 1 provides details of the outcome framework.

Stakeholder feedback responses were gathered in late 2015, and the data gathered was analysed to identify key themes. To gain an in-depth understanding of the themes identified through the stakeholder feedback, staff from MfE and MBIE invited respondents to be interviewed, to expand on their written feedback. These informal interviews were held in October 2015 to January 2016.

Between 2016 and 2018, work on the evaluation was put on hold due to resourcing constraints across MfE and MBIE.

In October and November 2018, stakeholders who had initially been contacted to provide feedback were emailed again, inviting them to provide any further comments or present any new information on the effectiveness of the instruments. A statement about the review, and inviting feedback, was also posted on the MfE website.

A number of respondents did not have any further information to add to their original responses, but confirmed that the information already provided was still relevant. Given this feedback, no further interviews were held in 2018. The feedback from Transpower had been substantively updated, however, so MfE and MBIE have worked with Transpower to understand their feedback. Transpower has also provided data, maps and consent examples relevant to the NPSET and NESETA.

Appendix 2 provides the list of stakeholders contacted, and respondents.

3.2 Information inputs into the report

4Sight Consulting was contracted by MfE to review a sample of council plans and electricity transmission projects, and their final report was produced in March 2016. The 4Sight review aimed to better understand:

- the timeframes and overall progress of councils to implement the NPSET and NESETA
- how regional policy statements, regional plans, and district plans have 'given effect to' the NPSET and NESETA, the different approaches taken, and the level of consistency or variation
- the impact of the NPSET, NESETA and plan provisions on plan users.

The 4Sight review was done in the following stages:

1. Desktop assessment of how the sampled regional policy statements, regional plans, and district plans have given effect to the NPSET and aligned with the NESETA. The research assessed documents from 25 councils – four regional councils, one unitary council and 20 territorial authorities.
2. Review of 11 sample resource consents for Transpower electricity transmission-related projects that were obtained before the NPSET and NESETA came into effect. These were used to compare the consenting requirements that would have been required if the national instruments had been in effect. Feedback was gathered from the sampled councils via email questionnaires and phone conversations to better understand the challenges, barriers and costs of implementing the NPSET and NESETA.
3. Interviews took place with Transpower to better understand their experience and views on:
   - how the NPSET has been implemented by councils
   - the impact of the NESETA on the consenting process.

The findings of the 4Sight review can be found in the *Compatibility of National Direction Instruments with National Planning Template*.

4 Findings about the NPSET

4.1 Impact on RMA council planning documents and decision-making

Impact on regional policy statements, regional plans, and district plans

The preamble to the National Policy Statement on Electricity Transmission (NPSET) states:

> "In accordance with section 55(2A)(a) of the [RMA], and within four years of approval of this national policy statement, local authorities are to notify and process under the First Schedule to the Act a plan change or review to give effect as appropriate to the provisions of this national policy statement."

This means that councils should give effect to the NPSET by initiating and processing a plan change or review by 10 April 2012 (which was four years from gazettal).

Sections 62(3), 67(3) and 75(3) of the Resource Management Act 1991 (RMA) require regional policy statements and regional and district plans to "give effect to" the NPSET.

For regional policy statements and plan development, the NPSET policies apply in three ways:

1. Policies 9, 11, 12 and 14 provide direction on specific matters that are required to be included in policy statements and plans.
   - Policy 9 sets out standards to be referred to if provisions deal with electric and magnetic field issues.
   - Policy 11 directs **local authorities** to consult with Transpower to identify buffer corridors within which sensitive activities, including schools, residential buildings and hospitals, will generally not be provided for in plans and/or given resource consent.
   - Policy 12 directs **territorial authorities** to identify the electricity transmission network on planning maps.
   - Policy 14 directs **regional councils** to include appropriate objectives, policies and methods (including rules) in policy statements and relevant plans, to facilitate long-term planning for transmission infrastructure and integration with land uses.
2. Policies 1 to 5, 7, 8, 10 and 13 are more general, and apply to decision-makers in a broader sense (including Transpower as a decision-maker on its notices of requirement). Local authorities need to actively evaluate whether their relevant policies and plans give effect to these policies and make any amendments necessary to implement them.
3. Policies 6, 7, 8 and 11 provide direction to Transpower when upgrading, planning or developing the transmission network. Policy 11 signals to Transpower that local authorities may request their medium- to long-term plans for parts of the transmission network to facilitate long-term strategic planning of the grid.

The following table sets out council progress with implementing the NPSET. This table shows that the majority of required councils (79.5 per cent) have either implemented or are actively progressing implementation of the NPSET.

Table 1: Council progress with implementing the NPSET (as at 30 November 2018)

Council type	NPSET provisions operative	Actively in progress of implementing NPSET	Not yet started	Plan changes not needed (no National Grid assets)
City/district/unitary councils (out of 67) (District plan and unitary plans)	39	14	11	3
Regional councils (out of 11) (Regional policy statements and regional plans)	7	2	2	0
Total	46 (59% of councils)	16 (20.5% of councils)	13 (16.5% of councils)	3 (4% of councils)

A full list of council implementation is attached as Appendix 6.[22]

Where councils have not yet initiated a plan change to give effect to the NPSET, we understand that the council either:

- considers that their plan already gives effect to the NPSET (or at least does not prevent its objectives from being achieved) or plan provisions are not inconsistent with the NPSET
- is waiting for a wider plan change or implementation of the National Planning Standards to be initiated.

Where council policy statements and plans are yet to give effect to the NPSET, any new electricity transmission projects or development projects that might have reverse sensitivity effects on the National Grid in those areas are being consented under planning regimes that have not yet been amended to give effect to the NPSET. The NPSET still has weight, however, as decision-makers must have regard to any relevant NPS when considering an application for a resource consent under section 104 of the RMA.

Transpower has noted that the delayed implementation of the NPSET, in particular in relation to policies 10 and 11 which deal with reverse sensitivity issues and the provision of buffer corridors within which sensitive activities will generally not be provided for, has had significant adverse impacts on their ability to manage and protect the National Grid:

> "Despite the NPSET being gazetted some 10 years ago, underbuild[23] and inappropriate development continues to occur under and around National Grid assets…
>
> These policies [10 and 11] mandate corridor protection for the Grid from incompatible third-party development. Unless managed, inappropriate development can compromise the Grid by constraining Transpower's access for vital maintenance and upgrade work, cause reverse sensitivity and other effects and create safety risks."

In areas with urban growth, there is greater pressure to develop greenfields areas and intensify existing urban areas. This can lead to reverse sensitivity issues for the National Grid, and underbuild or development in close proximity to the National Grid. Underbuild causes

[22] This list has been collated and maintained by Transpower New Zealand Limited.

[23] 'Underbuild' is where buildings and incompatible structures are built directly under or too close to overhead electricity transmission lines.

particular problems for Transpower when accessing lines to carry out maintenance and repairs, can expose people and property to safety risks, cause damage to the National Grid, and give rise to reverse sensitivity effects.

It is therefore particularly important for policies 10 and 11 of the NPSET to be implemented in areas where there is a higher level of urban growth and development.

From our analysis we have found that progress with implementing the NPSET is generally better in areas with greater urban growth than in areas not experiencing significant growth.

The timing for implementation appears to be related to the phase a council has reached with its plan review,[24] with a general trend to incorporate the NPSET requirements as part of a wider plan review where possible due to resource efficiency. The 4Sight review found that 15 of the 25 councils sampled took this approach.

It is difficult for councils to separate out costs associated with implementing specific national instruments, particularly when implementation was undertaken as part of a wider plan review. Cost, time and effort to give effect to the NPSET in a regional policy statement, regional plan, or district plan is generally dependent on:

- full plan review versus a specific plan change (ie, there are considerable efficiencies as part of wider plan review or plan change)
- local issues (ie, different growth pressure and issues facing each council)
- level of contention between and engagement required with Transpower and other submitters (ie, lower costs when able to reach agreement with Transpower and key submitters early in process, whereas higher costs where mediation is required).

Most councils reported that more time, effort, and money was required to give effect to the NPSET compared to the National Policy Statement for Renewable Electricity Generation (NPSREG). There appear to be less appeals and challenges associated with the NPSREG compared with the NPSET.

Transpower have indicated their total spend (at 31 October 2018) on implementing the NPSET is in excess of $9.5 million. Horticulture New Zealand's feedback does not specify a spend figure, but states they have made a significant investment in being involved in 22 plan change processes relating to the NPSET since 2009.

NPSET provisions in plans

Approaches to incorporating NPSET provisions in plans vary. However, the most common approach in plan provisions that give effect to the NPSET is for councils to adopt generic utility provisions that cover the issues under by the NPSET, as well as other issues relating to utilities (eg, water supply, transmission and distribution of gas, telecommunication and radio communication, navigational aids and meteorological facilities). A small number of councils have translated the general principles of the NPSET objectives and policies into plans through specific National Grid electricity transmission provisions. Another group of councils uses a mix of generic network utility provisions and specific electricity transmission provisions.

[24] The RMA requires councils to review their regional policy statements and regional and district plans at least every 10 years.

Transpower have noted that the drafting style of provisions varies "but not in their substantive restrictions or enabling provisions".

Transpower's submission states that they consider that the NPSET:

> "is implemented to a satisfactory level because Transpower submits on every notified plan change/policy review that could impact the National Grid. Transpower stays involved in the process (including through to Environment Court appeal) until Transpower considers the NPSET has been given proper effect. For virtually every plan change or policy review, Transpower will either lodge an appeal or join another party's appeal as a section 274 party."

A number of councils noted they found implementation of Policy 11 (requiring the identification of buffer corridors) to be challenging, and one of the costlier aspects of implementing the NPSET.

Policy 9 of the NPSET recommends that provisions in district plans for dealing with extremely low frequency fields be based on the recommendations of the World Health Organisation (WHO), as set out in their monograph Environmental Health Criteria 238 published in June 2007[25] (or revisions thereof). These recommendations suggest that very low cost measures be taken to avoid or reduce exposures to electromagnetic fields. The 4Sight review found these measures do not appear to have been taken up in district plans. The Ministry of Health suggested that guidance on the NPSET include guidance to local authorities on how the WHO recommendations can be incorporated into district plans.

The NPSET implementation guide for local authorities[26] states for territorial authorities:

> "for new lines it is also appropriate to consider the application of prudent avoidance or very low-cost precautionary measures in line with the World Health Organization (WHO) recommendations".

This guidance does not appear to have been translated into district plan provisions. However, we have not been given any evidence that there is a problem with Transpower not using very low-cost measures where appropriate. Transpower has informed us that it has a design standard that sets out electric magnetic field (EMF) design parameters for new transmission lines, substations and underground cables. The design standard:

- identifies the influence of the NPSET on the control of exposures to electromagnetic fields from transmission assets
- identifies the recommendation of WHO to apply very low-cost measures to reduce EMF exposures
- outlines the framework for consideration of precautionary measures, and where available, their implementation.

[25] World Health Organisation, 2007.

[26] Ministry for the Environment, 2010a, p 16.

Impact on resource consent decision-making and designation process

The Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009 (NESETA) which support the objectives of the NPSET, have a direct impact on the resource consent process for activities related to existing transmission lines, and are discussed in section 5. The NPSET is, however relevant in relation to:

- the development of new electricity transmission activities
- activities relating to electricity grid infrastructure that was developed after the NESETA came into effect
- activities, infrastructure (eg, substations), or designations not covered by the NESETA
- discretionary activities under the NESETA
- approvals for other activities that may affect existing or consented electricity transmission activities.

The objective and policies 1 to 8, 10 and 11 of the NPSET are particularly relevant to resource consent applications and a council's recommendation on a designation.

As the recent focus of Transpower's work has been on maintenance and upgrade of existing assets, most RMA approvals since the NPSET and the NESETA were introduced have been sought under the NESETA, so the NPSET has been less tested than the NESETA.

Transpower has provided examples where the NPSET has been an important part of establishing new National Grid infrastructure. For instance, in 2016 Transpower lodged a notice of requirement for the construction, operation, maintenance and upgrade of a short section of the new Otorohanga Deviation, a 220 kilovolt transmission line. Evidence submitted to the hearing considered the project in terms of the NPSET, concluding that it was in accordance with the objective of the NPSET, while at the same time managing the adverse effects of the line through route choice and a suite of proposed conditions. The project was also considered to be aligned with various NPSET policy provisions. On 27 April 2017, the Otorohanga District Council recommended that Transpower confirm the notice of requirement subject to certain conditions.

Similarly, Transpower has also been granted the following RMA approvals:

- land-use consent to extend the switchboard building at the Wairakei substation (March 2012)
- recommendations from the Kāpiti Coast District Council to approve notices of requirement with no changes, for the construction of the Paraparaumu 220 kilovolt connection (a new supply connection to the Kāpiti Coast from the Bunnythorpe-Haywards A and B transmission lines) (October 2013 and February 2014)
- a recommendation from the Gore District Council to approve a notice of requirement for a new tee line in Gore (notice of requirement for designation confirmed on 23 October 2013).

The consistency of these projects with the NPSET was a key consideration in the approval process. In all cases, potential adverse effects on the environment and, where relevant, measures to avoid, remedy and mitigate those effects, were assessed against the objective and policies of the NPSET.

Transpower do not have any examples of resource consents that have been declined, where the NPSET was a relevant consideration.

4.2 Is the NPSET achieving its objective?

The objective of the NPSET is:

> "To recognise the national significance of the electricity transmission network by facilitating the operation, maintenance and upgrade of the existing transmission network and the establishment of new transmission resources to meet the needs of present and future generations, while,
>
> - managing the adverse environmental effects of the network; and
> - managing the adverse environmental effects of other activities on the network."[27]

The matter of national significance to which the NPSET applies is the need to operate, maintain, develop and upgrade the electricity transmission network.

Impact on facilitating existing network, establishing new transmission infrastructure, and managing adverse environmental effects

The NPSET has facilitated the operation, maintenance and upgrade of the existing transmission network, and is facilitating the establishment of new transmission infrastructure.

Transpower considers the NPSET a hugely important strategic document. They have raised concerns, however, about the ability of the NPSET to facilitate the growth they anticipate is needed over the next 30 years to:

- accommodate capacity upgrades
- carry out their reconductoring work programme
- develop new connections to renewable electricity generation and growth.

Transpower consider the NPSET is not enabling enough to facilitate this work, and anticipate high resource consenting costs and difficulty in obtaining resource consents.

A key benefit of the NPSET has been in appeasing public concerns about exposure to EMF from power lines. In 2008, the RMA decision-making on Transpower's proposed Upper North Island Grid Upgrade project was 'called in' by the Minister for the Environment, due to its national significance. Over 1000 submissions raised health effects related to EMF. By the time hearings started, however, the NPSET had been gazetted and policy 9 largely resolved the debate about the appropriate EMF limits to be met. In Transpower's view, without policy 9 of the NPSET the argument on this issue would have continued through to litigation.

Another key benefit of the NPSET is that it formalises the requirement for Transpower to undertake a thorough site selection process for the National Grid, to ensure that alternatives are considered within technical and operational constraints to manage environmental effects.

[27] Ministry for the Environment. 2010a.

Impact on managing third-party activities

In Transpower's view the NPSET is critical to protect the National Grid from the adverse effects of incompatible third-party activities and development, particularly in New Zealand's intensifying urban areas.

Transpower made the following comment on this point:

> "the NPSET is meeting its objective by protecting the Grid from the adverse effects of incompatible third-party activities and development that seek to locate under and near it. Without the NPSET, it is likely businesses, houses, intensive agricultural, farming and other development would surround Grid assets leading to reverse sensitivity effects, constrained access and electrical hazard and other safety risks. In other words – a constrained and compromised Grid that would not deliver electricity efficiently, effectively, safely or reliably.
>
> The NPSET provides critical and mandatory higher order policy direction that protects the Grid from these risks. Without the NPSET, it would be increasingly difficult, if not impossible, to protect the Grid from competing development pressures, particularly in New Zealand's intensifying urban areas."

Horticulture NZ have provided feedback that they consider the level of debate during plan processes indicates that there are different interpretations of what the NPSET is designed to achieve. They state that:

> "at times it has seemed that Transpower wants a clear swathe of land under the National Grid. That is not how HortNZ interprets the objective of the NPSET...While the NPSET is a National Policy Statement and seeks to achieve the purpose of the Act it needs to take into account Section 5, and providing for the economic, social and cultural wellbeing of people and communities. In District Plan processes to date, Transpower have given little consideration of the balancing that needs to be undertaken."

Whilst the NPSET has been helpful in managing incompatible third-party activities and development, its effectiveness is hampered by councils who have not implemented it. Transpower have stated that they seek to manage this through notified resource consent processes where they can, but they are not always aware of developments in the transmission corridor.

4.3 Issues or technical errors

The key issues that have been raised through this review by stakeholders are:

- interaction and ambiguity between how to apply the NPSET alongside other national direction instruments
- concerns with the preamble
- concern that the wording in policies 6 and 7 will require the 'undergrounding' of transmission infrastructure
- out-of-date references to the International Commission on Non-ionising Radiation Protection and World Health Organisation Guidelines in policy 9
- confusion around how to apply the terms 'upgrade' and 'planning and development'.

Interaction with other RMA national direction tools

The NPSET does not resolve all the potential resource management policy tensions that can occur between electricity transmission activities and other activities or interests. Tensions may still arise, for example, between electricity transmission activities and activities that are the subject of other national policy statements, or between electricity transmission activities and other matters requiring consideration under Part 2 of the RMA.

Transpower and Genesis Energy Ltd's key concern regarding interactions and ambiguity between the NPSET and other national direction instruments is that the NPSET may not be directive enough to facilitate the development of the National Grid when considering the NPSET alongside other national direction instruments. This issue has also been discussed in two memorandums received from law firms as part of this evaluation.

Their main area of concern is the relationship between the New Zealand Coastal Policy Statement (NZCPS) and the NPSET, particularly following the King Salmon Supreme Court decision.[28]

Transpower have stated that in their experience "some local authorities and parties to plan or policy change processes, have described the NPSET as a 'lesser form' of national policy statement than the NZCPS." Transpower is concerned there is:

- uncertainty for councils developing policy where more than one NPS comes into play
- increasing time, cost and litigation as further NPSs are developed where there are policy tensions.

Transpower noted potential policy tensions between the wording of the NPSET policy 8, which requires the National Grid to "seek to avoid" adverse effects on outstanding natural landscapes, areas of high natural character and areas of high recreation value and amenity and existing sensitive areas; and policies 13 and 15 of the NZCPS, which direct the avoidance of adverse effects in outstanding natural areas of the coastal environment. Transpower considers that the list of environmental considerations in policy 8 is incomplete and contributes to the policy tensions. They consider policy 8 should be amended to include:

> "outstanding or significant natural landscapes or areas, outstanding or significant natural features or areas, outstanding or significant natural character, areas of significant or outstanding biodiversity, areas of high recreational value, and coastal environments, including the coastal marine area, and areas significant to mana whenua".

In a memorandum to Transpower, Chapman Tripp state that following the approach set out by the King Salmon decision, the NPSET and the NZCPS can and should be read together as far as possible by paying close attention to the ways in which they are expressed to resolve any potential areas of tension. Any outstanding conflict should be resolved on a case-by-case basis by examining the particulars of each given transmission project in light of both the NPSET and the NZCPS, informed by section 5 of the RMA. As such, neither policy can be automatically 'preferred' on the basis that a policy is more directive than the other.

Transpower recently sought resource consent for work on the Hairini-Mt Maunganui Realignment Project, part of which traverses the coastal marine area. The project was granted consent, but the decision has been appealed by submitters and is to be heard in

[28] *Environmental Defense Society v NZ King Salmon* [2014] NZSC 38.

the Environment Court in April 2019. Transpower believes this project is an example of how the interface between the NPSET and NZCPS is ambigious.

Genesis Energy advised this review that they consider the NPSET and the NPSREG will fall short of enabling generation and transmission investment to happen in the right place at the right time:

> "this is because they fail to ensure local authorities give sufficient weight to the importance of developing new and maintaining existing generation and transmission capacity, and fail to counter the strong and directive language of other national policy tools; for example, the NZCPS. This makes it difficult for consenting authorities to balance the costs and benefits of development against completing national and local interests for new projects."

Genesis states further that the NPSET and NPSREG

> "do not clearly translate that their success is in fact inextricably linked; renewable electricity generation requires transmission lines, and transmission exists to facilitate generation."

Concerns with the preamble

Transpower believes that the preamble of the NPSET does not adequately cover the scope of the current demands of the grid. Specifically, this includes:

- the need for ongoing investment into the National Grid, including the significant reconductoring and maintenance of existing assets including in urban areas
- new National Grid connections that will need to be constructed to enable renewable generation to meet current and projected demand for electricity, and to meet the Government's commitment to reduce carbon emissions
- that the NPSET has a key role in ensuring the sustainable management of existing National Grid assets and efficiently consenting and connecting new National Grid connections
- that the interface with other NPSs (including the NZCPS) needs to be explained.

The preamble states:

> "the national policy statement is not meant to be a substitute for, or prevail over, the Act's statutory purpose or the statutory tests already in existence. Further, the national policy statement is subject to Part 2 of the Act".

Transpower have raised concerns that following the King Salmon decision and the interim decision of Justice Wylie in the High Court case *Transpower NZ Ltd v Auckland Council*,[29] that this statement is no longer "an accurate statement of law". This relates to the parts of the King Salmon decision that state that recourse to Part 2 is not considered necessary in all circumstances, if RMA planning documents appropriately give effect to Part 2.

The *High Court in Transpower v Auckland Council* considered the meaning of the words in the preamble, and stated that decision-makers can give NPSET policies the weight they consider

[29] *Transpower New Zealand Ltd v Auckland Council* [2017] NZSC 281.

necessary when exercising their functions and powers, and they can consider the NPSET alongside other Part 2 matters.

Potential requirement to underground

Transpower have raised concerns that the interpretation of policies 6 and 7 could potentially require the 'undergrounding' of assets when establishing new infrastructure, maintaining existing infrastructure, or relocating existing assets.

Policy 6 states that "substantial upgrades of transmission infrastructure should be used as an opportunity to reduce existing adverse effects of transmission including such effects on sensitive activities[30] where appropriate".

Policy 7 states that "planning and development of the transmission system should minimise adverse effects on urban amenity and avoid adverse effects on town centres and areas of high recreational value or amenity and existing sensitive activities".

As noted in this report, the cost of 'undergrounding' infrastructure is 7 to 10 times greater than overground infrastructure. Given Transpower's substantial work programme to upgrade and develop the grid in both urban and other areas, Transpower are concerned that the interpretation of these policies could be prohibitive when facilitating the required transmission infrastructure.

Specifically, Transpower foresees challenges arising as it starts work in urban or high-growth residential areas, such as Drury, Otara, and the area along State Highway 1 near Bombay/Wiri.

Transpower does not believe that policies 6 and 7 should apply to new National Grid connections to renewables or where transmission lines need to be relocated for infrastructure projects.

Out-of-date guidance references

The NPSET requires that provisions that address electric and magnetic fields associated with the electricity transmission network must be based on the International Commission on Non-Ionising Radiation Protection Guidelines for Limiting Exposure to Timing Varying Electric Magnetic Fields (up to 300 gigahertz)[31] and recommendations from the World Health Organisation monograph Environment Health Criteria (No 238, June 2007) [32] or revisions thereof, and any applicable New Zealand standards or national environmental standards.

The Ministry of Health identified that while there is a reference in the NPSET to international guidelines on exposure to extremely low-frequency radiation,[33] these international guidelines were updated in 2010, so the reference in the NPSET should be updated to reflect this. The recommended limit for electric fields remains the same at 5 kilovolts per metre, but the

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30 'Sensitive activities' is defined in the NPSET: "includes schools, residential buildings and hospitals".

31 International Commission on Non-Ionising Radiation Protection, 1998.

32 World Health Organisation, 2007.

33 Currently the NPSET refers to the International Commission on Non-ionising Radiation Protection (ICNIRP) *Guidelines for limiting exposure to time varying electric magnetic fields (up to 300 GHz)* (Health Physics, 1998, 74(4): 494–522).

magnetic field limit has been increased from 100 to 200 microtesla. The new magnetic field limit offers the same degree of protection as the previous one, and the change is based on better understanding of the interactions between magnetic fields and the body.

Transpower, the Ministry of Health, and the Interagency Committee on the Health Effects of Non-Ionising Fields have provided feedback that the references to the WHO and the International Commission on Non-ionising Protection EMF are out of date, and should be updated to reflect the latest guidance.

Confusion in how to interpret terms in the NPSET

The term 'upgrade' is used in various ways throughout the NPSET. At policy 4 these are 'major upgrades', policy 5 'minor upgrades', policy 6 "'substantial upgrades'. Transpower considers that these different categories for 'upgrade' creates uncertainty as to which is the relevant policy for certain work. On this, MfE's guidance for local authorities[34] states:

> "The NPSET uses various descriptive terms when referring to upgrading, including minor upgrades, major upgrades and substantial upgrades. These terms are not defined in the NPSET, nor are they used or defined within the electricity sector. It is not clear, for example, whether these terms should be applied to the potential environmental effects, the capacity change afforded by the upgrade, or the extent/cost of the physical work undertaken; there is no direct correlation between these three aspects. However, within the RMA context of the NPSET, the most appropriate focus for defining levels of upgrading should be potential environmental effects."

Transpower have provided an example where they have had a different interpretation of 'maintenance' vs 'upgrade', in the Hairini-Mt Maunganui Realignment Project resource consenting process. Commissioners appointed as the decision-makers found that work on an existing transmission line was not 'maintenance' but would in fact constitute 'an upgrade'. The Commissioners stated:[35]

> "66 We accept that Transpower considers that the project is "maintenance" as it is not increasing the capacity of supply to Mount Maunganui by undertaking these works. However, as Transpower is proposing to relocate the line and add new poles (including the larger poles either side of Rangataua Bay – 33c and 33d), i.e. new infrastructure, we find this to be an "upgrade" notwithstanding there is no additional capacity being created.
>
> 67 This finding is relevant to the provisions on the NPSET. We record here that the proposal would satisfy both policies 4 and 6 of the NPSET for all the reasons that follow."

Transpower considers that reconductoring works should be excluded from any interpretation of 'upgrade', as reconductoring work relates to maintenance works.

Policies 7 and 8 refer to the "planning and development of the transmission system". Transpower have raised concern about when and how these policies apply, and what would

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[34] Ministry for the Environment, 2010a.

[35] www.tauranga.govt.nz/Portals/0/data/community/consultation/files/resource_consents/rc26155/decision_of_commissioners.pdf.

be covered by ‘planning and development’, whether this applies only to existing or future grid assets.

4.4 Does the NPSET remain appropriate in light of government and sectoral developments?

This evaluation has found that the NPSET continues to be appropriate in providing for the consideration of the national benefits and local effects of the electricity transmission network under the RMA. The objective of the NPSET remains in line with current government priorities, including security of energy supply and transition towards a net-zero emissions economy. The NPSET has had a positive impact on planning for the national transmission network, even though it has not yet been fully implemented across the country. Stakeholders engaged in this evaluation, including Transpower as the key stakeholder interacting with the NPSET, are generally supportive of the intention of the NPSET.

As noted in section 4.3, stakeholders identified a number of issues and amendments that they consider should be assessed to ensure the future usefulness of this instrument. This report does not assess the merits of those suggestions, but sets them out in Appendix 4.

Question about whether NPSET should be expanded to cover distribution networks

Wellington Electricity Lines Ltd, Electricity Network Association, PowerCo, Electricity Engineers Association, and Northland Regional Council noted that the electricity distribution networks (including assets that have been divested from Transpower to lines companies since the introduction of the NPSET) are not covered by the NPSET. They are either of the view that the NPSET should cover those divested assets, or that all distribution networks should be covered by an NPS (whether the NPSET is to be extended or an NPS specific to distribution networks is to be introduced) to provide a nationally-consistent planning framework for those transmission assets. This issue was raised at the time of development of the NPSET. The Board of Inquiry’s recommendations on the proposed NPSET stated that they did not consider it appropriate for the NPSET to apply to all high-tension lines given “it is the New Zealand-wide nature of the grid that is one of the principal reasons for it being of national significance.”

5 Findings about the NESETA

5.1 Impact on RMA council planning documents and decision-making

Impact on regional policy statements, regional plans, and district plans

Under the Resource Management Act 1991 (RMA) any relevant existing and potentially conflicting rules in regional and district plans are replaced by the provisions in the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009 (NESETA). Councils are required to revise their plans as soon as practicable to remove rules that duplicate or conflict with provisions in the NESETA (eg, if a rule was more stringent or more lenient than the NESETA). Councils did not need to undertake consultation to amend their plans.[36]

Where rules did not duplicate nor conflict with the NESETA, councils did not need to take direct action, but they do need to know the standards and how these apply to fulfil their obligations under the RMA.[37] The Ministry for the Environment's (MfE's) guidance noted, however, that councils could choose to amend their district or regional plan to include reference to the NESETA for the benefit of users of the plan.

MfE's guidance identified four options for incorporating the NESETA into plans:[38]

1. amend plan provisions to remove specific duplication or conflict
2. include references to the NESETA by a rule
3. include references to the NESETA by way of advisory notations
4. undertake a Schedule 1 plan change to make wider changes to the electricity transmission provisions in the plan outside the scope of the NESETA.

Eighteen of the 20 district councils sampled as part of the 4Sight review have incorporated the NESETA into their plans in some form. Two district councils made no changes to their plans to incorporate the NESETA. The majority of the NESETA provisions relate to district-level issues (with the exception of discharges from dry blasting and discharge to water regulations which are regulated by regional councils).

Most district councils aligned their plans with the NESETA by inserting a general advisory note referring to the NESETA (option 3 above). Eleven out of the 20 sampled district councils took this approach. Another common approach was to include a general 'catch-all' rule that refers to the need to comply with the requirements of the NESETA (option 2 above), and six out of 20 district councils took this approach.

No district councils in the sample used option 1 above. This is because very few district plans had existing transmission rules that related directly to the National Grid. Predominantly any

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[36] Enabled by section 44A of the RMA.

[37] Refer sections 44A(7) and 44A(8) of the RMA.

[38] Ministry for the Environment, 2010d.

existing generic transmission provisions continued to be relevant to all other transmission-related applications.

Impact on resource consent decision-making

Activities that are permitted under the NESETA, subject to conditions to ensure the activities do not have significant adverse effects on the environment, include:

- operating existing transmission lines
- maintaining conductors (wires) and adding a limited number of conductors provided limits on electric and magnetic fields are not exceeded
- signs on transmission line support structures (within specified size limits)
- strengthening, upgrading and replacing support structures and foundations.

Where activities do not meet the conditions for permitted activities, a resource consent is required, and decision-makers must "have regard" to the relevant provisions of the NESETA.[39] The activity status that applies is set out in the NESETA. Depending on which conditions are not met, activities can be controlled, restricted discretionary, discretionary, and non-complying activities.

The 4Sight review of resource consents demonstrated that the NESETA have met their objectives. Appendix 3 provides an overview of 11 pre- and post-NESETA resource consents. Overall, the NESETA have had a positive 'medium to significant'[40] impact on the consents required for some types of activities. A significant impact was demonstrated in four of the 11 projects reviewed, and a medium impact demonstrated in two of the 11 projects reviewed. In most cases, either fewer consents or no consents were required to approve the same project, or the consents would have a more enabling activity status (eg, the activity was previously discretionary and would now be controlled).

The kind of projects assisted by the NESETA primarily took place in rural areas, and examples of these projects included:

- uprating projects (increasing the amount of power travelling on a line)
- additions of circuits and/or earth wires
- reconductoring of lines (replacement of conductors, often with larger sized conductors made of different materials)
- minor changes in location of transmission support structures (typically less than 5 metres)
- minor changes in height to transmission support structures (15 per cent or less)
- projects across multiple jurisdictions where councils had different rules controlling the same activity or where local authorities may have had confusing or ambiguous rules or definitions.

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[39] Refer section 104(1)(b) of the RMA.

[40] Medium impact – some parts of the project would be much easier to consent, but other parts of the project would experience no change in consenting requirements/risk. Significant impact – usually a change in activity status from discretionary or non-complying to a permitted activity (either for the whole project or the majority of the project) and a significant decrease in consenting risk.

The NESETA also appear to have made a positive impact for projects across multiple jurisdictions where councils had different rules controlling the same activity, or where local authorities may have had confusing or ambiguous rules or definitions. This was the case in five of the 11 projects reviewed.

The NESETA appear to have had the least impact on streamlining the resource consenting process for projects located in more sensitive areas, those in districts with more permissive rules, or those requiring more significant structural changes. Examples of such projects include:

- earthworks – particularly on public conservation land managed by the Department of Conservation (DOC), contaminated land, or on land with archaeological or heritage features
- vegetation works (still covered by any district plan with tree protection rules, also by any rules relating to 'natural areas', which can include a wide range of overlays such as outstanding natural landscapes, outstanding natural features, riparian margins, significant ecological areas)
- works in sensitive areas for example, streams where other district and/or regional rules outside the scope of the NESETA would still apply
- works in permissive regions or districts where applications would have been permitted pre-NESETA.

Where the activity status of a proposal is the same as the pre-NESETA situation, it is unlikely there would be much difference in consent costs or timeframes for these projects pre- and post-NESETA.

5.2 Are the NESETA achieving their objectives?

The NESETA aim to facilitate the operation, maintenance and upgrading of the existing transmission network and support the implementation of the National Policy Statement on Electricity Transmission (NPSET) policies by:

- ensuring planning requirements are nationally consistent and achieve the intention of the NPSET
- minimising the cost of implementing the NPSET
- minimising RMA processing costs and delays.

The following questions were therefore examined to assess the extent to what the NESETA are achieving their objectives:

- to what extent do the NESETA facilitate the operation, maintenance and upgrading of the existing transmission network?
- how successful have the NESETA been at providing for nationally-consistent planning requirements?
- how successful have the NESETA been in reducing time and cost of implementing the NPSET and RMA consent processing?

Whether the policy objectives of the NESETA have been met is summarised below. The evidence is discussed in the rest of this section.

Table 2: Summary of the NESETA evaluation

Objective/purpose	Was it met?
Facilitate the operation, maintenance and upgrading of the existing transmission network	Yes, particularly in rural areas
Ensure national consistency in planning requirements for maintenance and upgrading of transmission lines	Yes
Minimise the cost to councils of implementing the NPSET	Unclear
Minimise RMA processing costs and delays	To some extent, depending on the consents required for specific projects.

Positive impact on facilitating the operation, maintenance and upgrading of the existing transmission network in rural areas

The reduced number of resource consents and more enabling activity statuses provided for Transpower's projects in rural areas indicates that the NESETA have been successful in facilitating the operation, maintenance and upgrading of the existing transmission network. Transpower has also noted, however, that the NESETA have had no, or less, impact on their projects in more sensitive and urban areas to date than before the NESETA was in place.

NESETA achieve national consistency

The NESETA replaced locally variable rules with a nationally consistent set of regulations for specific activities related to the National Grid. Therefore, the NESETA apply a consistent nationwide set of rules to decision-making about existing electricity transmission infrastructure that is covered by the regulation.

No evidence of impact on cost of implementing NPSET

The NESETA should reduce the cost of implementing the NPSET, as councils do not need to develop plan content for many works relating to existing high voltage electricity transmission lines.

We did not receive any feedback from councils that the NESETA had reduced the cost of implementing the NPSET, and so have no evidence to support findings on this matter. The NESETA are not likely to be a factor that councils would consider in terms of plan development costs, given the NESETA have been in place for some time.

The NESETA do not apply to the newer transmission lines (those deemed in the NESETA not to be "existing transmission lines"), and the activities associated with the operation, maintenance, upgrade and removal of these lines, while the NPSET does. This means that the implementation of the NPSET in relation to these new lines and these activities is not addressed through the NESETA. Rather, councils need to have planning requirements specific to these newer lines and these activities, which are separate from the NESETA requirements.

Some positive impact on resource consenting time and costs

The potential cost and time savings due to the NESETA are linked to the activity status of a proposal. Where the NESETA mean that a project is permitted, rather than requiring a consent,

there are significant cost and time savings for Transpower (and presumably councils, given they are not required to process a resource consent in this situation).

Transpower provided the review with information about the costs they incurred from seeking resource consents under the NESETA. In 2016, Transpower spent $108 million maintaining its transmission assets. Of that, Transpower spends approximately $500,000 annually on obtaining resource consents under the NESETA.

Transpower considers the annual cost and time for consenting would be significantly greater without the NESETA, and provided us with some specific examples of where the NESETA have helped to reduce costs.

One example is the Bunnythorpe-Haywards A & B reconductoring project (BPE-HAY), which could have been considered a matter of national significance. Without the NESETA it is likely that this project would have been directed through a board of inquiry (BOI), or the Environment Court decision-making process. Transpower estimates the BOI process would cost at least $4 million, plus the cost of expert witnesses. In contrast, under the NESETA the BPE-HAY project required only four consents, at a total cost of approximately $21,000–$26,000. This project took place predominantly in rural areas.

On the other hand, Transpower noted that for the major maintenance/upgrade work on Auckland's grid network, which will involve replacing 17 lines over the next 30 years and relocating grid overhead lines, many of the associated projects will involve restricted discretionary activities or discretionary activities. Transpower considers the NESETA would not reduce the time and costs associated with obtaining resource consents for those activities when compared with the situation before the NESETA, and the consenting processes for these activities are likely to involve some form of public notification.

Wellington Electricity Lines Limited provided comment that:

> "from a project management perspective, the assuredness and reduced consenting timeframes associated with transmission project timelines have seen a reduction in slippage, and more certainty being provided to delivery of long lead items and construction milestones".

5.3 Issues or technical errors

Transpower has identified a range of issues with the NESETA that can lead to inefficiencies and adverse outcomes for Transpower when seeking to carry out activities regulated under the NES (eg, maintenance and upgrading).

Transpower's key concern about the operation of the NESETA is ensuring they support Transpower's significant reconductoring[41] work programme in Auckland, which will be occurring over the next 2–30 years.

Transpower considers the following NESETA matters, which are likely to impact on the work required in Auckland, are of "critical priority":

[41] 'Reconductoring' involves replacing componentry, particularly the overhead conductor (or transmission line).

(a) Potentially onerous consenting requirements for Auckland projects because the NESETA focuses on projects' adverse effects and not their benefits— The NESETA do not currently adequately recognise the benefits of the transmission network and the specific projects on the network, and focus on assessing and managing a project's adverse effects. In Transpower's view, the consenting of both the National Grid programme in Auckland, and roading projects that affect grid assets, will become unduly onerous if the current situation continues, where only the 'adverse effects' (not the benefits) of the work can be assessed for restricted discretionary activities.

(b) Onerous consenting requirements for adding a new structure because the NESETA does not specifically provide for these activities —Consenting requirements for adding a new structure to an existing transmission line, which is a common activity, are currently not specifically provided for in the NESETA. Note that where activities are not specifically provided for, they are by default treated as a discretionary activity, which requires a resource consent and assessment against NPSET policies before it can be carried out.

(c) Onerous consenting requirements for replacing a tower with a pole because the NESETA does not specifically provide for these activities — Consenting requirements for replacing a tower with a pole are not specifically provided for in the NESETA. Replacing a tower with a pole or a pi pole is becoming a more common transmission activity, and Transpower mostly does such replacement work for third-party projects, such as new developments and roadways.

(d) Onerous consenting requirements for steel monopoles because the NESETA does not specifically provide for these structures — Consenting requirements for steel monopoles,[42] which are increasingly used, are not specifically provided for in the NESETA.

In addition to these issues, Transpower also identified other issues with the NESETA, including several areas of uncertainty in the regulations in relation to trimming, felling, and removing vegetation (regulations 30–32) and earthworks (regulations 33–36). These issues are summarised in Appendix 5.

The Ministry of Health identified an issue with the NESETA's clause 10(2)(a), which sets the upper limit for magnetic fields (MF) produced by the transmission of electricity at the magnetic flux density of 100 microteslas. This was based on the International Commission on Non-Ionising Radiation Protection's (ICNRP) Guidelines, *for limiting exposure to time varying electric magnetic fields (up to 300 GHz),*[43] which was published in 1998, rather than the latest guidelines, published in 2010. In the latest guidelines, the magnetic field limit has been increased to 200 microteslas. The magnetic field limit specified in the NESETA's clause 10(2)(a) is also inconsistent with that in policy 9 of the NPSET, which is worded more flexibly to allow for adaptation to the latest guidelines.

[42] Steel monopoles are much larger than wooden poles. They can bear the same loads as a tower but has a smaller footprint than a tower.

[43] International Commission on Non-Ionizing Radiation Protection, 1998.

5.4 Do the NESETA remain appropriate in light of government and sectoral developments?

The NESETA continue to be relevant, as they regulate the ongoing operation and maintenance of 'existing transmission lines'. They serve their purpose to help implement the NPSET to the extent that councils do not need to individually develop rules for the operation, maintenance, upgrading, relocation and removal of existing electricity transmission lines.

The NESETA remain in line with current government priorities, including security of energy supply and transition towards a net-zero emissions economy.

The need for the NESETA, and their benefits for existing transmission lines in rural areas, have been illustrated by Transpower's Bunnythorpe-Haywards A & B reconductoring project – a major maintenance project spanning multiple largely rural districts, which was largely permitted by the NESETA.

Transpower noted, however, that the NESETA may not be as effective in minimising the consenting time and costs for the existing transmission lines in urban areas, because many projects in the urban areas would involve 'restricted discretionary activities' and 'discretionary activities'. Consenting for such activities is usually resource intensive, but Transpower do not have any examples of resource consents that have been declined under the NESETA.

Transpower also commented that the NESETA have not kept up with some industry developments, and do not currently specifically provide for them or adequately address them. Examples of these developments include:

- an increase in requests to move structures, eg, requests from Auckland Transport and the New Zealand Transport Agency regarding roading projects
- an increase in the use of steel monopoles
- changes in methods or technology for example, new methods for painting and blasting towers, and change of the standard height of a steel monopole
- an increase in assets divested from Transpower to distribution companies.

Technical and interpretation issues identified by Transpower are outlined in Appendix 5. Further consideration of these issues may be warranted, to ensure the consenting requirements for activities related to electricity transmission lines are proportionate.

Some stakeholders (primarily lines companies and Northland Regional Council) provided feedback that the NESETA should cover high-voltage distribution lines that are owned and operated by other lines companies, and should not be limited to Transpower assets.

The Electricity Network Association have stated that:

> "there is no logical basis for excluding assets from the scope of the NES where they have been divested from Transpower to a local lines company, but continue to perform the same critical function in the overall electricity supply system."

Wellington Electricity Lines Ltd state that the impact of the NESETA not covering other lines companies are particularly felt when National Grid assets are divested. Once the asset has transferred ownership and the ongoing operation and maintenance of the asset are no longer

covered by the NESETA, the owner faces additional costs and local body regulation for the ongoing maintenance and operation of the asset.

Powerco consider that those assets should be included, because they continue to perform the same function in the overall electricity supply system after they are divested. PowerCo and the Electricity Network Association are of the view that the definition of 'National Grid' in the NESETA should be amended to include both transmission and critical distribution lines.

6 Conclusions

The evaluation has found that the National Policy Statement on Electricity Transmission (NPSET) is meeting its objectives, as it has:

- had a positive impact on the ability of Transpower to establish new transmission resources
- had a positive impact on the management of the adverse environmental impacts of the transmission network
- generally been helpful in protecting the National Grid from the adverse effects of incompatible third-party activities and development.

While the majority of councils have implemented or are in the process of implementing the NPSET, 13 councils have not yet begun an implementation process. This hinders the management of reverse sensitivity and the protection of the National Grid from incompatible third-party activities and development.

The Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009 (NESETA) are also found to be meeting their objectives as they have:

- had a positive impact on facilitating the operation, maintenance and upgrading of the existing transmission network
- achieved national consistency, replacing locally variable rules with a nationally-consistent set of regulations for electricity transmission activities relating to the existing National Grid
- had a positive impact on resource consenting time and costs.

A safe, secure and efficient electricity transmission network is critical to the well-being of New Zealanders and our environment. The ongoing operation, maintenance, development and upgrade of the electricity transmission network is a matter of national significance and remains a matter of national significance.

The NPSET and NESETA have been in force since April 2008 and January 2010 respectively. Changes in technology and infrastructure for National Grid activities, and predictions for electricity demand mean both instruments could be revisited to ensure their future effectiveness. Specifically:

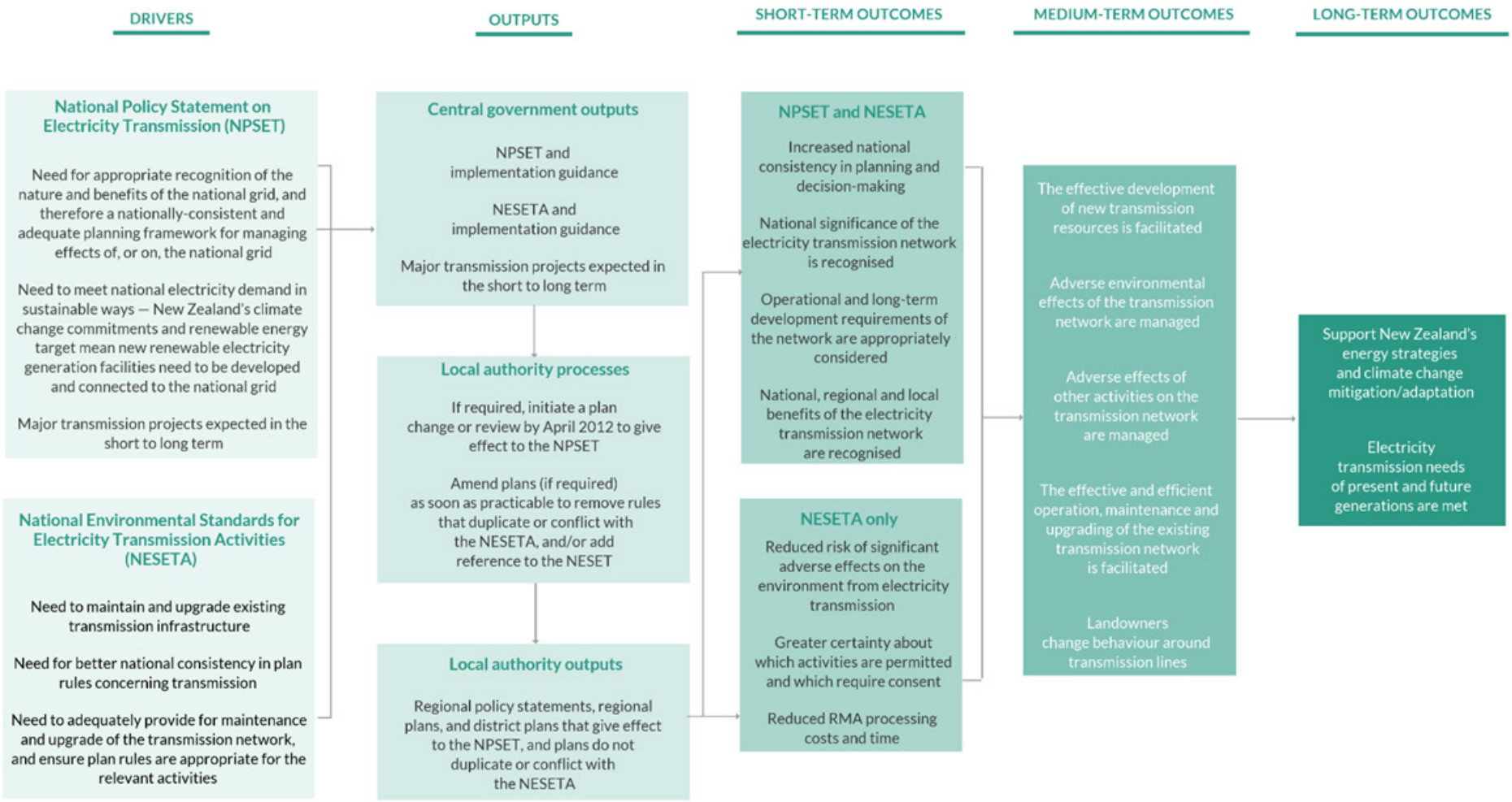
- the NPSET could be more specific for reconductoring activities, changes to the National Grid to accommodate growth (eg, moving to accommodate roading infrastructure), and enabling connections to renewable electricity generation projects
- the NESETA could be updated to better enable current routine maintenance practices with minor environmental effects.

The NPSET and NESETA do not resolve all policy or land-use tensions under Resource Management Act. The NPSET and NESETA remain broadly appropriate and this is not considered to undermine their effectiveness.

While the majority of councils have or are in the process of implementing the NPSET, its effectiveness is hampered by those that have not implemented it.

The results of this evaluation will inform the Government's policy development on electricity transmission, particularly how it can facilitate New Zealand's transition to a climate-resilient Aotearoa New Zealand.

Appendix 1: NPSET and NESETA outcomes framework



Appendix 2: Evaluation participants

Stakeholder group	Invited to participate in the evaluation	Provided input into the evaluation
Renewable electricity generators	Contact Energy Genesis Energy King Country Energy Pioneer Generation Independent Electricity Generators' Association Meridian Energy Mighty River Power Nova Energy New Zealand Energy Ltd Trustpower	Genesis Energy King Country Energy Pioneer Generation
Renewable electricity groups	AWATEA (Aotearoa Wave and Tidal Energy Association) Bioenergy Association of New Zealand New Zealand Geothermal Association New Zealand Wind Energy Association SEANZ (Sustainable Electricity Association New Zealand) Sustainable Business Council Sustainable Business Network	
Electricity distribution and transmission sectors	Electricity Networks Association Transpower New Zealand	Electricity Networks Association POWERCO Transpower New Zealand Unison Networks Limited Wellington Electricity Lines Ltd
Environmental groups, landowners and business groups	Business New Zealand Environmental Defence Society Federated Farmers of New Zealand Fish & Game New Zealand Forest Owners' Association Home Owners' & Buyers' Association of New Zealand Horticulture New Zealand Irrigation New Zealand Landowners' & Contractors' Protection Association Forest & Bird	Horticulture New Zealand
Iwi groups	Ministry for the Environment's iwi partners†	
Local government	Local Government New Zealand Regional councils, unitary authorities and territorial authorities*	Northland Regional Council
Central government	Commerce Commission Electricity Authority Energy Efficiency and Conservation Authority (EECA) Ministry of Health	Commerce Commission Electricity Authority Energy Efficiency and Conservation Authority (EECA) Ministry of Health

Stakeholder group	Invited to participate in the evaluation	Provided input into the evaluation
	Inter-Agency Committee on Non-Ionising Radiation	Inter-Agency Committee on Non-Ionising Radiation
	Department of Conservation	Department of Conservation
	Heritage NZ	
Other	Electricity Engineers' Association	Electricity Engineers' Association
	Institution of Professional Engineers New Zealand (IPENZ)	Resource Management Law Association
	Major Electricity Users' Group (MEUG)	Major Electricity Users' Group (MEUG)
	New Zealand Telecommunications Forum	
	Resource Management Law Association	

* Regional councils, unitary authorities, and territorial authorities were contacted through Local Government New Zealand in 2015. Some councils were contacted by 4Sight Consulting. In 2018, councils were contacted through the November 2018 Environment Update newsletter sent to all councils.

† Ministry for the Environment's iwi partners were notified through the quarterly pānui, *Te Kōmiromiro*. Iwi groups that had submitted on the development on the National Policy Statement for Renewable Electricity Generation 2011 were also notified directly through email in 2015.

Appendix 3: 4Sight review of plans and consents

Review of electricity transmission consents

This phase of the project involved a review by 4Sight of resource consents for 11 Transpower electricity transmission-related projects that were obtained before the National Policy Statement on Electricity Transmission (NPSET) and the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009 (NESETA) came into effect.[44] The research compared the consenting requirements that would apply to these projects had the NPSET and the NESETA been in effect when the resource consents were decided.

The table below identifies the:

- 11 Transpower projects reviewed
- resource consents required pre-NESETA
- key changes to the consent process post-NESETA
- level of impact of the NESETA on Transpower projects if they were being consented post-NESETA.

The impact of the NESETA on Transpower projects is classified using the scale:

- **No impact** – situation is exactly the same as the pre-NESETA situation.
- **Slight impact** – minor improvement in activity status or notification risk but similar consents still required pre- and post-NESETA.
- **Medium impact** – some parts of the project would be much easier to consent, but other parts of the project would experience no change in consenting requirements/risk.
- **Significant impact** – usually a change in activity status from discretionary or non-complying to a permitted activity (either for the whole project or the majority of the project), and a significant decrease in consenting risk.

[44] Most of the projects reviewed were consented before both the NPSET (2008) and NESETA (2010) came into effect, but some of the consents would have been decided in the interim period after the NPSET and before the NESETA came into effect. This is appropriate as the NESETA have had the most direct impact on Transpower's consenting requirements.

Table 3: Electricity transmission resource consents reviewed by 4Sight

Transpower project	Resource consents required pre-NESETA	Key changes to consent process post-NESETA	Level of impact
Uprating of the Henderson-Otahuhu A 220kV transmission line (HEN-OTA) Auckland City Council, Manukau City Council, Waitakere City Council	• **Restricted discretionary consent** required for uprating the section of the HEN-OTA line that passed through the former Auckland City Council. • Application fully notified. • Appealed to the Environment Court • Consent process took over two years from date of original application.	• Regulation 10(1) • Uprating of the HEN-OTA line would be a **permitted** activity. • No opportunity for public/community involvement. • No time delays – Transpower could decide to uprate the HEN-OTA line immediately.	**Significant impact** – major positive change to Transpower's consenting risk for uprating projects as a result of regulation 10 of the NESETA.
Reconductoring the Mangahao to Paekākāriki Transpower lines, Kāpiti Kāpiti Coast District Council, Horowhenua District Council	• **Restricted discretionary** or **discretionary consents** were required for a range of reconductoring and pole/tower alteration consents. • Transpower had incorrectly applied for code of compliance certificates and the Kāpiti Coast District Council had incorrectly granted them. • Confusion over whether parts of the project were permitted or needed consent was a result of ambiguous district plan provision wording. • Court hearing to determine what consents were actually required lasted 10 months. • Transpower ultimately removed the majority of the lines and the remaining small sections of line were transferred to a distribution company to avoid the need for further resource consents.	• Regulations 6(2), 6(6), 14–16. • Not all details provided to researcher, however reasonable to assume that the reconductoring would have been a **permitted activity** and the majority of the pole relocations and height increases would also be **permitted**. • Worst case scenario activity status would be **restricted** discretionary. • Any consents required would be unlikely to be notified.	**Medium impact** – NESETA provide clarity as to activity status of various components of the proposal, removing the risk of judicial review. Most of the project is likely to be permitted under regulations 6 and 14 and the sections of line that need consent are likely to be processed non-notified. Main risk to the project is from the changes to the pole heights and location triggering restricted discretionary consent and neighbours being affected by the proposed changes.

Transpower project	Resource consents required pre-NESETA	Key changes to consent process post-NESETA	Level of impact
ROX-ISL A line temporary deviation, rural property, Timaru Timaru District Council	• **Discretionary consent** required for construction of a temporary transmission line to enable upgrading work on an existing line. • Application processed on a non-notified basis. • Triggers for consent were maximum height of structures in the rural zone, and the fact that the temporary line was over 100kV.	• Regulations 17-18, 33(1)-(7), 33(8), 33(9). • Construction of a temporary transmission line would be **permitted** under regulation 17. • The project would meet the **permitted** earthworks controls under regulation 33. • No consent would be required, no application would need to be prepared and no time delays as a result of consent processing.	**Significant impact** – NESETA are much more permissive than the underlying district plan with respect to temporary lines. Removes any uncertainty and cost in the consenting process.
Dry abrasive foundation blasting, Northland Northland Regional Council, Kaipara District Council, Whangarei District Council, Far North District Council	• **Discretionary consent** required for abrasive foundation blasting for 405 towers across Northland. • Only regional consent required for discharges to land and air, and for blasting near watercourses. • Application was processed on a non-notified basis, but took 16 months to process due to disagreements over conditions. Eventually referred to a hearing committee to make a final resolution.	• Regulations 25–27. • Fewer towers would require regional consent. Only towers within 50m of public roads and 100m of buildings would trigger **restricted discretionary consent**. The remaining towers are likely to be **permitted** or **controlled** (if within 50m of a waterway). • As matters of control or discretion are clearly restricted in the NESETA, arguments over conditions of consent are less likely to occur.	**Slight impact** – regulations 25–27 of the NESETA are slightly improved compared to the pre-NESETA situation, with fewer towers likely to trigger consent and overall activity status being more supporting than under the underlying regional plan.
Proposed tree works along the National Grid within the Auckland Isthmus Auckland City Council	• **Restricted discretionary consent** required for a 'blanket consent' for tree trimming/felling along or under the National Grid transmission lines (caught by general tree protection rules across the Auckland Isthmus). • Consent took approximately three months to process.	• Regulation 30(2), 31(1). • Activity would be **controlled** under regulation 31 of the NESETA, triggered by the fact that there are existing tree protection rules in the Proposed Auckland Unitary Plan, or that some parts of the lines are likely to pass through 'natural' areas (as per regulation 30). • Activity is able to achieve **controlled activity** status because the tree works would be necessary to reduce risk to the transmission lines.	**Slight impact** – Slight improvement to activity status under the NESETA; however, all other aspects of the consent are likely to be the same as the pre-NESETA situation.

Transpower project	Resource consents required pre-NESETA	Key changes to consent process post-NESETA	Level of impact
		• Due to the number of trees involved, Transpower would probably still apply for a blanket consent and processing timeframes, costs and information requirements are likely to be similar to the pre-NESETA situation.	
Earthworks under the BEN-ISL A transmission line Christchurch City Council	• **Discretionary consent** required for reasonable volume of earthworks as part of uprating and maintenance of an existing transmission line. • Consent took 28 days to process. • Consent triggered due to breach of earthworks controls for the underlying rural zone.	• Regulations 33–36. • Activity would be **permitted** as the earthworks would comply with all permitted conditions under regulation 33. • Time and cost improvements as no resource consent required.	**Medium impact** – some improvement as no consent would be required as the NESETA override underlying zone controls for earthworks; however, consenting risk was already quite low pre-NESETA.
ISL-KIK B line, addition of second circuit, running from Christchurch to Tasman Tasman District Council, Marlborough District Council, Hurunui District Council, Waimakariri District Council, Christchurch City Council	• Activity status varied widely depending on which district the works were proposed in (from **permitted** activity in Tasman to **discretionary/non-complying** activity in Christchurch). • Transpower was required to spend a significant amount of time liaising with various district councils before lodging consent to confirm the activity status in each district. • For Marlborough District, Transpower sought declarations from the Environment Court about the interpretation of rules/definitions to get a consent order confirming the project was a **permitted** activity.	• Regulations 7–9, 14–16. • Project is likely to be a **permitted** activity across all districts. • Significant time and cost savings achieved as a result of not having to work under five different sets of district plan rules for the same activity. • Activity status clear under NESETA, so time and cost savings in determining status.	**Significant impact** – major improvements for Transpower as a result of the NESETA, in terms of improved activity status and achieving a consistent set of rules across multiple districts, cutting down the need for an assessment against five different sets of provisions for the same activity. Would result in significant time and cost savings.
WGN-SFD A line, within Stratford District Council, Taranaki – replacing pole structures Stratford District Council	• **Restricted discretionary consent** required for seven pole structures that breached zone height controls (remainder of reconductoring project was **permitted**).	• Regulation 14(3). • No change to consents required. • Project would still require **restricted discretionary** consent as the seven poles were	**No impact** – project demonstrates that in some cases where district councils already have relatively permissive rules (or rely on section 10 existing

Transpower project	Resource consents required pre-NESETA	Key changes to consent process post-NESETA	Level of impact
	• Consent processed in 10 days. Council appeared to rely on existing use right arguments for the majority of the project and only focused on the changes to the seven poles that were deviating from the existing use rights situation.	increasing in height by up to 5.2m, which is more than 15% of the pole height allowed by regulation 14(3) (remaining poles permitted). • As the activity status would be the same as pre-NESETA and the original project was already processed very efficiently, it is unlikely the NESETA would have resulted in any consenting cost or timeframe improvements.	use rights arguments), the NESETA would not have much impact on consent processing.
Telecommunications dish antenna installation Rodney District Council	• **Non-complying consent** required for two telecommunication dish antennae on existing telecom tower.	• NESETA not applicable. • The NESETA do not apply, as regulation 21 only applies to installing telecommunication devices on transmission line support structures.	**No impact** – project is an example of how the NESETA do not cover all aspects of Transpower projects and is limited to works physically associated with the existing National Grid, even if the works support the National Grid.
Bored pole extension work on OTA-WKM tower Waikato District Council	• **Discretionary consent** required for increasing the height of an existing tower supporting transmission lines more than 100kV. • Application was limited notified to the landowner, but a council hearing was avoided through pre-hearing negotiations. • Consenting timeframe was approximately nine months.	• Regulations 14–16, 33–36, 37–38. • Tower upgrades would be a **permitted activity** under regulations relating to tower height increases and relocations, earthworks and construction noise/vibration. • All costs and time delays associated with preparing the consent application and negotiating with the landowner would be avoided.	**Significant impact** – major change as a result of the NESETA, as activity status of the project would improve from discretionary to permitted, with associated time and cost savings.
Maintenance of existing support structures within identified rivers Canterbury Regional Council	• Blanket consent sought for maintenance of transmission support structures in rivers across Canterbury pursuant to sections 13, 14, and 15 of the RMA as operative plan did not contain rules relating to maintenance of existing structures in the river bed.	• Regulations 14–16, 28, 30–32, 33–36. • Alteration of structures can meet **permitted activity** controls under regulations 14 and 17; discharges to water likely to be **permitted** under regulation 28, associated earthworks likely to be a **controlled activity** under regulation	**Slight impact** – the NESETA have had a small impact on the consenting risk of this sort of project; however, the involvement of DOC land, works within riparian margins (natural areas), and the introduction of the

Transpower project	Resource consents required pre-NESETA	Key changes to consent process post-NESETA	Level of impact
	• Activity status defaults to **discretionary**. • Consent probably limited notified. • Consent processing timeframe was approximately one year.	34; and associated vegetation alteration likely to be a **restricted discretionary activity** under regulation 30. • However, changes to the underlying regional plan means additional reasons for consent for **discretionary activity** could be triggered, making the application **discretionary** overall. • High chance the application would be limited notified. • Consent timeframes and costs likely to be similar to pre-NESETA situation.	Canterbury Land and Water Plan mean the consenting risk is likely to be similar to the pre-NESETA situation.

Appendix 4: Suggested Amendments to the NPSET by Stakeholders

Through this evaluation, stakeholders have suggested the following amendments to the National Policy Statement for Electricity Transmission (NPSET):

- Transpower have suggested:
  - The preamble could acknowledge the need for ongoing investment in the National Grid, including significant reconductoring and maintenance of existing assets including in urban areas. The preamble could also note that new grid connections will need to be constructed to enable renewable generation to meet current and projected demand for electricity and to meet the Government's commitment to reduce carbon emissions. Therefore, the NPSET has a key role in ensuring the sustainable management of existing grid assets and efficiently consenting and connecting new grid connections.
  - 'Subject to Part 2' is deleted from the preamble.
  - A new policy could be added to the NPSET requiring decision-makers to enable the reconductoring of existing/established overhead lines. As an alternative, policy 5 of the NPSET could be amended to make it clear that 'maintenance' includes reconductoring and its various components such as structure replacements/strengthening of existing/established infrastructure.
  - Policies 6 and 7 should be amended so that they apply to only particular/larger-scale transmission projects and not reconductoring or new grid connections to renewables, or where transmission lines need to be relocated for roading or other infrastructure projects. Without these amendments, there is a risk that Transpower will be required to, or could at least face considerable delay and cost in defending its decision not to, underground existing assets when doing work in urban areas. This is because of the directions in these policies to reduce/minimise/avoid adverse effects in town centres/sensitive/urban areas.
  - The 'seek to avoid' requirement in policy 8 applies in all environments/including all high value/sensitive areas.
  - A more enabling policy is included for new grid connections to new renewable generation given the specific technical and locational constraints and net zero carbon aims.
  - Any policies that signal undergrounding in urban areas should only apply to new transmission lines, not existing lines.
  - The interface with the NZCPS (and other NPSs) is clearly addressed – perhaps in the preamble.
  - Consider the benefits of the NPSET being more directive about what is expected at each level – regional policy statement, regional plan, and district plan.
  - Clarifying the meaning of 'minor' versus 'major' vs 'substantial' upgrades or at least make it clear that the policies directing undergrounding do not apply to reconductoring or other maintenance/minor upgrade projects involving existing assets.

  - Reconsider the urban versus rural split in policies 7 and 8 – perhaps the NPSET could be structured around existing assets, new assets and third-party effects.
  - A more enabling regime for urban areas (ie, removing the 'avoid' directions).
  - Address the difference between functional and operational/technical needs more specificity (eg, a third-party risks NES or national planning standards) regarding third-party effects to reflect the fact the regime has been agreed across much of New Zealand (but will need to be maintained at plan review time).
- The Ministry of Health consider that the NPSET should be amended to reflect the latest guidance reference on EMF, and has suggested guidance be developed for local authorities on how WHO recommendations on low-cost measures to avoid or reduce exposures to extremely low-frequency fields can be incorporated into district plans.
- Horticulture New Zealand consider that policy 8 should be expanded to consider other activities in rural environments, rather than being limited to those listed in the policy.
- Genesis Energy consider stronger national direction on transmission development is needed.
- The 4Sight review, undertaken on behalf of MfE, found that implementation of the NPSET could be improved by including model provisions in NPSET documents, to be adopted by councils to avoid re-litigation of the same issues across multiple councils and to achieve more national consistency. This could be supported by more detailed guidance and targeted support from central government to help councils give effect to NPSs in line with their policy intent.
- Wellington Electricity Lines Ltd, Electricity Network Association, PowerCo, Electricity Engineers Association, and Northland Regional Council noted that electricity distribution networks (including assets that have been divested from Transpower to lines companies since the introduction of the NPSET) that are not covered by the NPSET should be included in the NPSET or a National Policy Statement specific to distribution networks should be developed.

Appendix 5: Priority NESETA issues identified by Transpower

Lack of recognition of benefits of the transmission network and the associated work

The Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009 (NESETA) do not currently adequately recognise the benefits of the transmission network and the specific projects on the network, and focuses on assessing and managing a project's adverse effects. For restricted discretionary activities, a consent authority's power to grant a consent is restricted to the matters over which discretion is restricted in the NESETA (s87A(3) of the Resource Management Act 1991 (RMA)). None of the matters of discretion for the restricted discretionary activities in the NESETA relate to the benefits of the activity.

In Transpower's view, the consenting of Auckland reconductoring work will become unduly onerous if only the 'adverse effects', and not the benefits, of the work can be assessed for restricted discretionary activities.

NESETA do not specifically provide for some common activities

Transpower has noted the consenting requirements for a number of activities associated with work on the existing transmission lines are not specifically provided for in the NESETA, including:

- adding a new structure to an existing transmission line (regulations 14–16)
- replacing a tower with a pole (regulation 14(1))
- permanent line deviations, which usually involve adding more support structures (regulation 4(1)).

Some definitions not keeping pace with technological developments

Transpower has noted that some definitions are not keeping pace with technological developments. For example, the definition of 'pole' does not include steel monopoles. It is becoming more common for towers to be replaced with steel monopoles.

Some definitions unclear

Transpower also notes that definitions of some of the terms in the NESETA are not clear, including:

- the definition of 'natural area' protected by a rule in a plan (regulation 30(2))
- whether the definition of 'transmission line' includes transmission line support structures (regulation 19)

- whether ‘land’ in regulation 33(9) means the land parcel or the ‘piece of land’ as defined in the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health.

Some regulations unclear

Transpower noted that it is unclear how some of the regulations in the NESETA should be applied in practice. Specifically, it is unclear:

- what trimming, felling, or removal of vegetation and trees can be considered as work to reduce the risk to a transmission line (regulation 31 (1)(a)(ii))
- whether earthworks in the coastal marine area or bed of a lake or river (which are subject to a regional rule) would still require resource consent under regulations 34–36, because regulation 33(7) and regulation 4(2)(f) appear to conflict with each other.

Consenting requirements for some activities seen as overly onerous or arbitrary

Transpower questions the consenting requirements for a number of activities either because they are overly onerous or arbitrary. The activities concerned include:

- increasing the height of transmission line support structure (regulation 14(3)(a) and (b))
- weed removal on public conservation land managed by the Department of Conservation, or in a natural area (regulation 30)
- vegetation trimming or removal (regulation 32(1))
- works on contaminated or potentially contaminated land, particularly where only small amounts of ground are disturbed and little to no soil is removed from the site (regulation 33)
- earthworks that do not involve any soil excavation, such as importing fill on contaminated sites (regulation 33(9)).

Appendix 6: Transpower tracking data of NPSET implementation

CITY / DISTRICT / UNITARY COUNCILS

ACTIVELY IN PROGRESS (14)

District council name	Stage
Manawatu District Council	Appeal (TP)
Opotiki District Council	Appeal (Joined)
Queenstown-Lakes District Council	Appeal (Stage 1)
	Further submission (Stage 2)
Waikato District Council	Submission
Dunedin City Council	Hearing held
Buller District Council	Hearing held
Marlborough District Council (Unitary)	Hearing held
Taupo District Council	Pre-notification
Tasman District Council (Unitary)	Pre-notification (RPS work not started)
New Plymouth District Council	Pre-notification
Nelson City Council (Unitary)	Pre-notification
Selwyn District Council	Pre-notification
Waitaki District Council	Pre-notification
Central Hawke's Bay District Council	Pre-notification

NOT YET STARTED (11)

District council name
Carterton District Council*
Gore District Council
Mackenzie District Council
Masterton District Council*
South Wairarapa District Council*
Tararua District Council
Timaru District Council
Waitomo District Council
Wairoa District Council
Wellington City Council**
Westland District Council

** Combined Wairarapa Plan*

*** Some inconsistent corridor provisions in place*

OPERATIVE NORTH ISLAND (29)

District council name	Year operative
Stratford District Council	Nov 2009
Kawerau District Council	Jul 2011
Kaipara District Council	Jan 2012
Tauranga City Council	Feb 2012
Otorohanga District Council	Mar 2012
Upper Hutt City Council	Sep 2012
Horowhenua District Council	Sep 2013
Rangitikei District Council	Sep 2013
Ruapehu District Council	Sep 2013
Western Bay of Plenty District Council	Sep 2013
Hauraki District Council	Jan 2014
Whangarei District Council	Feb 2014
Matamata-Piako District Council	Dec 2014
Rotorua District Council	Apr 2015
South Waikato District Council	May 2015
Waipa District Council	May 2015
Hutt City Council	Jun 2016

OPERATIVE SOUTH ISLAND (10)

District council name	Year operative
Waimakariri District Council	Oct 2008
Ashburton District Council	Nov 2012
Central Otago District Council	Sep 2013
Waimate District Council	Dec 2013
Clutha District Council	May 2015
Southland District Council	May 2015
Grey District Council	Jul 2015
Christchurch City Council	May 2017
Hurunui District Council	May 2017
Invercargill City Council	Oct 2017
Kaikoura District Council	***No assets in district***
Chatham Islands Council (Unitary)	***No assets in district***

Napier City Council	Jun 2016
Porirua City Council	Jun 2016
Hastings District Council	Nov 2016
Far North District Council	Apr 2017
Thames-Coromandel District Council	May 2017
Whakatane District Council	May 2017
Whanganui District Council	May 2017
South Taranaki District Council	May 2017
Hamilton City Council	Oct 2017
Auckland Council (Unitary)	Nov 2017
Palmerston North City Council	Apr 2018
Kapiti Coast District Council	Nov 2018
Gisborne District Council (Unitary)	***No assets in district***

REGIONAL COUNCILS (RPS)

ACTIVELY IN PROGRESS (2)

Regional council name	Stage
West Coast Regional Council	Hearing held
Wellington Regional Council	Pre-notification

NOT YET STARTED (2)

Regional council name
Hawke's Bay Regional Council
Taranaki Regional Council

OPERATIVE NORTH ISLAND (4)

Regional council name	Year operative
Manawatu-Whanganui Regional Council	Jan 2013
Bay of Plenty Regional Council	Oct 2014
Northland Regional Council	Feb 2016
Waikato Regional Council	Feb 2016

OPERATIVE SOUTH ISLAND (3)

Regional council name	Year operative
Canterbury Regional Council	Jan 2014
Southland Regional Council	Oct 2017
Otago Regional Council	Nov 2018

Appendix 7: Transpower's proposed major transmission line projects

Transpower have provided this information and analysis in January 2019. They have noted that there is a strong chance of notification for many of these projects. Where we have considered notification in some detail, we make comments below. Note project scope and timing may change. All projects are subject to regulatory requirements, including under the Commerce Act 1986.

Project	Description	Area	Timeframe (including obtaining consents and construction)	Potential NESETA/NPSET impact
Albany-Henderson dismantling	Decommissioning of the ALB-HEN 110kV line (15.5km). Part of the Auckland Strategy.	Auckland	Delivery 2020–21 with consents obtained in 2019. Involves overhead and cable sections.	Permitted under NESETA but may need earthworks and vegetation consents; in some coastal areas and also urban/residential. NPSET policies 1–7 relevant.
Central Park-Wilton B Reconductoring	Replacing aged conductors from Wilton substation to Central-Wilton B Tower 26 (10km).	Wellington	2018–August 2019	Permitted under NESETA but may need earthworks and vegetation clearance in natural area consents; no work over houses; mainly rural and recreation areas (eg, Polhill Reserve and Makara Peak Mountain Bike Park). NPSET policies 1–8 relevant.
BOB-OTA Projects (including reconductoring of the BOB-OTA)	Replacing 110kV conductor on the Bombay-Otahuhu line. Includes installing two interconnectors at Bombay, which could enable the Bombay to Wiri section of BOB-OTA A, as well as the conductors from Hamilton to Bombay, to be dismantled. Could be integrated with New Zealand Transport Agency's (NZTA's) Stage 1 of Papakura to Bombay SH1 widening project. NZTA project also impacts the Huntly-Otahuhu A 220kV line (ie, parts of that line are 'in the way' of the proposed road widening).	Auckland	2020–25	NESETA restricted discretionary consents needed for tower relocation and replacement and possibly discretionary consent for adding new structures (if needed for safe clearances). Monopoles may be needed (currently not provided for in NESETA). Highly developed urban area; NPSET policies 1–7 relevant and possibly policy 8 for more rural areas. Detailed design yet to occur. Upgrade component will occur first to enable the 110kV lines to be dismantled. Project will be staged across 3–5+ years. Benefits (line removal) won't be fully realised until stage 2, so need ability to consider

Project	Description	Area	Timeframe (including obtaining consents and construction)	Potential NESETA/NPSET impact
				the project as a whole. Strong likelihood of public notification.
OTA-WKM A & B Reconductoring (Otara section)	Reconductoring of the Otara section of the OTA-WKM A & B lines between Otahuhu substation and the Flatbush undergrounding. 220kV lines, approx. 5km for each line.	Auckland	2019–21	Residential, commercial, industrial, park areas. Intensively developed urban in some areas, eg, by Te Irirangi Drive. NESETA consents may be needed for tower strengthening and replacement/relocation, earthworks, vegetation clearance. Detailed design yet to occur.
Northern Corridor Improvements	NZTA state highway/bus lane project, which will require protection works in place for National Grid cables and possibly cable relocation in places.	Auckland	2019–22+	NESETA consents and possibly amendment to Transpower designation. Urban area. NPSET policies 1–7 relevant.
Light Rail Fanshaw St Cable Relocation	NZTA/Auckland Transport project – may require relocation of NG cable.	Auckland	2020+	NESETA consents and possibly amendment to Transpower designation. Urban area. NPSET policies 1–7 relevant.
OTB HAY A Reconductoring	350kV, approx. 10 km of conductor replacement Oteranga Bay-Haywards A DC line. Churton Park section of the line.	Wellington	2019-2020	May need NESETA consents, eg, vegetation work. In areas zoned residential. NPSET policies 1–8 relevant.
BPE-WIL A Reconductoring	220kV, 28 km of conductor replacement of Bunnythorpe-Wilton A line (the Judgeford-Wilton section).	Wellington	2019–20	Over rural areas, likely to need NESETA consents for tower strengthening and foundation work; near Crofton Downs.
BRK-SFD A & B	Reconductoring and also upgrading the Brunswick-Stratford A line (the line will be duplexed). The B line could be dismantled. 220kV, approximately 100km of line could be uprated.	Taranaki	2022–26	NESETA consents for tower strengthening, vegetation work, conductor replacement etc. Maybe tower height increases. NPSET policies 1–8 relevant. Rural areas, may include areas that are environmentally sensitive.
Temuka Substation Capacity Lines Upgrade	Upgrading the Ashburton-Timaru A & B lines. 110kV, 36km. Requires more capacity due to increasing dairying/irrigation land use.	Timaru	2019–23	Highly developed urban and industrial areas as well as rural. Line crosses a golf course (recreational area). Will need NESETA consents. NPSET policies 1–8 relevant.

Project	Description	Area	Timeframe (including obtaining consents and construction)	Potential NESETA/NPSET impact
HAI-MTM A Realignment	Realigning sections of the Hairini-Mt Maunganui A line onto sections of the B line and into SH corridor. This will allow parts of the A line to be removed from above houses, cultural and horticultural land, as well as allowing a tower to be removed from the coastal marine area (an outstanding natural landscape area).	Tauranga	2019–20	Mixture of urban, rural and coastal areas. Work in an outstanding natural feature or landscape in the coast. Range of NESETA consents applied for and granted by Council and now under appeal to the Environment Court. NPSET policies 1–8 relevant. Consents applications were publicly notified.
HAM-DEV A	Hamilton-Deviation A relocation to enable inland port development at Ruakura by Tainui Group Holdings. Requires relocation of existing NG lines.	Hamilton	2019–21	NESETA consents required. Rural/industrial area. NPSET policies 1–6 relevant.
AMETI	AT projects affecting sections of the OTA-PEN A overhead line and cable; assets will need relocation, including the cable that is in the coastal marine area.	Auckland	2019–21	NESETA consents and possible designation amendment required. NPSET policies 1–7 relevant. Cable consent likely to be publicly notified. Currently working with AT to limit the impacts on our overhead assets – potential for only one structure to require relocation.
Drury upgrade	Upgrade of existing switching station to a substation. Requires amendment to designation and installation of transformers (for KiwiRail and Counties Power).	Auckland	2019–22	Designation amendment. NPSET policies 1–7 relevant. Project could be publicly or limited notified – currently little development around the site (which is visible from the State Highway). A large number of infrastructure and housing development being planned for this area.
CST-NPL A Reconductoring	Carrington Street-New Plymouth reconductoring.	New Plymouth	2020–22	Urban and rural areas. NESETA consents required. NPSET policies 1–8 relevant.

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