MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

COVERSHEET

Minister	Hon Simeon Brown	**Portfolio**	Energy
Title of Cabinet paper	Amendments to the Electricity (Hazards from Trees) Regulations 2003	**Date to be published**	28 August 2024

List of documents that have been proactively released		
Date	**Title**	**Author**
May 2024	Amendments to the Electricity (Hazards from Trees) Regulations 2003	Office of Energy Minister
8 May 2024	Electricity (Hazards from Trees) Regulations 2003: Proposed Amendments ECO-24-MIN-0071 Minute	Cabinet Office
13 May 2024	Regulatory Impact Statement: Amendments to the Electricity (Hazards from Trees) Regulations 2003	MBIE

Information redacted **YES**

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Some information has been withheld for the reasons of constitution conventions, confidential advice to government and free and frank opinions.

Regulatory Impact Statement: Amendments to the Electricity (Hazards from Trees) Regulations 2003

Coversheet

Purpose of Document	
Decision sought:	*Cabinet agreement to amend the Electricity (Hazards from Trees) Regulations 2003 to improve the security of electricity supply and public safety.*
Advising agencies:	*The Ministry of Business, Innovation and Employment*
Proposing Ministers:	*Minister for Energy*
Date finalised:	*19 April 2024*

Problem Definition

The Electricity (Hazards from Trees) Regulations 2003 (the Regulations) deal with risks to electricity supply and public safety posed by trees and vegetation encroaching on electricity lines.

The Regulations are failing to adequately manage the risks and costs from trees falling on or encroaching into lines. This lack of adequate management is likely to get worse with changing weather, changing land use and increased reliance on electricity.

Specifically, the Regulations currently:

- do not adequately manage the risks and costs of damage from "**out of zone trees**" outside of the existing non-encroachment zones, that risk of falling on lines, especially in adverse weather; and
- result in **barriers to the efficiency and workability** of the regime for parties involved.

Without a change to the Regulations there will be increased costs to affected parties such as lines and tree owners and, in most cases, ultimately to consumers to whom these costs are passed on. These costs take the form of direct damage to lines, loss of economic activity from interruptions to supply, and safety risks to persons and property.

Executive Summary

The current regime

One of the key measures for addressing risks caused by electricity lines near trees are the Regulations, which create rules for a non-encroachment zone around lines the (Growth Limit Zone or GLZ), and a regime for the allocation of costs and responsibility for managing trees within and near this zone. The primary goal of the Regulations is to

manage trees in, or encroaching on, the GLZ. The perimeter of the GLZ is dependent on the voltage and length of the line's span.

The Regulations seek to balance the costs and responsibilities for managing risks from trees according to the parties most appropriate to bear them. The main parties to which these costs and responsibilities are allocated are those that own trees or vegetation near electricity lines ("tree owners") and those that own and/or operate the lines ("works owners").

Works owners include:

- Transpower (which operates high voltage transmission lines making up the national grid), and
- electricity distribution businesses or "EDBs" (which operate mid to lower voltage distribution lines that cover specific regions and which supply electricity to end consumers).

Tree owners can include any owner of trees or vegetation, from commercial forestry owners to those in residential areas who have trees on their property.

Currently, works owners are expected to identify trees encroaching into the GLZ. Works owners must notify tree owners when a tree is growing into GLZ and needs to be cut or trimmed. The first time a tree owner is notified, the works owners must pay for any necessary cutting or trimming.

If a tree has already received a trim at the works owners' expense and is notified as encroaching into the GLZ again, tree owners are responsible for managing the tree at their own cost. Tree owners who fail to comply may face penalties and may be liable to the works owners for any damage to a line caused by the tree. However, in certain circumstances, tree owners may avoid responsibility for cutting or trimming a tree by notifying the works owners that they have no interest in that tree.

Transpower and most EDBs manage their expenditure on vegetation management within their allowed revenue under the price/quality regime in Part 4 of the Commerce Act 1986.

Other laws and regulations also impact vegetation management, including an electrical code of practice for safe distances from lines and the Emissions Trading Scheme (ETS).

The status quo is likely to impose costs now and into the future

The Regulations in their current form are failing to adequately manage the risks and costs from trees falling on or encroaching into lines, particularly outside the GLZ.

Changes in land use and weather patterns are increasing risks to the security of electricity supply and causing more outages (particularly through trees falling onto lines) and jeopardising public safety. Evidence suggests that a significant proportion of outages in recent severe weather (e.g., Cyclone Gabrielle) occurred from trees falling on lines from outside of the GLZ.

The current scope of the Regulations is too narrow to effectively address risks from outside of the GLZ, while non-regulatory solutions are also ineffective. If the status quo is retained, in future this is likely to lead to increased costs and potential hazards that could be avoided by better vegetation management around lines.

In addition, there is evidence that there are issues with the efficiency and workability of the regulatory regime. Additional costs can be incurred when the interplay between the Regulations and NZECP 34 increases the likelihood those cutting trees need to use

expensive specialist personnel. Additional costs and inefficiency in management of tree risk can arise because of issues works owners have with accessing trees.

Failure to address these risks from out of zone trees, and additional issues with the efficiency and workability of the regulatory regime, is expected to impose future costs that could be avoided with better management of the risks from trees. These costs take the form of direct damage to lines, loss of economic activity from interruptions to supply, safety risks to persons and property, and additional costs passed on to consumers through inefficiencies.

Consultation on changing the Regulations occurred in 2023

In March 2023, MBIE consulted on its view of potential issues with the regulatory regime and options for changing the Regulations to address these issues.

A wide range of stakeholders responded, including the Electricity Networks Association (ENA), Transpower, New Zealand Forest Owners Association (FOA) and New Zealand Forest Managers.

Officials also conducted follow up discussions with key stakeholders to better understand their submissions and to further test potential policy options. As a part of this process MBIE also engaged with Māori who own forestry assets as well as Māori who were directly impacted by Cyclone Gabrielle.

Feedback and data gathered from this consultation has informed officials' view of the policy problem described in this RIS and the analysis of potential policy options.

Objectives and criteria

The objectives sought to address the policy problem are:

- To promote improved security of electricity supply and public safety from appropriate management of trees and vegetation near electricity lines, including in response to increased frequency of extreme weather events.
- To achieve these outcomes while limiting and balancing any adverse impacts on electricity consumers, works owners, landowners, tree owners and the general public.

For the purpose of assessing options against the objectives, we have used the following criteria: effectiveness (impact on security of electricity supply and public safety), efficiency (the balance of and allocation of costs) and regulatory certainty (the predictability of regulatory outcomes).

These criteria are consistent with the assessment criteria suggested in MBIE's 2023 consultation document looking at issues and options for the regulatory regime.

Scope of options for the policy problem

Constraints and limitations on the issues addressed by this RIS (described below) mean that options have only been developed for addressing issues in the following areas:

- **Out of zone tree risks from overhanging trees**: Options for addressing risks from trees whose branches grow directly above or near a line, but are technically outside of the GLZ, and which may be at risk of falling onto lines, particularly in bad weather.
- **Barriers to the efficiency and workability from NZECP34 and the Regulations:** Options for addressing costs and difficulty in trimming trees related to the current

interplay between NZECP 34 and the Regulations, which can lead to expensive specialist personnel being needed to carry out tree trimming.

Preferred options for addressing the policy problem

The following are our preferred options to address the policy problem, following assessment of options against the criteria:

i. **include a "clear to the sky" Growth Limit Zone** to address out of zone tree risks from overhanging trees

ii. **extend the notice zone by 1m** to align the Regulations with the safe distances specified in NZECP34.

Analysis suggests these options best address the risks expected to develop with the status quo, and should reduce costs to relevant parties expected to otherwise arise.

The current allocation of costs for vegetation management between tree owners and works owners is not expected to change under these proposals.

Limitations and Constraints on Analysis

We have only considered some issues and possible options within the broader policy problem

In this Regulatory Impact Statement (RIS) we have only considered some issues, and possible options for addressing these, within the broader problem definition discussed above. These constraints on our analysis reflect a Ministerial direction for a staged approach to measures to address the policy problem. Constitutional conventions

It is likely that a second phase of measures, supported by a separate or supplementary RIS, will address these areas.

Our analysis excludes consideration of options for addressing the following areas of the policy problem, which are likely to be separately considered in a second, future phase.

Areas excluded for the purposes of out of zone tree risks:

- Risks from taller and/or unhealthy out of zone trees falling on lines, where those trees are further away in the corridors horizontally either side of the existing GLZ.
- Risks to lines from new, future forestry which may potentially be managed on a different basis than under the existing regime, given a different balance of costs and risks imposed on parties.

Areas excluded for the purposes of addressing the workability and efficiency of the regime:

- Difficulties for works owners accessing land to carry out tree-related work.
- Parts of the Regulations that we consider to be operating adequately under the status quo.

Limited data available for analysis

Our analysis in this RIS is also limited by the data that we have been able to use.

Vegetation management data

Data about the costs of vegetation management and the causes of outages has been obtained from submissions, from regulatory data collected by the Commerce Commission (Commission) under Part 4 of the Commerce Act 1986, from the EDBs' Asset Management Plans, and directly from stakeholders.

Data on tree fall impact

There is limited data on the impact of treefall on low voltage networks. The Commission collects information on unplanned outages, but this information focusses on higher voltage lines.

There is also limited data on the contribution of tree fall from outside of the GLZ to outages during severe weather events. We have placed some reliance on the Electricity Distribution Sector Cyclone Gabrielle Review prepared by Energia Ltd for Electricity Networks Aotearoa (ENA) with the intent of being submitted to government agencies, stakeholders, and EDBs. The report was commissioned by ENA and is designed to assesses the appropriateness of the electricity distribution sector's risk reduction, readiness and response to Cyclone Gabrielle.

Data on administrative costs to tree owners

Forestry owners raised a wide variety of costs that they face because electricity lines run through their land, such as weeding and administrative costs from setting up works owner access to the lines on their land. We have been unable to obtain sufficiently detailed data to properly quantify these costs. However, we consider that the overall scale of these numbers will not be sufficient to alter decision making in relation to the benefits seen by improved security of supply and public safety.

Responsible Manager(s) (completed by relevant manager)

Tamara Linnhoff

Manager

Electricity Generation, Infrastructure and Markets Policy

Ministry of Business, Innovation and Employment

1 May 2024

Quality Assurance (completed by QA panel)

Reviewing Agency:	Ministry of Business, Innovation and Employment
Panel Assessment & Comment:	An internal quality assurance panel convened by MBIE has reviewed the Regulatory Impact Assessment and considers that the information and analysis summarised in the Regulatory Impact Assessment meets the Quality Assurance criteria for Ministers to make informed decisions on the proposals in this paper.

Section 1: Diagnosing the policy problem

Background – risks from electricity lines near trees

Electricity lines are needed to convey electricity, but often pass near trees

New Zealand's electricity system relies on electricity lines to convey electricity from generation sources (e.g., hydro, wind, geothermal, and gas/coal power stations) to end consumers. The electricity lines include:

- high voltage transmission lines (making up the national grid and operated by Transpower), and
- mid to lower voltage distribution lines operated by electricity distribution businesses (EDBs), that cover specific regions and which are the main suppliers of electricity to end consumers.

Transpower and the EDBs that manage these lines are referred to in this paper as "works owners" and are responsible for the safe and reliable operation of lines.

Thousands of electricity lines cover the country, and many pass through or near trees and other vegetation (for the purpose of this paper we refer simply to "trees" as inclusive of all relevant vegetation).

Failure to properly manage risk from trees imposes costs on society

If these trees are not appropriately managed, they can encroach on lines or fall on them in bad weather. This can:

- impose increased costs on consumers (via lines charges), from works owners remedying tree-caused damage to lines
- cause economic damage resulting from loss of electricity supply where lines are downed (i.e., economic activity paused or affected due to interruptions in supply)
- harm land, property and people where trees cause safety issues (e.g., fire, loss of supply).

The risk trees present varies based on lines, and tree types

The potential risks to lines from trees, and the stakeholders involved, vary based on the types of trees and the lines they are near.

Native trees typically grow considerably more slowly than *Pinus radiata* used in commercial forestry which, unlike native trees, are harvested on regular cycles by the forestry sector. These factors mean that commercial forestry is more of a risk to lines than native forests.

Regions of the country have varied penetrations of commercial forestry as well. Confidential advice to Government

Different voltages of lines also alter the risk that trees present, with high voltage lines typically serving considerably larger portions of the population than low voltage lines. Therefore, the impact of outages across different lines and voltages varies considerably.

Electricity lines can also be affected by encroachment from trees in urban or residential settings. In these settings the direct risk to public safety from a downed line may be higher. However, these lines are also often lower voltage and the risk from treefall less uniform.

Lines within commercial forestry present as the key area where risks to lines from trees require robust management. They are the primary focus of the Electricity (Hazards from Trees) Regulations 2003 (Regulations), described further below. However, the rules in the Regulations do not differentiate between lines near commercial forestry and those near urban/residential trees. Any person that administers land under the Conservation Act 1987is not liable cost costs of remedying damage cause by trees and works owners are responsible for cutting/trimming trees encroaching on the GLZ.

Surrounding Regulatory Framework

One of the key measures for addressing risks caused by electricity lines near trees are the Regulations, which create rules for a non-encroachment zone around lines the (Growth Limit Zone or GLZ), and a regime for allocation costs and responsibility for managing trees within and near this zone.

A number of other laws and instruments also impact the management of trees near lines, including:

- the NZ Electrical Code of Practice for Electrical Safe Distances (NZECP 34), which affects who and how (including distances) trees near lines are cut or trimmed
- Part 4 of the Commerce Act 1986, which impacts what price-quality regulated works owners (Transpower and most EDBs) can spend on vegetation management
- the Emissions Trading Scheme (ETS), for which forestry owners can earn and trade units reflecting the emissions abatement impact of trees.

The Electricity (Hazards from Trees) Regulations 2003

The Regulations are one of the key regulatory measures addressing the risks from trees falling on or encroaching into electricity lines.

The Regulations are made under section 169 of the Electricity Act 1992 (Act), which allows regulations to be made for the purpose of “securing the protection of persons and property from injury or damage caused through electricity…” by managing vegetation near electrical installations (including lines).

How the Regulations work to address risks from trees

Currently the Regulations, among other things:

1. Create a non-encroachment zone (GLZ) around electricity lines. Works owners must notify tree owners that a tree is encroaching on the GLZ and it must be cut or trimmed. Works owners may also notify tree owners that a tree is close to encroaching the GLZ.
2. Set rules about who is responsible for cutting or trimming trees that grows into the GLZ.
3. Assign liability if rules are breached.
4. Provide a system to resolve disputes about the operation of the regulations.

The primary goal of the Regulations is to manage trees in, or encroaching on, the GLZ. The perimeter of the GLZ is dependent on the voltage and length of the line’s span.

For those lines with spans less than or equal to 150m, (a category making up the large majority of lines),[1] the maximum GLZ distance is 4 metres either side of a line. The Regulations also create some wider GLZ distances for lines with longer spans, affecting a much smaller number of lines.[2]

The Regulations aim to balance costs and responsibilities across parties

The Regulations seek to balance costs and responsibilities for managing risks from trees to those parties seen as most appropriate to bear these. For example:

- ***First cut and trim costs borne by works owners**:* When a tree first begins to encroach on the GLZ, the works owner must notify the tree owner of this, after which the tree owner is responsible for the "first cut and trim" of the tree. However, the works owner must bear the costs of this first cut and trim.

- ***Subsequent cut and trim costs borne by tree owners**:* After the works owner has first identified an encroaching tree, and paid for the first cut and trim, the tree owner then bears the cost of subsequent cut and trims of that tree.

- ***Tree owner can claim "no interest" in tree*:** Tree owners can avoid the costs of managing a tree encroaching near the GLZ by claiming that they have no interest in the tree. This reflects that some trees may naturally grow near the GLZ (without being planted), and tree owners may not commercially benefit from these, making it more appropriate for the works owner to manage this risk (potentially by removing the tree altogether).

- ***Dispensations may be available***: Tree owners can seek dispensation from the default obligations to trim their tree (for example, because the tree is unlikely to pose a serious hazard) and can go to arbitration if this is disputed.

- ***Parties can negotiate for bespoke arrangements***: Although the Regulations create default rules for managing risks from trees, including who bears what costs, works owners and tree owner remain free to negotiate binding arrangements that supersede the regime set out in the Regulations. In principle, parties can seek out an allocation of responsibility that best meets their needs.

The Regulations also make tree owners explicitly liable to works owners for the costs of remedying damage to lines caused by a tree owner's failure to comply with the Regulations.

Both tree owners and works owners will commit offences for failures to perform certain obligations without reasonable excuse.

New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34)

Tree management conducted under the Regulations are affected by the NZ Electrical Code of Practice for Electrical Safe Distances (NZECP 34).

NZECP 34 is a code of practice, issued under the Act, that sets minimum safe electrical distance requirements for overhead electric line installations and other works associated with

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1 Confidential advice to Government

2 Categories are defined depending on whether lines are between 150 – 300m, 301 – 500m, 501 – 700m, and greater than 701m. At their widest point (in the middle part of these lines), the respective horizontal distances of the GLZ extend out to 8m, 15m, 30m and 50m either side of the line.

the supply of electricity. It requires any person who carries out any work near power lines or poles to maintain safe distances. These distances can vary based on the voltage of line and are not always consistent with the distances for the GLZ (which also vary with line voltage and span). The obligations in NZECP 34 apply to people working near lines via obligations in the Electricity (Safety) Regulations 2010.

Part 4 of the Commerce Act 1986

Electricity works owners are geographical monopoly businesses that are regulated under Part 4 of the Commerce Act 1986 (Part 4).

Under Part 4, the Commerce Commission determines the revenue that "price-quality" regulated EDBs (also known as "non-exempt" EDBs) and Transpower can earn from consumers during set regulatory periods (known as price paths). The Regulations are relevant to revenue under Part 4 because, before the start of each new price path, the Commission will look at the spend that works owners think will be needed to manage vegetation. The Commission will take this into account in setting what works owners can earn from consumers during that period. For EDBs, this will reflect averaged forecast costs across all price-quality regulated EDBs.

While price paths do not limit what can be spent on vegetation management, they do limit the overall revenue recovered form customers during the regulatory period. This means that works owners will need to absorb a portion of any spend on vegetation that is higher than expected, with the rest recovered from consumers over time. This incentivises these regulated works owners to look for efficiencies in managing risks to lines from trees.

The Commission is currently consulting with Transpower and price-quality regulated EDBs on the price paths that will apply to them in the coming regulatory period, starting on 1 April 2025. The Commission is due to decide the price paths by 30 November 2024.

The Emissions Trading Scheme (ETS)

The ETS is relevant to management of trees near lines, as forestry owners can gain "New Zealand Units" (ETS Units) that reflect the abatement impact of their forests, and which can have significant value. Vegetation management near lines can cost tree owners and potentially affect emissions abatement, where the deforestation impact is significant enough.

The ETS is a key domestic scheme towards meeting our domestic and international climate change targets, including the 2050 target set by the Climate Change Response Act 2002. The ETS is a pricing mechanism for domestic greenhouse gas emissions and is based on the allocation and trading of ETS Units.

In particular, those responsible for greenhouse gas emissions in certain sectors must surrender ETS Units reflecting their emissions to the Crown. They either surrender ETS Units they have, or they must buy ETS units from the market to surrender.

Participants who undertake a carbon removal activity (such as forestry owners) receive ETS Units for the greenhouse gases removed from the atmosphere. As a forest grows, it absorbs carbon dioxide from the air, and post-1989 forests are a key removal activity overall. Deforestation results in ETS liability and units gained from these trees must be surrendered.

What non-regulatory measures impact tree management near lines

In addition to the regulatory framework discussed above, vegetation near trees is managed through non regulatory tools. Principally these are:

- Negotiation of voluntary binding agreements between tree/land owners and works owners, which can supersede the default rules in the Regulations and provide a more tailored approach for management of risks to lines from trees, and

- litigation in the courts to establish liability for damage to lines after events such as storms.

How well are risks from trees to lines currently managed, and how is this status quo expected to develop?

The Regulations in their current form are failing to adequately manage the risks and costs from trees falling on or encroaching into lines.

Specifically, the Regulations currently:

- do not adequately manage the risks and costs of damage from "**out of zone trees**" outside of the existing non-encroachment zones (GLZ), that are at risk of falling on lines, especially in adverse weather
- result in **barriers to the efficiency and workability** of the regime for parties involved.

This lack of adequate management is likely to get worse with changing weather, changing land use and increased reliance on electricity.

Moreover, non-regulatory measures do not currently provide a reliable or efficient tool for managing risk from trees and appropriately allocating costs and are unlikely to be able to "fill the gap" left by existing issues with the Regulations.

As such, costs and risks to works owners, consumers and others that already arise under the status quo are expected to increase in scale into the future, if the status quo is kept.

These issues are discussed in more detail below. The analysis has been informed by consultation undertaken with stakeholders during 2023 on possible issues with, and options for, updating the Regulations.

Management of out of zone trees

The status quo position is that the Regulations in their current form, and other non-regulatory measures, fail to adequately address the significant issue of out of zone trees falling on lines. This status quo position is likely to get worse over the coming decades with increased severe weather, which will ultimately impose costs on works owners and consumers that might be avoided with a more appropriate regulatory response.

In summary:

- out of zone tree fall – which is not currently managed by the rules in the Regulations – accounts for a significant portion of outages, suggesting this risk is not being appropriately managed
- non-regulatory options for dealing with these out of zone trees, such as negotiated agreements and litigation, in part address this risk but by nature are ad hoc and limited in impact, and unlikely to be appropriate for managing future risks with a changing environment
- although works owners are spending more on vegetation management, which may reduce risks to lines, we do not have data clarifying what portion is spent on out of zone trees via negotiated arrangements – and therefore the extent to which this is an efficient approach
- there is good reason to believe that out of zone tree fall risk, and the impact of these outages, will continue to get worse over the next decades as severe weather

becomes more frequent, land use continues to change and our economy becomes more electrified.

If kept, the status quo position is therefore likely to lead to additional costs to lines companies, consumers and others in the form of extra spending on remedying damaged lines, interruptions to electricity supply affecting wellbeing and economic activity, and extra safety risks to persons and property from downed lines.

Out of zone trees can cause a significant proportion of outages, and these impacts can present in different ways

For some EDBs, out-of-zone trees can cause a significant proportion of outages. For example:

- Firstlight Network attributed 50 per cent of outages for 2023 to trees and 73 per cent of those tree-related outages to out-of-zone trees.
- Unison and Centralines[3] both attributed 87 per cent of tree-related outages to out-of-zone trees in the financial year of 2022/23.
- The Lines Company attributed 90 per cent of tree-related outages to out-of-zone trees.

This suggests that, although the Regulations currently focus on management of risk from tree fall within the GLZ, a large outstanding risk remains outside of this zone.

Risks from out of zones trees (trees outside the GLZ's boundary from the conducting line) can present in several forms. For example, these include:

- risks from trees whose branches grow directly above or near a line, but technically outside of the GLZ, and which may be at risk of falling onto lines, particularly in bad weather
- risks from taller and/or unhealthy out of zone trees falling on lines, where those trees are further away in the corridors horizontally either side of the existing GLZ.

The risks from failure to manage out of zone trees can also fall in different ways on different kinds of groups.

For example, rural communities predominantly served by lines passing through forestry and/or which have less redundancy of electricity supply in the event of outages, are more likely to be adversely affected when out of zone trees fall on lines. This includes communities such as those on the east coast of the North Island, that were significantly impacted during Cyclone Gabrielle.

On the other hand, the risk of impacts from out of zone trees is likely to be proportionally less for larger urban centres with greater redundancy and/or communities served by lines that do not frequently pass through trees.

Out of zone trees can cause a large proportion of outages during severe weather events

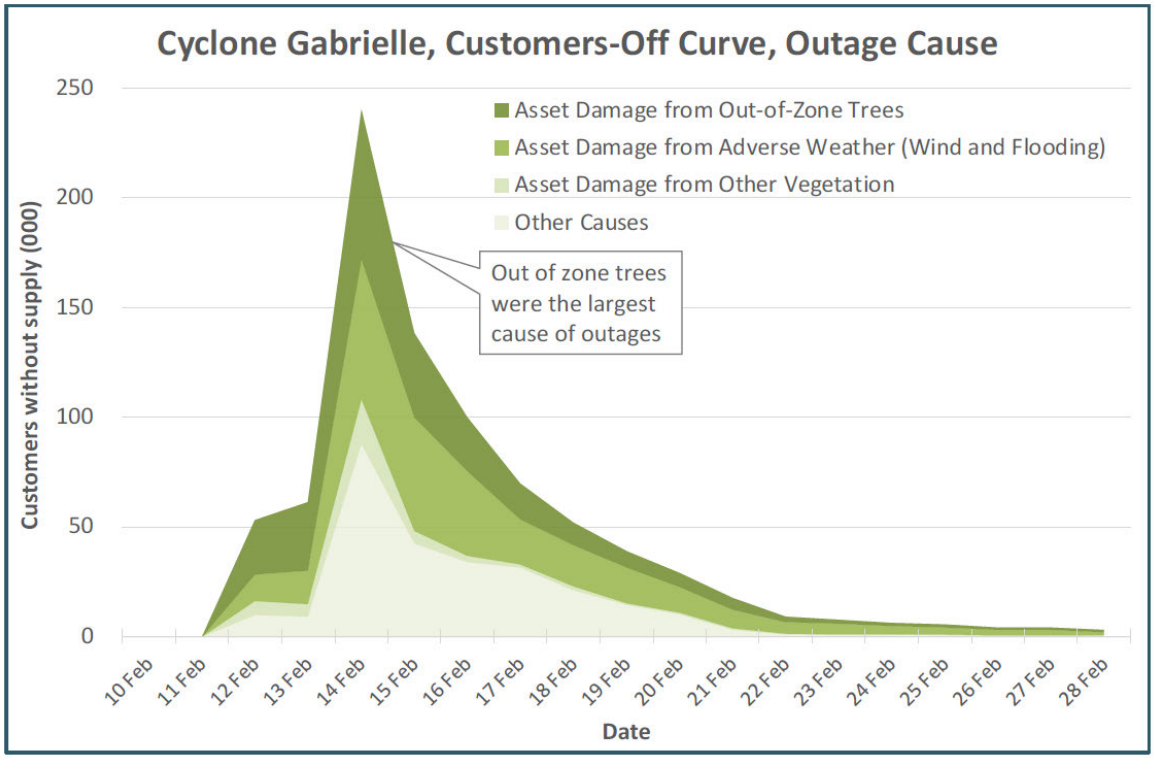
The ENA-commissioned Cyclone Gabrielle Review stated that the largest cause of outages for Electricity Distribution Business (EDBs) was damage from out-of-zone trees falling on overhead lines.[4] In the report, it was estimated that out-of-zone tree outages interrupted supply to 68,000 customers at the cyclone's peak. The "value of lost load" during Cyclone

[3] Unison and Centralines said the remaining 13 per cent of tree related outages were caused by trees within the GLZ, the hazard warning notice zone, and outside of fall distance zone (usually bark).

[4] Report to Electricity Networks Aotearoa, 'Electricity Distribution Sector Cyclone Gabrielle Review', 2023.

Gabrielle was $474 million over two weeks. The *value of lost load* is the cost to customers associated with an interruption of electricity supply.

Figure 1: The material cause of customer outages



The Review concluded that:

> *Trees are a significant hazard to lines, particularly in strong winds. Current rules constrain the ability of EDBs to manage trees that present a fall-risk to lines. This presents a material constraint to resilience. Only 16% of customer outages were caused by in-zone trees. Our analysis indicates that EDBs are likely doing a reasonable job of managing trees within the rules available to them.*

EDBs have invested in resilience and are not relying purely on changes to the Regulations. The Review notes that parts of the network performed better than others. Outages on the sub-transmission network and zone substations accounted for only 4% of outages. The Review noted that this shows the benefit of prior investment in security and network hardening.

The Review made the following trees-related recommendations:

Table 3: Primary learnings and improvements

Learnings	Strategy	Action
Out-of-zone trees were the largest cause of customer outages and could not be mitigated prior due to the narrow focus of the current tree regs	Risk reduction	**1. Mitigation of out-zone tree risk** (a) The ENA should work with MBIE on the review of the Electricity Hazards from Trees Regulations to widen the corridor where vegetation can be controlled and to make the control regime more effective. (b) The ENA should work with the Commerce Commission on a process to allow additional vegetation management opex required to fund the extra costs of widening the line corridor. This may require a pass-through cost mechanism (or other method) depending on the timing of the tree reg amendments.

Out of zone trees are causing a risk to public safety

Working with and around electricity lines, and especially higher voltage lines, is extremely dangerous. Without an awareness of overhead lines or underground cables, there a real risk of electrocution, explosion, flashover or fire. The need to maintain the GLZ and repair any lines that are downed by trees exposes arborists and maintenance workers to these risks. This is why NZECP 34 sets minimum safe electrical distance requirements for overhead electric line installations and other works associated with the supply of electricity from generating stations to end users.

The outages caused by out of zone trees pose risks to public safety in and of themselves. Outages may result in limited availability of medical equipment and limited communication capabilities in an emergency or heating and food storage over the longer term.

Currently works owners rely on commercial negotiation or litigation to manage the risk of trees outside the GLZ falling on their lines

The Regulations do not include measures specifically addressing the risk of tree fall from outside of the existing GLZ. Although the Regulations do allow for a works owner to notify tree owners of trees within a metre of the GLZ that risk encroaching it, this notification power cannot compel the tree owner to address the risk before encroachment. Moreover, it only applies to trees within one metre of the GLZ – while many instances of tree fall relate to trees many more metres away from the GLZ.

Negotiated agreements to address out of zone trees

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Some, but not all, EDBs report in their Asset Management Plans that they are pro-actively managing the risks from trees outside of the GLZ through commercial negotiations.

Litigation to address out of zone trees

Some EDBs have also used litigation to resolve issues associated with tree management.

For example, one recent case has shown that a tree owners can have a duty to manage the risk of "nuisance" caused by trees falling on lines from outside of the GLZ:

- In *Nottingham Forest Trustee Ltd (NFT) v Unison Networks Ltd*,[5] NFT owned land on which it had planted a commercial forest. Between December 2010 to August 2016 pine trees growing in the forest, which had been planted years earlier, fell onto

[5] *Nottingham Forest Trustee Ltd v Unison Networks Ltd* [2021] NZCA 227 (3 June 2021).

electricity lines owned and operated by Unison Networks. Unison's customers experienced power outages while repairs were carried out, and Unison incurred costs as it repaired the damage.

- Unison sued NFT both in negligence and in nuisance and sought damages to cover the cost of repairs and an injunction to prevent future falls of trees. NFT argued that it had no obligation under the Regulations, and that the trees were falling due to bad weather over which it had no control.
- The High Court found that NFT had a strict liability in relation to the interference caused by its trees.[6] It held that the recurring tree falls caused ongoing, substantial, and unreasonable with Unison's property which constituted an actionable nuisance.
- The Court of Appeal upheld the High Court decision on the nuisance claim. Given the high chance of tree falls following bad weather conditions it was unreasonable for NFT to grow the trees to a height at which they would cause physical damage to Unison's line if they fell. NFT was liable to pay damages, as the type of harm that was caused by the tree falls was found to be plainly foreseeable.

However, litigation can be very expensive and uncertain, and by nature tends to occur "after the fact". Despite the success of Unison in the *Nottingham Forest* case, any duty to manage trees outside of the GLZ is also likely to be fact-specific to the parties, and so does not provide sufficient certainty.

Commercial negotiations and litigation are unlikely to provide an effective option now and in future

Evidence (described above) suggests that relying on commercial negotiations and litigation to deal with out of zone trees does not currently manage this risk effectively. This was demonstrated during Cyclone Gabrielle last year, which led to New Zealanders facing significant outages for long periods. It is unlikely to deal with this risk any better in future.

Tree management limited by parties' incentives

The effectiveness of the negotiations is limited by:

- lack of responsiveness from some tree owners,
- disputes about who should meet the costs of trimming, felling and removal of debris, and about compensation for lost revenue or ETS liabilities.

The Court decisions[7] outlined above have made tree owners more sensitive to the risk of trees falling on lines, and more likely to agree to remove out-of-zone trees at their own cost. However, the tree owner can't be compelled under the Regulations to remove out-of-zone trees which works owners consider to be at risk of falling on their lines.[8]

Consultation with trees owners suggests many are prepared to have trees trimmed or felled to contribute to security of supply if the works owner (or other parties) pays any associated expenses, including compensation for lost revenue and/or ETS deforestation liabilities. However, while some works owners Confidential advice to Government may entertain compensation covering ETS liabilities, most are reluctant to do so Confidential advice to Government . Neither is it clear whether paying this kind of compensation is

[6] *Unison Networks Ltd v Nottingham Forest Trustee Ltd [2019] NZHC 2280 (11 September 2019).*

[7] *Unison Networks Ltd v Nottingham Forest Trustee Ltd [2019] NZHC 2280 (11 September 2019); and Nottingham Forest Trustee Ltd v Unison Networks Ltd [2021] NZCA 227 (3 June 2021).*

[8] In its submission on the Discussion Paper, Unison noted that despite the strength of Unison's case in the Nottingham proceeding the High Court did not order the removal of the trees posing a risk to the lines.

an efficient or appropriate outcome for consumers that are ultimately charged for costs incurred by works owners.

Revenue under Part 4 of the Commerce Act 1986 impacts some works owners' approach to out of zone trees

Negotiated agreements to manage out of zone trees is also limited by most works owners' revenue under Part 4 of the Commerce Act 1986.

Non-exempt EDBs do not have dedicated funding for vegetation management or service interruptions and emergencies, tailored to their particular circumstances, under Part 4. They must balance their expenditure to best respond to the incentives in price-quality regulation. As a result, they cannot routinely fund the cost of tree removal and compensation because they will not necessarily be "made whole" under the regulatory regime. It is possible for the Commission to change these settings in response to legislative or regulatory changes.

Transpower does operate under a regulatory framework that is tailored to its circumstances. However, Transpower also operates under an incentive regime which provides strong incentives to control operational expenditure such as vegetation management, so it remains concerned about the cost and impacts.

While lines companies' expenditure on vegetation management has grown, it is unclear what portion of this addresses out of zone hazards

The Commission has reported on some trends in local lines companies' expenditure on vegetation management (although the impact of tree hazards will also be reflected in expenditure on service interruptions and emergencies).

In its publication *Trends in Local Lines Companies' Performance*, the Commission observes that expenditure on vegetation management increased by around $37 million or 134 percent between 2013 and 2022 (however they did note the 2013 figure seemed to be artificially low). The Commission assessed that the major driver of this higher spending is likely to be that local lines companies have been engaging in more comprehensive management of trees in the vicinity of existing lines, and thus devoting more resources toward it.

The above increased spending may reflect an effort by works owners to more effectively manage the problems of trees encroaching or falling onto lines and causing outages, assuming this spend is net efficient for consumers. The largest cost of vegetation management is when vegetation damages electricity lines infrastructure and the cost of restoring electricity.

However, there is no data on the degree to which the growth in expenditure is driven by treefall from outside the GLZ – as opposed to management within the existing GLZ.

Figure 1: Breakdown of EDB operating expenditure, 2008-2021

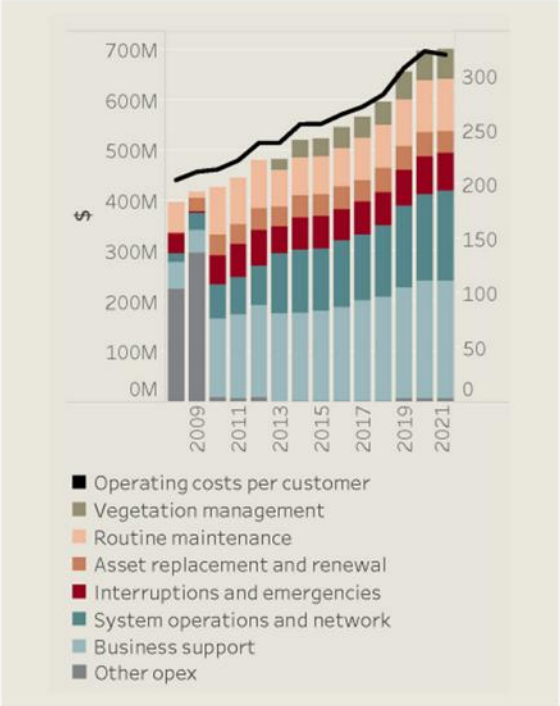
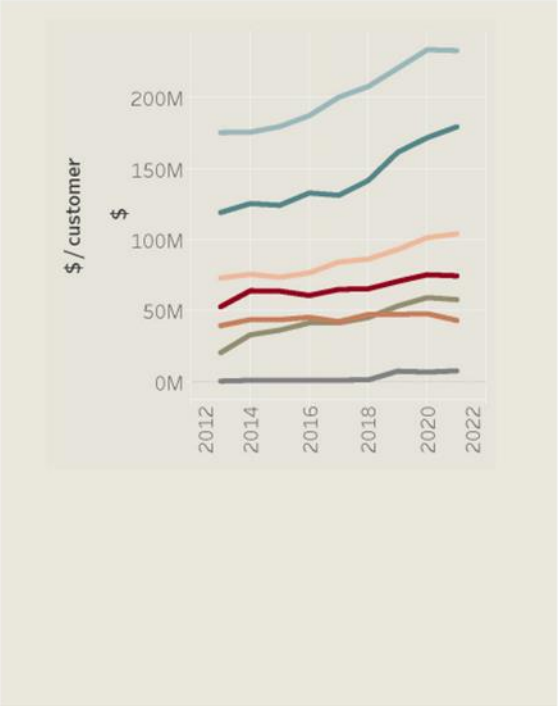


Figure 2: Components of operating expenditure and trends, 2013-2021



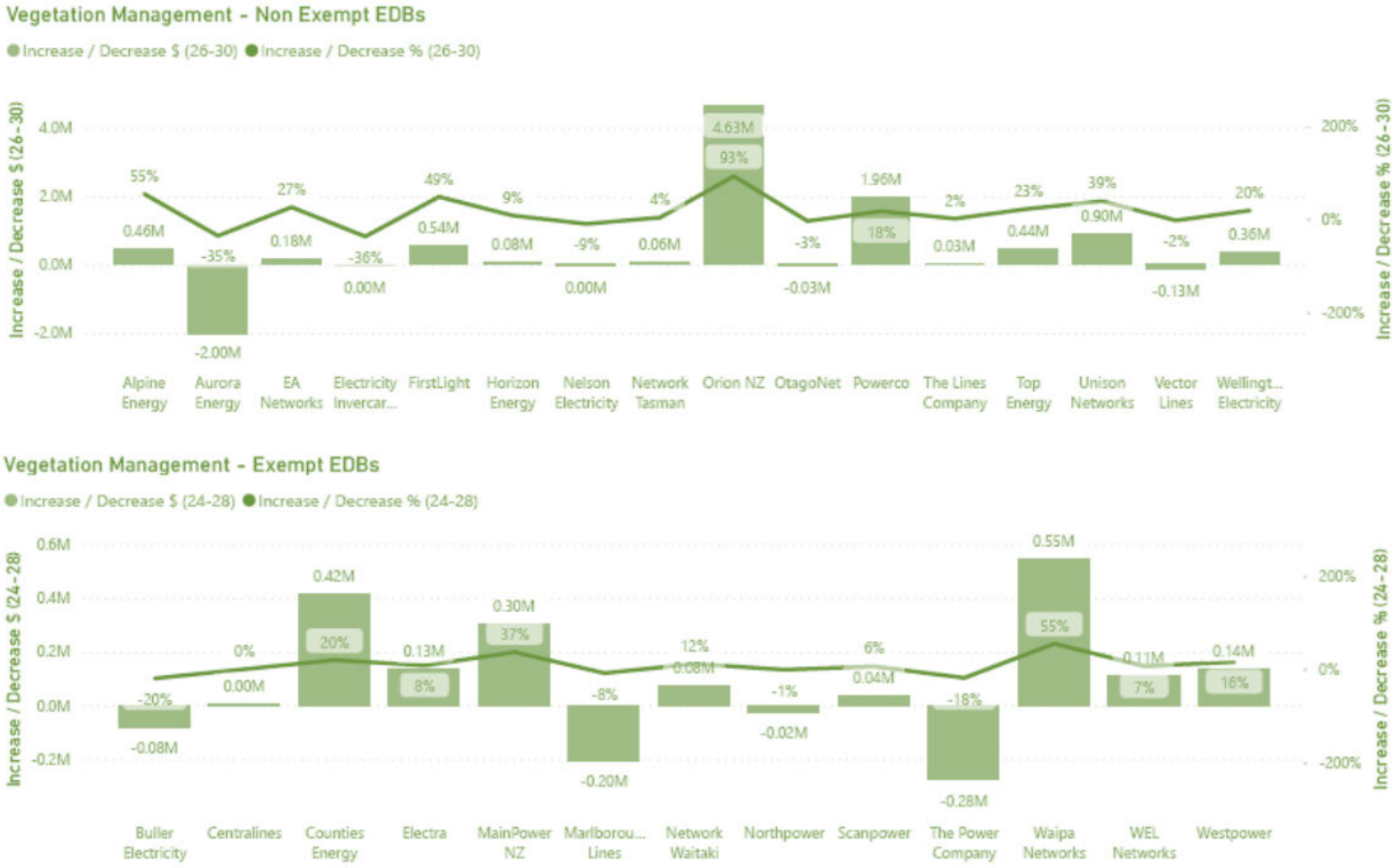
Similarly, EDBs expect to spend more in future management of vegetation but it is unclear how much of this is aimed at out of zone trees

Similarly to the above, EDBs expect to continue to spend more on vegetation management in future.

Innovation Assets Engineering, in its review of forecasts in Asset Management Plans prepared for the Commission in January 2024, notes that some EDBs are proposing more vegetation cutting as a result of storm experiences (where the majority of the vegetation related faults were caused by trees outside the clearance zone), and this has an impact on the vegetation management expenditure.

Figure 4 on the following page (in landscape) provides a visual summary of vegetation management costs for non-exempt EDBs.

Figure 4: EDB vegetation management costs[9]



9 https://comcom.govt.nz/__data/assets/pdf_file/0016/343411/IAEngg-NZ-EDB-2023-AMP-Review-Forecasting-and-Planning-Assesment-Report-29-January-2024.pdf

The authors also noted that many EDBs have incurred increased expenditure for service interruptions and emergencies in the baseline Period (FY21-23), due to recent weather events. Innovative Assets Engineering had not observed many EDBs forecasting significant further increase in service interruptions and emergencies expenditure for 2026-30. However, they cautioned that EDBs may need to consider whether a step change in base level expenditure is justified to account for any expected increase in the frequency of events that lead to above average service interruption and emergency costs.

Although future spending on tree management is expected to increase, it is not clear to what degree planned expenditure is intended to deal with trees outside the GLZ.

In the future, treefall risk is likely to increase, and outages are likely to have a greater impact

Severe weather events such as Cyclone Gabrielle are expected to become more common due to climate change. As a result, the risks of tree fall on electricity lines are also likely to increase, creating more likelihood of harm if these risks are not adequately managed.

Severe weather is likely to become more common

The Ministry for the Environment recently summarised the latest research into the impacts of climate change on severe weather in New Zealand[10]. Results included:

- **More flooding:** the Intergovernmental Panel on Climate Change (IPCC) released its 'Sixth Assessment Report in 2021. In it, a global panel of climate scientists projected that floods across the world will continue to become more frequent between now and 2050.
- **More extreme storms**: it is also projected that severe convective storms (thunderstorms) will carry more rain in a warming world.
- **Larger rain showers**: the National Institute of Water and Atmospheric Research (NIWA) produces regional climate projections for New Zealand based on the IPCC's data. NIWA has estimated that in New Zealand, one degree of warming translates to a median 13.5 per cent increase in rainfall per hour in a one-in-50-year event of one hour duration.
- **More cyclones**: NIWA also projects more intense regional cyclonic storms in the southern hemisphere by 2100, and an increase in the frequency and extent of 'atmospheric rivers', which could bring more rain. Atmospheric rivers are plumes of moisture in the air that move from the tropics to the mid-latitudes and are closely related to extratropical cyclones. They are projected to become more frequent with increased atmospheric warming.
- **More drought**: the National Climate Change Risk Assessment report for New Zealand estimated that by 2090, annual rainfall is expected to be 50mm less for much of the North Island. The strongest changes are expected over the northern and eastern regions, and in the northeastern and central South Island east of the main divide, indicating long-term drying of these regions.

The impacts of interruptions caused by tree fall on lines are likely to also be greater as we electrify our homes and economy

Electricity is expected to be increasingly essential to the economy as it becomes a key enabler of a wider range of activities (e.g. transport) and we move to higher levels of electrification.

[10] https://environment.govt.nz/news/the-science-linking-extreme-weather-and-climate-change/

As a part of the Government's 100 Day Plan, the Government has said it will begin efforts to double electricity generation in the country, including a National Policy Statement (NPS) on renewable electricity generation.

Land use in New Zealand is evolving

Successive governments have encouraged the planting of new forests (afforestation) to support improved environmental and economic outcomes for Aotearoa New Zealand over the decades. The Ministry for Primary Industries has said that:

> *Close to 1 million hectares could be planted between 2022 and 2050[11]. In the last 10 years Emission Trading Scheme (ETS) the number of hectares of registered post-1989 forest land has increased from 261,162 to at least 560,000 ha.*
>
> *1.76 million ha is the estimated net stocked plantation forest area as at 1 April 2022[12]. This is an increase in the plantation forest area of approximately 20,000 ha from 1 April 2021.*
>
> *Increasing canopy coverage within urban areas is also an ambition for councils. Auckland's Urban Ngahere (Forest) Strategy has a goal of increasing tree canopy cover across the Auckland region from 18 per cent to 30 per cent.*

The increase in severe weather events and in afforestation increase the risks of trees which grow outside of the GLZ falling on electricity lines and causing outages. For example, we understand from conversations with stakeholders that ETS forests are harvested less often than traditional forestry assets, which can increase the risk of treefall. The wider range of activities which rely on electricity mean that the impact of outages will be much greater than it is now.

If the status quo is kept, the risks and costs from out of zone trees will get worse

Changes in land use and weather patterns are increasing risks to the security of electricity supply and causing more outages (particularly through trees falling onto lines) and jeopardising public safety.

The current scope of the Regulations is too narrow to effectively address these risks, while non-regulatory solutions are also ineffective. If the status quo is retained, in future this is likely to lead to increased costs and potential hazards that could be avoided by better vegetation management around lines.

A range of parties are likely to bear these costs including:

- **works owners** (EDBs and Transpower) are likely to need to spend more on remedying damage to lines, and seeking negotiated processes for managing out of zone trees, which may not be efficient or effective

- **consumers** are likely to bear the brunt of costs, in the form of increased lines charges from works owners, increased interruption to supply affecting wellbeing and economic activity

[11] National direction for plantation and exotic carbon afforestation - Discussion paper (mpi.govt.nz)

[12] National Exotic Forest Description, April 2022 (mpi.govt.nz)

- **land owners and members of the public near lines** may face increased costs where failure to manage risks to lines from trees poses risks to their personal safety and property (e.g., risks of fire and electrocution from live wires).

Efficiency and workability of the regime

In addition to out of zone tree fall risk, there is evidence that the status quo approach to managing risks to lines from trees may be leading to avoidable costs, due to issues with the efficiency and workability of requirements in the Regulations.

These issues were highlighted and discussed in consultation with stakeholders during the 2023 consultation on the Regulations.

Specifically, there is evidence that under the status quo, the following areas are leading to costs:

- **Cost and difficulty trimming trees under NZECP 34 and Regulations interplay**: The approach distances for non-specialist workers cutting trees near lines can make management of tree hazards more costly, and better management of the relationship between these two instruments is likely to reduce costs and/or safety risks.

- **Rights of access**: Works owners' ability to access land near their lines can be complicated and difficult to obtain, which can interfere with their ability to comply with their obligations and exercise their rights under the Regulations.

Under the status quo, these issues with the efficiency and workability of the current regime are likely to lead to more costly and less efficient approaches to managing risks to lines from trees now and in the future.

The interplay between the Regulations and NZECP 34 can make it difficult and costly to manage trees

Currently, NZECP 34 limits how close workers can get to electricity lines, which can make it harder to trim trees nearing the GLZ. This is particularly the case where those responsible for trimming trees are not made aware of a risk of encroachment in time, and under NZECP 34 need to use expensive specialist personnel to remove the hazard according to prescribed safe distances.

Where this occurs, those responsible face additional costs and difficulty in managing the risks of trees likely to encroach or already encroaching the GLZ for these lines. There is also a risk that these costs enhance the risk of non-compliance with the approach distances in NZECP 34 in order to manage the hazard.

NZECP 34 provides rules on distances to lines for different kinds of workers

Under NZECP 34, there are different rules for minimum working distances from lines for:

- specialised personnel who meet standards for electrical or telecommunication work
- people who do not meet these standards (who must work further away).

Workers without specialist knowledge and skills for operating near lines (which may include otherwise qualified arborists and contractors) must keep six metres from very high voltage (220kV and above) conductors even if they have permission to work on them from the works owner.

On the other hand, specialist workers known as “competent employees” can get within at least four metres of the lines, even for the highest voltage lines. For the purposes of NZECP 34 a competent employee is someone who can demonstrate to their employer, at any time, that they have the necessary knowledge, skills, and experience to carry out electrical or telecommunications work in the vicinity of overhead electric lines, or exposed live metal, safely and to the standards used by the employer.

Relationship between NZECP 34 and the Regulations

If vegetation enters a zone (the notice zone) one metre from the GLZ, the Regulations allow works owners to alert tree owners about the risk of encroaching vegetation through a hazard warning notice. The relationship between the notice zone and the safe distances in NZECP 34 is such that by the time tree owners are made aware of the risk, they often cannot address it themselves, but must rely on the specialised personnel mentioned above. This increases the cost of hazard reduction.

The same considerations above apply where vegetation has already entered the GLZ, and needs works done to remove the hazard. In this case, the restrictions in NZECP 34 will affect who and how work can be done to remove the hazard.

A key issue in the interplay between NZECP 34 and the Regulations is the time at which those responsible for potential tree encroachment become aware of the need to trim trees, and the rate at which vegetation may grow into the GLZ. Where those responsible for tree trimming become aware of a potential hazard at an earlier point, they are able to take action more cheaply because they do not need to use competent employees.

However, the distance of the existing notice zone (one metre) means that, even when notice is given by a works owner that a tree is nearing the GLZ, in many cases the tree may have already entered the GLZ by the time someone can attend to it.

Without changes to the interplay between NZECP 34 and the Regulations, there will be additional costs and/or risks under the status quo and into the future

Under the status quo, the time taken for potential encroachment to be notified means it is more likely that trees are already encroaching the GLZ, or already within zones outside of the GLZ where most normal workers are not permitted to trim trees (e.g., for higher voltage lines where approach distances are greater).

This can make it more expensive than necessary to trim trees, increasing costs to tree owners and/or works owners. There is also a risk that these costs also make non-compliance with the approach distances in NZECP 34 more attractive, which would create additional safety risks.

This status quo will remain into the future unless measures are introduced to change the Regulations and/or NZECP 34.

Rights of access to lines near trees

As described above, there is evidence that the status quo ability for works owners to access land to manage trees near lines is too complicated and unclear to ensure works owners can comply with their obligations, and exercise their rights under, the Regulations.

In summary, unnecessary costs and risks may arise because:

- access rights (which are either statutory or negotiated rights, depending on the circumstances) vary based on the nature of the site, complicating access

- there is uncertainty held by the works owners as to whether they are entitled to access land outside of normal processes, in order to undertake work to comply with their obligations to remove immediate dangers to persons or property from a conductor because of a tree
- works owners often have trouble contacting landowners to gain access (e.g., because owners are offshore investors).

However, the constraints and limitations on analysis in this RIS (described above) mean that this RIS excludes detailed analysis of altering access rights. It is likely that a second phase of measures, supported by a separate or supplementary RIS, will address this area and other areas (e.g., other measures to address out of zone trees).

Summary: what is the policy problem or opportunity?

The Regulations and broader non-regulatory measures are failing to adequately manage risks to electricity lines from trees.

Without changes to the Regulations and/or other regulatory interventions, continuing with the status quo is likely to lead to increased costs from:

- "**out of zone trees**" outside of the existing non-encroachment zones falling on lines, especially in adverse weather
- **barriers to the efficiency and workability** of the regime for parties involved.

These costs will take the form of:

- imposing increased costs on consumers (via lines charges), from works owners remedying tree-caused damage to lines
- economic damage resulting from loss of electricity supply where lines are downed (i.e., economic activity paused or affected due to interruptions in supply)
- harm to land, property and people where trees causes safety issues (e.g., fire, loss of supply).

A range of parties are likely to bear these costs:

- **Works owners** (EDBs and Transpower) are likely to need to spend more on remedying damage to lines, and seeking negotiated processes for managing out of zone trees, which may not be efficient or effective.
- **Consumers** are likely to bear the brunt of costs, in the form of increased lines charges from works owners, increased interruption to supply affecting wellbeing and economic activity.
- **Land owners and members of the public near lines** may face increased costs where failure to manage risks to lines from trees poses risks to their personal safety and property (e.g., risks of fire and electrocution from live wires).
- **Tree owners** face existing costs under the status quo (e.g., to keep trees from out of the GLZ after the "first cut and trim"). Keeping the status quo into the future is unlikely to impose significant additional costs on tree owners, although tree owners may face

additional costs from increased treefall on lines which impacts the safety of tree owners' workers, property and/or forestry interests.

What objectives are sought in relation to the policy problem?

The objectives sought to address the above policy problem are:

- to promote improved security of electricity supply and public safety from appropriate management of trees and vegetation near electricity lines, including in response to increased frequency of extreme weather events
- to achieve these outcomes while limiting and balancing any adverse impacts on electricity consumers, works owners, landowners, tree owners and the general public.

Section 2: Deciding upon an option to address the policy problem

What criteria will be used to compare options to the status quo?

The following criteria were set forward in MBIE's March 2023 Discussion Document.

1. **Effectiveness** – To what extent does this option deliver security of electricity supply and public safety?

   Security of electricity supply and public safety are interrelated as improved security of supply means fewer outages which in turn leads to improved public safety. This is because fewer outages mean reduced risks to communities associated with loss of power, reduced fire risk in forests and reduced frequency of workers dealing with downed power lines.

2. **Efficiency** – To what extent are the administration and compliance costs proportional to the expected benefits, and to what degree are costs allocated to the party best placed to manage them?

   This criterion considers whether the options will cause increased costs to EDBs, consumers (via electricity prices), and/or land/tree owners.

3. **Regulatory certainty** – How well does this option provide predictable regulatory outcomes?

We have used these criteria for the purpose of assessing options, and to give effect to the objectives.

What scope will options be considered within?

International approaches

MBIE has considered international approaches when determining the options for amending the Regulations, as set out in the March 2023 discussion document[13] published as part of consultation with stakeholders. Remaining in line with international jurisdictions MBIE considers that:

a) additional costs related to amendments to the Regulations should largely be allocated to the party that benefits from increased security of supply, the works owners (and ultimately, electricity consumers)

b) risk allocation should continue to be shared in a manner consistent with international jurisdictions

c) level of prescription is closely linked to the different circumstances of each jurisdiction and therefore is not a constraining factor when developing options to amend the Regulations

The scope of options has been informed by consultation

The 2023 consultation described above has informed both MBIE's view of the policy problem, and the scope of options considered for this RIS.

[13] https://www.mbie.govt.nz/dmsdocument/26235-discussion-document-review-of-the-electricity-hazards-from-trees-regulation-2003

That consultation sought feedback on a series of questions that asked:

- How should vegetation risks outside the GLZ be managed?
- How can the Regulations prevent the over-trimming of hazardous vegetation, which can result in unnecessary diminution of economic or amenity value?
- How should the Regulations balance the responsibility of vegetation and works owners?
- What should be the process for works owners to access vegetation on private land?
- How should disputes between vegetation and works owners be resolved?

Following the consultation, MBIE reached the view that the status quo position was working adequately for some issues. This has narrowed the scope of both issues and options analysed in this RIS.

Scope in terms of the problem definition

In this RIS we have only considered some issues, and possible options for addressing these, within the broader problem definition discussed further above (focused on risks from out of zone trees and barriers to the efficiency and workability of the regime).

These constraints on our analysis reflect a Ministerial direction for a staged approach to measures to address the policy problem. This in turn reflects that options addressing some excluded areas of analysis are likely to require further work to develop, Constitutional conventions compared with the areas analysed in this RIS.

It is likely that a second phase of measures, supported by a separate or supplementary RIS, will address these areas.

Our analysis excludes consideration of options for addressing the following areas of the policy problem, which are likely to be separately considered in a second, future phase.

Areas excluded for the purposes of out of zone tree risks:

- Risks from taller and/or unhealthy out of zone trees falling on lines, where those trees are further away in the corridors horizontally either side of the existing GLZ. Free and frank opi MBIE is undertaking additional analysis and consultation before providing advice on these changes.
- Risks to lines from new, future forestry which may potentially be managed on a different basis than under the existing regime, given a different balance of costs and risks imposed on parties. Constitutional conventions

Areas excluded for the purposes of addressing the workability and efficiency of the regime:

- Difficulties for works owners accessing land to carry out tree-related work is ruled out Constitutional conventions

Remaining scope of options

Because of the above constraints, this RIS focuses on options for addressing issues in the following areas:

- **Out of zone tree risks from overhanging trees**: Options for addressing risks from trees whose branches grow directly above or near a line, but technically outside of the GLZ, and which may be at risk of falling onto lines, particularly in bad weather.

- **Barriers to the efficiency and workability from NZECP34 and Regulations**: Options for addressing costs and difficulty in trimming trees related to the current interplay between NZECP 34 and the Regulations, which can lead to expensive specialist personnel being needed to carry out tree trimming.

Issue 1: Risks and costs of damage from overhanging out of zone trees

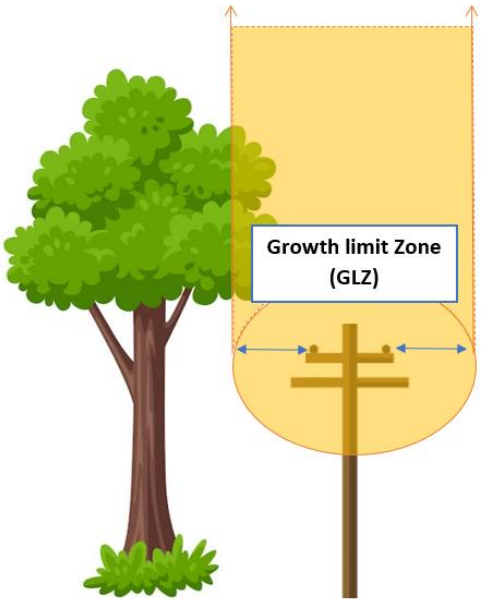
Option 1 (preferred) – A "clear to the sky" Growth Limit Zone

The way the GLZ is defined means that trees can overhang or tunnel around lines. This creates a heightened risk of branches falling from above onto lines.

MBIE's preferred option is to extend the GLZ from the lines to the sky to ensure that no tree is able to hang above lines.

Under this option:

- Works owners are responsible for the first cut and trim, and tree owners for subsequent cuts. Works owners would be responsible for the cost of removing these branches as it would come under first cut and trim.
- Tree owners would be able to apply for dispensations where the given tree(s) meet a significance threshold in line with the current Regulations.



Consultation on the proposal

Forestry sector

- Officials tested this proposal with some forestry owners who did not present any objections.

Works owners

- Several works' owners submitted that overhead trees are an immediate and unnecessary risk to lines.

Critical friends

- The Infrastructure Commission considered this to be a logical proposal. MPI consider that from an ETS perspective this proposal is likely to have a minimal impact.

Tauranga City Council

- Stated that tunnel tree pruning is not common practice, and that they would prefer a collaborative risk-based approach to a "clear to the sky" policy.

This option was relatively uncontroversial between works owners and forestry owners. Critical friends with whom we tested the option agreed with it in-principle.

Expected impacts on analysis criteria

Effectiveness

- This option will cause all branches overhanging lines to be removed at the expense of works owners. As such we would expect that outages that historically have been caused by overhanging branches falling on lines would be eliminated. MBIE considers this will improve security of supply.
- Trees will still need to be felled and trimmed in the proximity of lines, so we do not consider public safety to be impacted significantly.

Efficiency

- Trees overhanging lines are easily identified.
- Trimming/felling of the trees would be paid for by the works owners in the first case. Some costs will be passed to consumers, but there is no data on the extent of overhanging trees. There may be efficiency issues in urban areas depending on the scale of the option.
- This option was tested with several forestry companies who did not consider it to be controversial mainly because the works owner would be responsible for the initial costs. They also clarified they do not expect this to impact profits as harvest value comes from the trunk of the tree not the branches.
- There would be administrative/monitoring costs for Local Councils related to dispensations depending on the scale of the option.

Regulatory Certainty

- This option is relatively simple and straight forward compared to the status quo so it is unlikely this option will have any significant impact on regulatory certainty.

Affected groups	Comment	Impact	Evidence Certainty
Additional costs of the preferred option compared to taking no action			
Consumers	May be some increase in costs to works owners passed on.	Low	Medium – limited data has been provided on the scale of overhanging trees. In commercial forest it appears to be rare. However, scale is more considerable in urban areas.
EDBs/Transpower	Trimming the overhanging branches.	Medium	Medium – limited data has been provided on the scale of overhanging trees. In commercial forest it appears to be rare, but in other cases such as urban areas EDBs would incur increased costs meeting clear to sky.

Forestry sector	Monitoring/administrative costs	Low	High – consultation has suggested trees with branches overhanging lines are relatively infrequent.
Local councils	Monitoring/administrative costs	Medium	Medium – can apply for dispensations to the rules to significant trees.
Non-monetised costs		*Low*	*Medium*
Additional benefits of the preferred option compared to taking no action			
Consumers	Reduction of power outages would provide benefit to consumers.	Medium	Medium – without specific data covering the frequency, duration and financial impacts of outages directly related to overhanging branches we cannot be completely certain of the expected benefits.
EDBs/Transpower	EDBs have obligations to meet regarding quality and reliability of electricity supply. Reduced outages could mean less lost revenue to EDBs as well.	Medium	Medium – without specific data covering the frequency, duration and financial impacts of outages directly related to overhanging branches we cannot be completely certain of the expected benefits.
Non-monetised benefits		*Medium*	*Medium*

Risks/Uncertainties

There are uncertainties around the number of outages associated with overhanging tree branches in areas with a GLZ as well as the number of trees in general in this category.

There could be some increased costs passed onto electricity consumers related to identifying and trimming overhanging branches. However, we do not consider this to be a risk as costs scale directly with the number of relevant trees and we consider the benefits provided to outweighs its costs.

The scale of the proposal could be more significant in urban areas around low voltage lines where the impact of outages is less significant. Dispensations may help to mitigate the impact on significant trees.

The implementation of this proposal may take some time to complete especially in urban areas.

Te Uru Rākau – New Zealand Forest Service within MPI undertake regulatory functions for forestry within the Emission Trading Scheme. Te Uru Rākau – New Zealand Forest Service has advised that extending the GLZ clear to the sky is not expected to have a significant impact on Emissions Trading Scheme (ETS) liabilities. However, there could be some small

impact at the margins. We do not have precise data on the areas of land that may result in ETS liabilities.

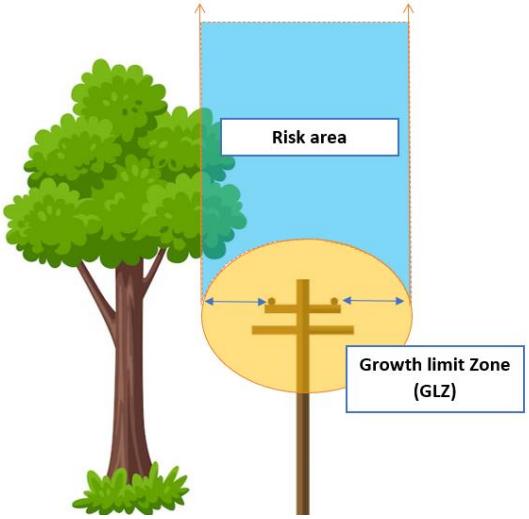
Overall

MBIE considers that trees overhanging lines present an unnecessary risk to security of supply and so extending the GLZ to clear to the sky should address this issue. It is the only issue where forestry owners and works owners were in agreement.

Option 2 – A "risk-based approach" to overhanging trees

An alternative option would be a 'risk-based approach' to address tree branches hanging above lines. In this option EDBs would be able to issues notices for trees that met a certain risk threshold, which would be developed at a later point, these trees would then be trimmed to mitigate the risk.

- Works owners would be responsible for identifying 'risky' branches that meet the risk threshold and issuing a notice to the tree owner.
- Works owners would be responsible for the cost of removing these branches.



Consultation on the proposal

Forestry sector

- Officials tested this proposal with some forestry owners who did not present any objections.

Works owners

- Several works' owners submitted that overhead trees are an immediate and unnecessary risk to lines.

Critical friends

- The Infrastructure Commission considered this to be a logical proposal. MPI consider that from an ETS perspective this proposal is likely to have a minimal impact.

Tauranga City Council

- Stated that tunnel tree pruning is not common practice, and that they would prefer a collaborative risk-based approach to a "clear to the sky" policy.

This option is preferred by Tauranga City Council.

Expected impacts on analysis criteria

Effectiveness

- This option will cause only 'risky' branches overhanging lines to be removed at the expense of works owners. As such we would expected that most outages that historically have been caused by overhanging branches falling on lines would be reduced. MBIE considers this will improve security of supply.
- Trees will still need to be felled and trimmed in the proximity of high voltage lines, so we do not consider public safety to be impacted significantly.

Efficiency

- Trees overhanging lines are easily identified.
- Removal of the trees would be paid for by the works owners. Some costs will be passed to consumers, but there is no data on the extent of overhanging trees. This would not be very significant as 'risky' trees only are removed.
- This proposal would not impact the vast majority of trees surrounding low voltage lines in urban areas that pose little risk to the lines or where an outage would have minimal impact.
- There would be administrative/monitoring costs for works owners related to issuing notices for 'risky' branches.

Regulatory Certainty

- This option is relatively simple and so it is unlikely this option will have any significant impact on regulatory certainty.

Affected groups	Comment	Impact	Evidence Certainty
Additional costs of the preferred option compared to taking no action			
Consumers	May be some increase in charges, but offset by fewer outages	Low	Medium – limited data has been provided on the scale of overhanging trees. In commercial forest it appears to be rare.
EDBs/Transpower	Trimming the overhanging branches and administrative/monitoring costs.	High	Medium – limited data has been provided on the scale of overhanging trees. In commercial forest it appears to be rare, but in other cases EDBs would face increased costs for trimming 'risky' trees and identifying them. The increase in monitoring costs would be relatively burdensome.
Non-monetised costs		*Medium*	*Medium*
Additional benefits of the preferred option compared to taking no action			

Consumers	Reduction of power outages would provide benefits to customers.	Low	Medium – without specific data covering the frequency, duration and financial impacts of outages directly related to 'risky' overhanging branches we cannot be completely certain of the expected benefits.
EDBs/Transpower	EDBs have obligations to meet regarding quality and reliability of electricity supply. Reduced outages could mean less lost revenue to EDBs as well.	Low	Medium – without specific data covering the frequency, duration and financial impacts of outages directly related to overhanging branches we cannot be completely certain of the expected benefits. However, the impact would be lower than all overhanging branches being removed.
Non-monetised benefits		*Low*	*Medium*

Risks/Uncertainties

There are uncertainties around the number of outages associated with overhanging tree branches in areas with a GLZ as well as the number of trees in general in this category.

There could be some increased costs passed onto electricity consumers related to identifying and trimming 'risky' branches. However, we do not consider this to be a risk as costs scale directly with the number of relevant trees and we consider the benefits provided to outweighs its costs.

Te Uru Rākau – New Zealand Forest Service within MPI undertake regulatory functions for forestry within the Emission Trading Scheme. Te Uru Rākau – New Zealand Forest Service has advised that extending the GLZ clear to the sky is not expected to have a significant impact on Emissions Trading Scheme (ETS) liabilities. However, there could be some small impact at the margins. We do not have precise data on the areas of land that may result in ETS liabilities.

Overall

MBIE considers that trees overhanging lines present an unnecessary risk to security of supply and so allowing works owners to remove 'risky' branches overhanging lines should address this issue.

Comparison to the status quo/counterfactual for issue 1: Risks and costs of damage from overhanging out of zone trees

The key to the table is:

- Not as good as SQ **0** Same as SQ + A little better than SQ ++ A lot better than SQ

	Status Quo (SQ)	**Option 1 – 'Clear to sky' GLZ (preferred)**	**Option 2 – 'Risk based approach'**
Effectiveness	**0**	++ This will remove all branches overhanging lines, removing the risk from any outages these may cause.	+ This will remove some branches overhanging lines, removing the risk from any outages these may cause.
Efficiency	**0**	- This may impact local councils more significantly. As such there may be efficiency issues in urban areas depending on the scale of the option either by administrative costs relating to dispensation or by large roll out of clear to the sky.	- This may impact local lines companies more significantly given monitoring costs.
Regulatory certainty	**0**	**0** It is unlikely that this change will have a significant impact on regulatory certainty given its relatively simple nature.	**0** It is unlikely that this change will have a significant impact on regulatory certainty given its relatively simple nature.
Overall assessment	**0**	+	**0**

Excluded options to address issue 1: Risks and costs of damage from out of zone trees

The following options for addressing out of zone trees were excluded from analysis, on the basis of the limitations and constraints discussed at the start of this RIS.

Notice category

This would enable works owners to issue a notice to tree owners if a tree within 24 metres of the GLZ met certain criteria (specified in the Regulations). The tree owners then have to cause the hazard to be removed and will commit an offence if they fail to do so without reasonable excuse. Works owners must meet tree owners' reasonable costs of removing the hazard, and any associated costs.

This proposal would provide greater security of supply and improve public safety but is out of scope of this Regulatory Impact Statement. This is because it would require more substantial substantive policy changes Free and frank opinions . MBIE is undertaking additional analysis and consultation before providing advice on these changes.

Substantially extend the GLZ for 'at risk' lines in commercial forest

This proposal focuses on securing supply by requiring wider clearance corridors (24m each side of lines) around higher voltage sub-transmission and distribution lines where no alternative supply route is available in the network. This would provide clear area around the line the length of a tree's fall distance and would remove significant risks to the line.

This proposal would provide greater security of supply and improve public safety but is out of scope of this Regulatory Impact Statement. This is because it would require more substantial substantive policy changes Free and frank opinions MBIE is undertaking additional analysis and consultation before providing advice on these changes.

Restricting replanting of already forested areas

Transpower strongly advocated for restrictions on replanting, following harvest, in areas where trees could become fall risks. Transpower proposed:

- a default zone where planting or re-planting was restricted
- scope for departure from those restrictions by negotiation, with Transpower's agreement.

This proposal would provide greater security of supply and improve public safety but is out of scope of this Regulatory Impact Statement. This is because it would require more substantial substantive policy changes Free and frank opinions . MBIE is undertaking additional analysis and consultation before providing advice on these changes. Free and frank opinions

Restricting future planting in areas that are not currently forested

This involves only permitting low-growing species/cultivars to be planted within 24 metres of the GLZ. If a landowner opted to convert their land to forestry in the future, they would not be able to plant trees which were not low-growing species/cultivars within that distance.

This proposal would reduce risks to lines on land which is converted to forestry in the future. This would provide safer corridors around lines on land converted to commercial forestry

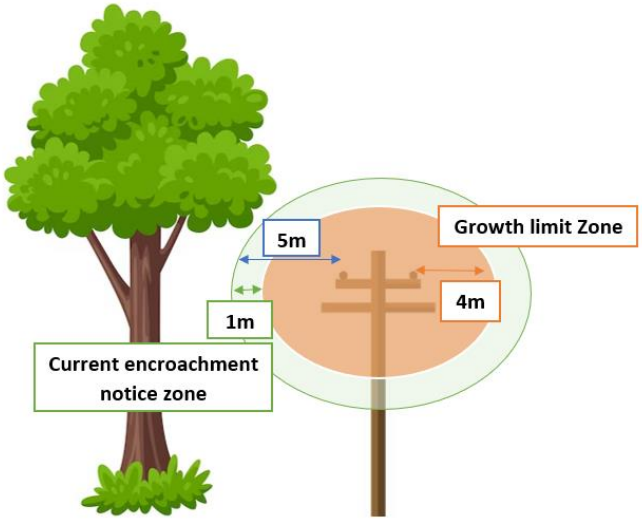
after these restrictions were introduced. Constitutional conventions

Issue 2: Efficiency and workability of regulatory regime from NZECP34 and Regulations

Status quo

Retaining the status quo is likely to lead to unnecessary costs being imposed on tree owners.

- Additional costs for tree owners would stem from the reliance on electrically competent arborists rather than using their own forestry arborists.



**Note the above diagram uses distances that correspond to 220kV lines with spans <150m*

The following table shows who is currently allowed to trim trees encroaching on the 1m notice zone surrounding the GLZ for different voltages of lines under the status quo (assuming they have written consent from the works owner).

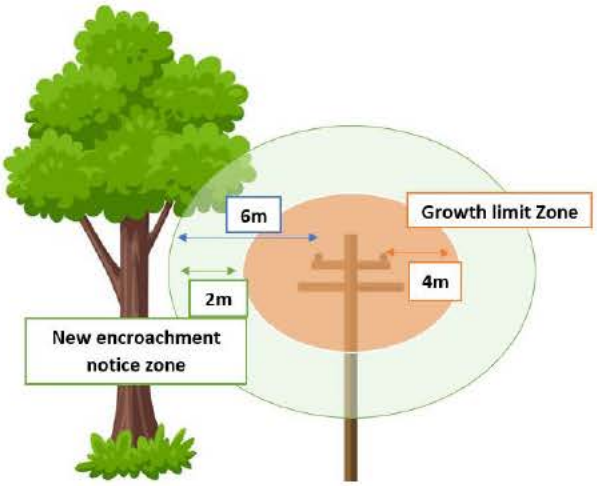
	Status quo (1m notice zone)	
	Electrically competent arborist	Electrically non-competent arborist
Voltage	Can trim encroaching tree	Can trim encroaching tree
220kV and above	Yes	No
110kV	Yes	Yes
66kV	Yes	Yes
50kV - 66kV	Yes	Yes
33kV	Yes	Yes
11kV	Yes	Yes
400/230v	Yes	Yes

**Note the above table corresponds to lines with spans <150m*

Option 1 (preferred)– Extend by one metre the hazard warning notice zone for vegetation that risks entering the GLZ

Expanding the notice zone for all lines by one metre so that, once alerted, tree owners have more time to trim or cut vegetation which is approaching the GLZ, without breaching NZECP34 or requiring expensive specialised personnel to undertake the work.

- Officials recommend that works owners meet the reasonable costs for the trimming/removal of affected trees in line with the first cut/trim.



**Note the above diagram uses distances that correspond to 220kV lines with spans <150m*

The following table shows who would be allowed to trim trees encroaching on the new 2m notice zone surrounding the GLZ for different voltages of lines (assuming they have written consent from the works owner).

	Proposal (2m notice zone)	
	Electrically competent arborist	Electrically non-competent arborist
Voltage	Can trim encroaching tree	Can trim encroaching tree
220kV and above	Yes	Yes
110kV	Yes	Yes
66kV	Yes	Yes
50kV - 66kV	Yes	Yes
33kV	Yes	Yes
11kV	Yes	Yes
400/230v	Yes	Yes

**Note the above diagram corresponds to lines with spans <150m*

Consultation on the proposal

Works owners

- This suggestion came from the Electricity Networks Aotearoa who are supportive of this idea and said "one critical issue that MBIE must address with the Tree Regs is the mismatch between the notice zone with respect to low voltage lines and the minimum approach distance."
- This amendment would primarily impact trees around Transpower's transmission lines (Transpower has 5915 km of 220kV lines). Transpower submitted that "the 4m setback in the existing GLZ is not adequate for 220kV lines. People trimming trees must keep a distance of 6m from the conductor, including any tools they may be holding. Accordingly, the existing 4m distance creates safety issues in relation to how to trim trees and maintain this safe distance."
- EDBs raised a similar issue but did not advocate for increasing the distances.

Critical friends

- Te Uru Rākau - New Zealand Forest Service within MPI which undertake regulatory functions for forestry within the Emission Trading Scheme, has advised that extending the hazard warning notice zone by 1 metre is not expected to have a significant

impact on Emissions Trading Scheme (ETS) liabilities, however there could be some small impact at the margins.

Expected impacts on analysis criteria

Effectiveness

- This brings the Regulations in line with NZECP34 and means tree and landowners have the opportunity to manage trees more effectively around high voltage lines without requiring an arborist who also meets the necessary standards for electricity or telecommunications work - if the permission of the works owner is granted.
- MBIE considers that this will **improve security of supply**. This is because trees encroaching growth limit zone will be able to be dealt with earlier given the extension of the notice zone for all lines. This will provide a more proactive approach to vegetation management to all lines.
- MBIE considers that while safety is not explicitly improved in relation to NZECP34, the changes may still somewhat improve safety. This is because where someone of the same skill level after the change would not need to be as close to lines when trimming trees that enter the hazard warning notice zone (for example, a non-competent worker trimming a tree entering the notice zone around a 66kV line would now only need to be 6m from the line as opposed to 5m before the change). In addition, no longer needing to use an electrically competent person, and paying the associated additional costs, encourages compliance with NZECP34.

Efficiency

- Future vegetation management could be carried out by forestry workers rather than requiring expensive specialised personnel to undertake the work. This applies to all lines not just the 220kV lines <150m spans. This is because trees often grow further into the notice zone and subsequently the GLZ after the notice is issued (and the notice is not always issued the instant the tree begins to enter the notice zone. This can mean that even if a non-competent arborist would be able to trim a tree at the edge of the notice zone for a given voltage line, by the time they get to it the tree may have grown to a point where they can no longer address it. Extending the notice zone reduces this issue.
- The notice power is optional for the works owner to use and applies to trees they were already responsible for a ‘first cut/trim’ for, as such we do not consider costs to increase because of this proposal.

Regulatory Certainty

- This proposal is likely to improve regulatory certainty. It better aligns NZECP34 with the Regulations leading to a more consistent and more easily interpreted regulatory regime.

Affected groups	Comment	Impact	Evidence Certainty
Additional costs of the preferred option compared to taking no action			
Consumers	The notice power is optional for the works owner to use and applies to trees they were already responsible for a ‘first cut/trim’ for, as such	Negligible	Medium – Extension of the notice zone by 1m is unlikely to have significant impacts. This is because MBIE expects trees to be trimmed where

	we do not consider costs to increase or be passed on to consumers because of this proposal.		possible. There is also no obligation for the works owner to send the notice.
EDBs/Transpower	The notice power is optional for the works owner to use and applies to trees they were already responsible for a 'first cut/trim' for, as such we do not consider costs to increase because of this proposal.	Negligible	Medium – Extension of the notice zone by 1m is unlikely to have significant impacts. This is because MBIE expects trees to be trimmed where possible. There is also no obligation for the works owner to send the notice.
Forestry sector	First cut/trim associated with extra trimming should be covered by the EDBs and Transpower. ETS is unlikely to be impacted. Harvest revenue unlikely to be impacted as it is branches that tend to encroach on the GLZ not the Trees themselves and revenue comes from trunks.	Negligible	Medium – Extension of the notice zone by 1m is unlikely to have significant impacts. This is because MBIE expects trees to be trimmed where possible as to not impact harvest revenue. There is also no obligation for the forestry owner to respond to the notice.
Non-monetised costs		*Negligible*	*Medium*
Additional benefits of the preferred option compared to taking no action			
Consumers	NA		
EDBs/Transpower	More proactive vegetation management.	Medium	High – Trees will be able to be addressed early through an extended notice zone.
Tree owners	Ability to address trees themselves without relying on expensive specialised personnel to undertake the work.	Medium	High – Will reduce the risk that electrically non-competent arborists will be in breach of NZECP34 for 220kV lines and above for spans less than 150m. This will also apply to lower voltage lines in cases where trees have continued to encroach on lines after the notice was issued.
Non-monetised benefits		*Medium*	*High*

Risks/Uncertainties

Te Uru Rākau - New Zealand Forest Service within MPI undertake regulatory functions for forestry within the Emission Trading Scheme. It has advised that extending the notice zone by 1 metre is not expected to have a significant impact on Emissions Trading Scheme (ETS) liabilities for forest owners, however there could be some small impact at the margins.

We cannot precisely determine the impact this proposal will have on ETS liabilities because we do not have precise data on the areas of land that may affected. The ETS impact of these

proposals is also not precisely known because forest land can be comprised differently and how lines intersect the land is variable. For instance, ETS impacts will be different depending on whether the lines run through the forest or are at the boundaries of the forest or extend internal gaps. These impacts will again vary based on the layout of the forest. See the ETS and limitations sections for further detail.

Overall

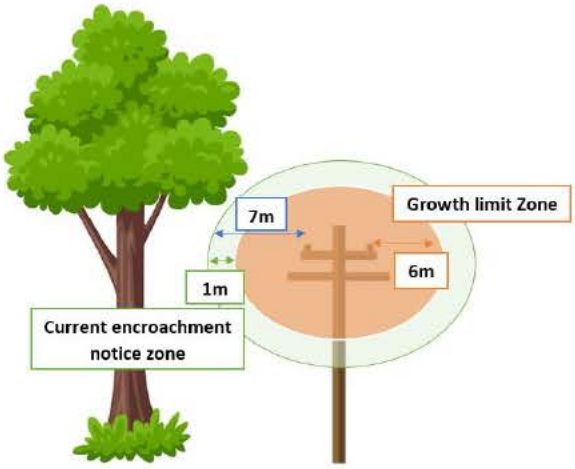
MBIE considers that the increased security of supply and consistency across the Regulations and NZECP will provide considerable benefit with negligible costs.

Option 2 – Extend by two metres the growth limit zone for 220kV lines with spans less than 150m

Proposed options

The GLZ could be expanded to match the minimum approach distances in the NZECP34 for non-competent persons. This change would mean that for some lines (lines that span 150 meters or less and are 220kV and above) the maximum distance would be 6 metres instead of 4 metres.

- Officials recommend that works owners undertake and pay for the removal of affected trees if access is granted to them.



**Note the above diagram uses distances that correspond to 220kV lines with spans <150m*

The following table shows who would be allowed to trim trees encroaching on the 1m notice zone surrounding the GLZ for different voltages of lines having extended the GLZ by 2m each side of the lines for 220kV lines of spans less than 150m (assuming they have written consent from the works owner).

	Proposal (2m notice zone)	
	Electrically competent arborist	Electrically non-competent arborist
Voltage	Can trim encroaching tree	Can trim encroaching tree
220kV and above	Yes	Yes
110kV	Yes	Yes
66kV	Yes	Yes
50kV - 66kV	Yes	Yes
33kV	Yes	Yes
11kV	Yes	Yes
400/230v	Yes	Yes

**Note the above diagram corresponds to lines with spans <150m*

Consultation on the proposal

Works owners

- This amendment would primarily impact trees around Transpower's transmission lines (Transpower has 5915 km of 220kV lines). Transpower submitted that "the 4m setback in the existing GLZ is not adequate for 220kV lines. People trimming trees must keep a distance of 6m from the conductor, including any tools they may be holding. Accordingly, the existing 4m distance creates safety issues in relation to how to trim trees and maintain this safe distance."
- EDBs raised a similar issue but did not advocate for increasing the distances.

Critical friends

- WorkSafe, who is responsible for the New Zealand Electrical Code of Practice for Electrical Safe Distances, agrees with this change in-principle.
- Te Uru Rākau - New Zealand Forest Service within MPI which undertake regulatory functions for forestry within the Emission Trading Scheme, has advised that extending the GLZ by 2 metres for 220kV lines and above is not expected to have a significant impact on Emissions Trading Scheme (ETS) liabilities, however there could be some small impact at the margins.

Expected impacts on analysis criteria

Effectiveness

- This option brings the Regulations in line with NZECP34 and means tree and landowners have the opportunity to manage trees more effectively around high voltage lines without requiring an arborist who also meets the necessary standards for electricity or telecommunications work - if the permission of the works owner is granted.
- This option is not likely to have a significant impact on security of supply. This is because benefits from extending the growth limit zone (having trees further from the lines) will only apply to 220kV lines which are typically only owned by Transpower. It is also possible that removing the outermost, more resilient, trees will increase risk of other trees now sheltered by them falling.

Efficiency

- Extending the GLZ from 4-6m for these lines will have associated costs. They could also be rolled out over time to minimise the direct impact.
- This also only applies to 220kV+ lines of spans <150m which are owned by Transpower, so we do not expect the scale to be very significant.
- Forestry owners would experience a loss in harvest revenue as a result of a smaller area available to them for planting.
- Future vegetation management would also be able to be carried out by forestry workers rather than requiring expensive specialised personnel to undertake the work.

Regulatory Certainty

- This proposal is likely to directly improve regulatory certainty. It better aligns NZECP34 with the Regulations leading to a more consistent and more easily interpreted regulatory regime.
- There may be certainty issues that stem from the removal of trees such as compensation. Section 58 of the Electricity Act 1992 provides that: *Where any tree or part of a tree or any vegetation or part of any vegetation is removed pursuant to any regulations made under section 169 [as would be the case with the Regulations], compensation, to be assessed in the manner prescribed by the Public Works Act 1981, shall be payable if the tree or vegetation was growing on the land before the construction of the works or electrical installation but not in any other case [our emphasis].* We understand that a large proportion of affected forest was planted after the lines were installed. Owners who are not, as a result, entitled to compensation under s.58 may argue that the Electricity Act 1992 should be amended to require compensation in all circumstances.

Affected groups	Comment	Impact	Evidence Certainty
Additional costs of the preferred option compared to taking no action			
Consumers	There will be one-off costs associated with increasing the GLZ from 4-6m for lines with a span of 150 meters or less and 220kV and above and these will fall on Transpower who will likely pass it on to consumers.	Medium	Medium – Due to the relevant lines being owned only by Transpower and the fact that Transpower negotiates wider corridors for its lines we do not expect the scale of these costs to be large. However, given limited data we do not have a precise idea of the scale of the relevant lines.
EDBs/Transpower	There will be one-off costs associated with increasing the GLZ from 4-6m for lines with a span of 150 meters or less and 220kV and above and these will fall on Transpower.	Medium	Medium – As above.
Forestry sector	Officials do not expect the forestry sector to pay for the immediate removal of trees associated with this change. However, there will be long term costs to them associated with loss of viable land for tree planting.	Low	Medium – The area is also small enough that there is likely to only be ETS liabilities at the margins. However, given limited data we do not have a precise idea of the scale of the relevant lines.
Non-monetised costs		*Medium*	*Medium*
Additional benefits of the preferred option compared to taking no action			
EDBs/Transpower	The wider GLZ for 220kV lines of spans less than 150m would have a limited impact on security of supply.	Low	Medium – While trees would need to be further from lines, the option only applies to a subset of lines owned by Transpower.
Forestry sector	Ability to address trees themselves without relying on expensive specialised personnel to undertake the work.	Low	High – Will reduce the risk that electrically non-competent arborists will be in breach of NZECP34 for 220kV lines and above for spans less than 150m. .
Non-monetised benefits		*Low*	*High*

Risks/Uncertainties

Te Uru Rākau - New Zealand Forest Service within MPI undertake regulatory functions for forestry within the Emission Trading Scheme. It has advised that extending the GLZ by 2 metres for 220kV lines and above is not expected to have a significant impact on Emissions Trading Scheme (ETS) liabilities for forest owners, however there could be some small impact at the margins. This impact will be more considerable than Option 2.

We cannot precisely determine the impact this proposal will have on ETS liabilities because we do not have precise data on the areas of land that may affected. The ETS impact of these proposals is also not precisely known because forest land can be comprised differently and how lines intersect the land is variable. For instance, ETS impacts will be different depending on whether the lines run through the forest or are at the boundaries of the forest or extend internal gaps. These impacts will again vary based on the layout of the forest. See the ETS and limitations sections for further detail.

The implementation of this proposal may take some time to complete.

Overall

Forestry owners would experience a loss in harvest revenue as a result of a smaller area available to them for planting. However, this will be a relatively small impact given that this also only applies to 220kV+ lines which are owned by Transpower.

Comparison to the status quo/counterfactual for issue 2: Efficiency and workability of regulatory regime

The key to the table is:

- Not as good as SQ **0** Same as SQ + A little better than SQ ++ A lot better than SQ

	Status Quo (SQ)	**Option 1 – Extend hazard zone by 1m (preferred)**	**Option 2 – Extend GLZ by 2m for 220kV lines (spans >150m)**
Effectiveness	**0**	+ Trees encroaching on GLZ can be dealt with earlier.	**0** It will only apply to 220kV lines which are typically only owned by Transpower.
Efficiency	**0**	+ Future vegetation management would also be able to be carried out by forestry workers rather than requiring expensive specialised personnel to undertake the work.	**0** Extending the GLZ from 4-6m for these lines will have associated costs. The impacted area is small enough that it is expected that there would only be ETS liabilities at the margins.
Regulatory certainty	**0**	+ Better alignment with NZECP34 and the Regulations should lead to a more consistent and more easily interpreted regulatory regime.	**0** Better alignment with NZECP34 and the Regulations should lead to a more consistent and more easily interpreted regulatory regime. However, issues still arise where trees continue to grow into the GLZ after a notice is given and by the time, they can be attended to they are inside NZECP maximum approach distances.
Overall assessment	**0**	+	**0**

Excluded options to address issue 2: Barriers to efficiency and workability

The following option for addressing barriers to the efficiency and workability of the regulatory regime was excluded from analysis, on the basis of the limitations and constraints discussed at the start of this RIS.

Improved access rights

This proposal would simplify access arrangements for works owners when managing the risk of trees and other vegetation to their lines.

Section 23 of the Act already provides certain rights of entry to land for the purpose of inspecting, maintaining or operating “existing works” (under the Act being works in place before 1988 or 1993, depending on who constructed them). However, this right of entry does not expressly refer to access in order to manage vegetation growing near existing works, and many submitters said that rights consistent with section 23 should apply for accessing trees.

This change is out of scope, Constitutional conventions and be considered in a second phase of measures to address the policy problem.

Distributional Impacts

Māori own $4.3 billion of assets in forestry and have ownership of more than 30 per cent of land under plantation forestry and large areas of indigenous forest. Officials conducted further engagement, after submissions were received, which had limited uptake. Officials also engaged with members of Ngati Porou who raised the impact Cyclone Gabrielle had on their communities.

Officials have engaged with Te Arawhiti who said it is unlikely that changes to the Regulations would have a disproportionally significant impact on Māori. On the basis of this discussion, as well as the benefits rural Māori communities would experience due to an increase in security of electricity supply MBIE does not foresee significant Te Tiriti risks from the recommended actions. Officials will continue to assess the impact on Māori as this work progresses.

These proposals are likely to have a more significant impact on urban areas as opposed to rural areas because of the distribution of trees that the ‘clear to the sky’ would apply to. We do not consider this to cause any significant issues.

Section 3: Delivering the proposed amendments

How will the new arrangements be implemented?

Amendments to the Electricity (Hazard from Trees) Regulations 2003 are currently planned to be put before Cabinet in May 2024.

A targeted consultation on the detail of the regulations will need to be carried out.

Implementation of the changes themselves may take some time depending on the scale and cost. It is likely that transitional approaches will need to be put in place for the “clear to the sky” change, and for consistency with NZECP 34, to allow the time necessary to make the changes. This may involve an appropriate transition period for works owners and tree owners to reach compliance.

Regulation changes would need to be notified in the Gazette, allowing a minimum of 28 days before they take effect.

How will the new arrangements be monitored, evaluated, and reviewed?

There is no formal process in place to monitor and evaluate the new arrangements given the early stage of the process we are currently in. However, MBIE regularly reviews its internal policies and systems to ensure they are up to date and provide an effective mechanism for regulation of the electricity industry.

As we continue to investigate further options for addressing risk presented by out-of-zone trees there will be opportunities to evaluate the impact of any changes that are made to the Regulations.

In addition, it is likely that these changes will take some time to come into effect given the logistics of the option. This will be mean there is further time required to evaluate its success as it is rolled out.

Impacted parties would also be in a position to give feedback as this process continues and is implemented which would be considered.